

**A SOCIOLINGUISTIC STUDY OF LANGUAGE VARIATION IN THE  
ENGLISH SPOKEN IN GHANA: A CASE STUDY OF SOME SELECTED  
CONSONANTS**

**BY**

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## DECLARATION

I do hereby declare that apart from the references cited, this work is the result of my own research. It has not been submitted anywhere either in part or in whole for a degree in any other university.

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## **DEDICATION**

To the undying memory of Maame Aba Asaawa,

Obaapanyin Akosua Twuwah (Comfort Afful),

Emmanuel Ohene Andoh

And

Mabel Oboney Boye



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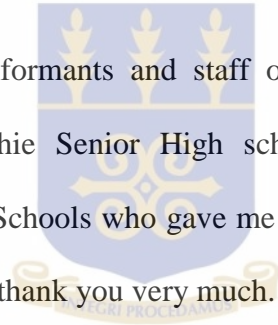
My greatest thanks go to the almighty God for his guidance, protection and mercy at any moment of my steps.

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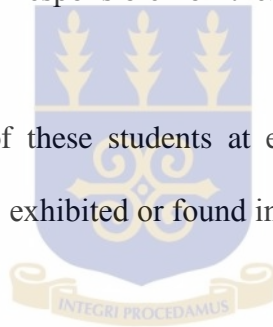
## ABSTRACT

This research is a tentative sociolinguistic study of language variation in the English spoken in Ghana. The purpose is to identify consonantal variations in the realization of the affricates and the fricatives that contribute to the unique pronunciations Ghanaians exhibit and describe them.

Thus, the study identifies and describes the alternative pronunciations of the affricates and the fricatives by some Ghanaian students and teachers at the primary, Junior and Senior High Schools which are very pivotal in the study of the English language in Ghana, using Wells' (1982) Synchronic Analysis Approach which examines existing accents as they are.

These alternative realizations by the students at each level are then compared to find out whether the individual's educational level is responsible for these variations and for that matter the selection of a particular variant.

It again, compares the realization of these students at each level to that of their respective teachers to determine if the variations exhibited or found in the students' speeches are influenced by their teachers.



The study seeks to answer the following questions:

- What are the alternative realizations of the affricates and the fricatives in the English spoken in Ghana?
- Does educational level correlate with a variant choice?
- To what extent do differences in educational levels affect variant choices in Ghanaian English?
- What are the motivations for the alternative realization of consonant sounds in the English spoken in Ghana?

The study identifies the mode of teaching as one of the major factors responsible for the way English is spoken in Ghana. It also confirms the general perception that the language of the schools is the language of the teacher.

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## CHAPTER ONE

### 1.0 INTRODUCTION

#### 1.1 THE BACKGROUND TO THE STUDY

English is a second language in Ghana just as other non- native Englishes in the outer circle (Kachru 1983) which used to be seen as deviations from the standard British English pronunciation and usage due to their distinctive nature. These new Englishes have gained currency in recent times and they are now recognized as autonomous entities that must be studied and described in their own right. Koranteng (2006:2) intimates that as people come into contact with other speech communities, elements of one language are introduced into another and vice versa. This extension of language [eg English] through space and time allows for quite fundamental differences to emerge and exist side by side within the whole (Montgomery2006). These differences may bring about variations in the second language learner's usage of that particular language. Linguistic and social variables are pivotal to this kind of variation in any Language. Hudson (1996: 169) defines a linguistic variable as a collection of alternatives which have something in common from which individuals can select. These linguistic variables include phonetic, phonological, morphological, lexical and syntactic variables. Different people, depending on their social or philosophical orientation, will realize these variables differently, which may bring about variations in any language. Even though the different realizations do not represent different meanings, there are occasions when they affect the meaning of an utterance. The most obvious form of variation that emerges in the speech of second language learners is phonological or phonetic variation. This occurs where a phonological pattern has different phonetic realizations. This could be as a result of individual's linguistic or ideolectal differences, spelling pronunciation, gender, age, educational level among others.

The Critical Period Hypothesis propounded by Wilder Penfield and Lamar Roberts (1959)

on ‘Speech and Brain Mechanisms’ and popularized by Lenneberg (1967) on ‘Biological Foundations of Language’ states that

‘there is no conclusive evidence that after the critical age one cannot acquire another language and speak it proficiently since there are a lot of people who have acquired another language after the critical age.....the only conclusive evidence for the Critical Period Hypothesis is phonology.....that learners who have shown great ability to acquire L2 have not been able to overcome their foreign accents’.

Yule (1997:191) corroborates this by observing that “those whose L2 experience is primarily a learning one tend not to develop the proficiency of those who have had an acquiring experience”. He emphasizes that “even in ideal situations, very few adults seem to reach native-like proficiency in using a second Language” and that “there are individuals who can achieve great expertise in writing, but not in speaking’. He concludes that ‘although it continues to be a matter of some debate, this type of observation is sometimes taken as evidence that, after the critical period has passed..., it becomes very difficult to acquire another language fully(ibid191).

This may largely account for the distinctive nature of the English spoken in Ghana as well as other and non- native varieties of English.

Wolfram and Schilling – Estes (2000) also define a linguistic variable as a varying linguistic structure..... which may correlate with social factors such as region or status or with linguistic factors such as the linguistic environment. They argue that the linguistic environment can greatly affect linguistic choice and bring about variations. For example, the linguistic environment of a phoneme or a sound determines how a particular sound should be realized. Some of these realizations are intuitive to the native speaker whereas a Ghanaian will have to

learn them before s/he can realize them. Some of these underpinnings are likely to cause a variation in the spoken English of Ghanaians. Thus, a particular phonetic realization may have alternative pronunciations or variants in Ghanaian English and elsewhere. This usually occurs for the following reasons.

i. Certain phonological realizations in English do not exist in the L1 of Ghanaian speakers. There is therefore the tendency for the L2 learner to substitute the local variants for the standard variants. For instance, the phonemes /ð/ and /θ/ do not exist in most Ghanaian languages. There is therefore, the tendency for Ghanaians to approximate the sounds and choose the one nearest to them, which happens to be /d/ for /ð/ and /t/ (or sometimes /f/) for /θ/. For instance, thick [θɪk], path [pæθ], they [ðeɪ] etc are usually realized as [tik], [pat] or [paf], and [dei] respectively.

ii. Some of these variations may also be prosodic and since the L2 speaker is not a native speaker, there is the tendency to use certain features such as tone, found in Ghanaian languages, in their English which may be the source of the variation. For example, Adjei (2005:241) observes that ‘...tone languages use pitch as an inherent part of the syllable while English, which is an intonational language, uses pitch as a property of the whole utterance. She adds that

..it would be expected that the pitch patterns of Ghanaian L1s would be transferred to the pronunciation of English. High pitch would thus be used for accented syllables and low pitch or tone for unaccented ones.

She quotes Wells (1982:643-44) as observing that, in African Englishes, pronouns, auxiliary verbs, prepositions and wh-words are commonly stressed which is equivalent to being given high pitch. She concludes that Ghanaians use variable pitch patterns with English words, depending on the position of those words in an utterance and the overall intonational pattern of the whole utterance.

iii. Variation may also be triggered by some social factors such as age, gender, class and educational level, among others.

iv. How English is taught and learnt in Ghana may also be responsible for the variations in the nature of English spoken in Ghana. This is because almost all Ghanaians learn English in school. They have a different natural environment in which to learn the language, and the teachers themselves are products of the same system. The alternative that Ghanaians have, therefore, is to model their language on what the society accepts as the norm. The tendency to provide a model which is not standard is high and could be responsible, either wholly or partly, for the variation in the English spoken in Ghana.

v. The different linguistic backgrounds of Ghanaians could also be responsible for this phenomenon since an individual's linguistic background can affect the way s/he speaks. There are over 50 languages in Ghana, Huber (2008), nine of which are written and studied in schools. This implies that almost every Ghanaian who speaks English has his/her own native Language. It must be conceded that this multilingual nature of Ghana will have an influence on the English spoken in Ghana. Therefore, it stands to reason that there are some linguistic variants in Ghanaian English that have evolved perhaps as a result of the influence of the mother tongue and how English is learnt in Ghana. These variants are the Standard British Accent, that is, the Received Pronunciation (RP), in its 'phonologically realizable form' and the Ghanaian 'nonstandard variants' which are used as alternative realizations of the same phoneme in the English spoken in Ghana. There are people who have no idea of what the standard variants sound like. They therefore choose non-standard variants that conform to the phonetic realization of sounds in their languages. There are yet other people, though very few, who know the standard variants but, as a result of their exposure to and long use of the non-standard variants, find it

difficult to choose the standard variants when necessary. They therefore switch from the non-standard to the standard and vice versa.

So in a second language situation, it is possible that lack of attention to phonetics and phonological variables are some of the causes of variations in the use of vowels and consonants in the English spoken in Ghana.

Allophones in a large number of cases are conditioned by their phonetic environment. Clark and Yallop (1990:131). However, this alternative enunciation of the consonants under consideration is not realized as a result of their phonetic environment. In fact, they are produced variously either as RP or as the non-standard Ghanaian variants and even the same speaker may use the different sounds interchangeably. The identification of free variants or freely fluctuating allophones of the same phoneme that account for random interchangeability in Ghanaian English which are ostensibly unconditioned by their environment, is what this research seeks to study. The essence is to find out the variations in the use of the fricatives as well as the affricates. [θ/, /ð /, /ʃ /, /ʒ /, /s/, /z/, /tʃ/, /dʒ/, /h/, /f/ and /v/ in the English spoken in Ghana.

### 1.1.1 HOW DISTINCTIVE IS GHANAIAN ENGLISH?

Language contact, anywhere in the world, generates certain characteristics that influence the languages in contact. Kachru (1983) and Crystal (1985) cited in Koranteng (2006:29) observe that any language away from its home undergoes changes in its pronunciation, grammatical, semantic and pragmatic systems, and the English language is not an exception.

There are different varieties of English spoken in the world today. These include those in the inner circle such as the United Kingdom and the United States of America as well as those in the outer circle such as Malasia, India, Nigeria, and Ghana among others Kachru (1983). Among those in the outer circle are those who have learnt the English language for purposes of business and communication to the outside world such as China as well as those who learnt the language as a result of colonialism such as Ghana. The English spoken by this group is certainly distinct from what is spoken by the native speakers, and are generally described based on the people who speak it. Thus, we have South African English, Nigerian English among others some of which are codified. The English in Ghana however, is yet if ever, to be codified.

The concept of Ghanaian English according to Huber (2008:89) dates back to Brown and Scragg (1948) when the term Gold Coast English was first used.

Koranteng (2006:29) observes that the “ interest in the variety of English spoken in Ghana has engaged the attention of language teachers and researchers for some time now...just as interest in different uses of language at the global level have”.

Ahulu (1994) on “How Ghanaian is the Ghanaian English? An argument against the concept of distinctive Ghanaian English” ...” states that ‘there are three clear-cut camps on the subject in Ghana and lists them as follows;

1. those educated Ghanaians who do not accept and are reluctant to accept the notion of a local form of English and argue that the major standard reference works in Ghana are the descriptions of 'Standard English' as in dictionaries,
2. those who strongly believe that there are some indigenized conventions which could or should be codified and accepted as Ghanaian English., and
3. those who are against the use of English in Ghana and see language as a question of identity and want the adoption of a national indigenous language.

Sey (1973:5), one of the pioneer scholars to research into the issue, argues that:

...the educated Ghanaian would not "accept" anything other than the British Standard English. The examples of forms ...as typically Ghanaian are... of trivial consequence so far as the structure of English is concerned, and in any case there are not such forms as educated Ghanaians are likely to accept as particularly Ghanaian ... The educated Ghanaian has from the very beginning aspired to proficiency in the use of British standard English. His attempts might fall short, but the ideal is always before his eyes...

Quoted in Ahulu (1994:26)

Gyasi (1991:26-7) agrees with Sey (1973) in rejecting the concept of Ghanaian English. He argues vehemently that:

The higher the level of his education the greater the tendency for a Ghanaian to use British Standard English as a yardstick for measuring his competence...There is nothing like "Ghanaian English" if we base our judgment on the occurrence of such errors equipments...Convince the Ghanaian that these are deviations from the British standard forms and he will not intentionally use them again. We should

not, therefore, elevate bastardization into the status of legitimacy and call it “Ghanaian English”.

While these arguments may be tenable because they reflect a social reality Ahulu (1994:26), they do not negate the fact that the English spoken in Ghana is distinct from what obtains in the ‘home countries’. Dolphyne and Norish (1974), and Dolphyne (1988) cited in Koranteng (2006:30) observe that the variety of English spoken in Ghana should be regarded as a regional modification of the native speaker model. This perhaps was to reaffirm the distinctive nature of the English spoken in Ghana. In another study, Grieve (1964) suggests that the English spoken in Ghana should be accurately described. Koranteng (2006:1) also states that:

There is every justifiable reason to investigate the peculiarities of the English spoken in Ghana, to establish the validity of the concept of Ghanaian English pronunciation, to codify the peculiar features that make Ghanaian English definable so that it will be an acknowledged model.

In furtherance to this, she identified seven pure vowels [i, e, ε, a, ɔ, o, u] out of the twelve RP pure vowels [i, e, æ, ʌ, ɒ, ʊ, ə, i:, u:, ɔ:, a:, ɜ:], and reports that Ghanaian English has six regular diphthongs out of the eight RP diphthongs. The following are her description of the diphthongs and their respective variants in Ghanaian English.

/aɪ-aɪ/ in words such as ‘why’ [wai], ‘arrive’ [araiv], ‘fry’ [frai], ‘light’ [lait]

/aʊ-au/ in words like ‘loud’ [laud], ‘noun’ [naun], ‘cloud’ [klaud], ‘mount’ [maunt]

/ɔɪ-ɔɪ/ ... .. ‘boy’ [bɔɪ], ‘boil’ [bɔil], ‘destroy’ [distɔɪ]

/iə-iə/ .... ... ‘here’ [hiə], ‘ear’ [iə],

/ʊə-ua/

She adds that while /eɪ/ is replaced by /e/, /eə/ is replaced by /ɛ/ whereas /əʊ/ is replaced by /o/.

On the realization of the consonants, she reports that apart from the voiced alveopalatal fricative /ʒ/ and the velar nasal /ŋ/. Ghanaian English corresponds to the RP consonants.

Huber (2008) also reports that Ghanaian speakers reduce the 12 RP vowels to 5; [i,ɛ,a,ɔ,u]. He further states that “the half close /e/ and /o/ which results from the monothongnization of the Bre diphthong /eɪ/ and /ou/ are added so that there are seven GhE monothongs in total”. He adds that “some of the simplifications of the monothong system results from the tendency in GhE to neutralize length distinctions present in RP, resulting in homophony of RP minimal paires”. He concludes that “this is shared by the other West African Englishes”. Bobda (2000b:190) however, states that “ the almost categorical substitution of the front vowel /ɛ/ for RP /ɜ:/ in all contexts is one of the main characteristics that sets GhE apart from other West African Englishes” (cited in Huber 2008 p.77).

On the diphthongs, Huber, unlike Koranteng (2006), is of the opinion that the monophthonsation of the RP diphthongs “is not categorical” since “one and the same speaker may vary between monophthongs, slight diphthong or may retain the RP diphthong” (p.81).

In his treatment of fricatives in Ghanaian English, Huber (2008:85) states that /θ/ and /ð/ are often replaced by the dental or alveolar plosives /t̪ t̪ d̪/ or dropped all together in a word final position.

He observes that Akans do not have the post alveolar fricatives /ʃ/ and /ʒ/ and therefore employ similar palato-alveolar fricatives [ ɕ ] and [ ʒ ] as allophonic variants while Frafra and other languages that do not have /ʃ/ use /s/ in their stead. He attributes this phenomenon to L1 influence and states categorically that:

...the substitution of [e, z] for /f, ʒ/ is not only restricted to speakers whose L1 is Akan but can also be observed in the English of speakers of other Ghanaian languages, the majority of which does not have /f, ʒ/ or phonetically near-identical substitutes...Therefore, a good number of non-Akans have adopted [e, z] as substitutes for RP [f, ʒ].

He concludes “It seems this phonetic detail has become a truly national, if subconscious, feature of GhE, transcending mother tongue boundaries”.

The current study does not, however, support this assertion since all the respondents realized these sounds as RP, the only deviation being the replacement of /j/ for /ʒ/ in words such as ‘occasion’, ‘decision’, and “confusion”, but /ʒ/ in ‘measure’ [meʒə] and ‘pleasure’ [pleʒə] were realized by all respondents.

Quartey (2009:51) also identified the following RP vowels and their realizations by her final year student respondents from two linguistic backgrounds (Ga and Akan) and concludes that only 5 out of the 12 RP pure vowels are realized by her respondents. These realizations are as follows;

/i:/ and /ɪ/ realized as /i/

/ɔ:/ - // --- as /ɔ/

/u:/ and /ʊ/ --- as /u/

/ɑ:/ and /æ/, /ʌ/ and /ə/ --- as /a/

/ɜ:/ --- as /ɛ/

On the diphthongs, she states that apart from the realization of /uɛ/ for /ʊə/, her findings were not different from that of Huber (2008:81-82).

Several features have also been identified on the level of morphology and syntax by Criper (1971), Tingley (1981), Ahulu (1994, 1995 and 1996) and Gyasi (1990). Tingley (1981), for instance, identified some grammatical deviances regarding the use of articles, prepositions, phrasal verbs, mass nouns, concord and modal auxiliaries. In another study reported in Anderson (2009) Sey points out that Ghanaian English is marked by several grammatical deviant usages such as: deviant usage involving articles, deviant adjectival use of the past participle, deviant use of the relative pronoun, deviant adjectival use of the present participle, adoption of Ghanaianisms and adoption of L1 expressions. He adds that Ghanaian English is characterized by deviant forms of idioms and idiomatic expressions.

In a related study, Dako and Huber (2004) also observe that substitution, insertion and omission of certain grammatical items are some of the major features of GhE syntax.

From the discussion so far, it is obvious that the English spoken in Ghana is one way or the other distinct from the BrE and other Englishes to some extent in pronunciation and syntax among others. But what is very significant is that it is very intelligible and meaningful, and that the differences in Ghanaian English do not affect comprehension and meaning.

## **1.2 AIMS OF THE STUDY**

This work aims at using sociophonetics to investigate and identify the alternative pronunciation of the affricates and the fricatives to determine whether educational levels- Primary, Junior High, Senior High and the University- could be responsible for patterns of some consonantal variations in the English spoken in Ghana.

It first looks at the alternative pronunciations of the affricates and the fricatives by the respondents from the various educational levels, and then compares the realization of the sounds under consideration by the various educational levels to determine whether there is any evidence of differences or similarities which are brought about as a result of the differences in their educational levels.

Again, it compares the realization of the sounds of the Primary, Junior and Senior High School respondents to that of their respective teachers to provide evidence that confirms or rejects the general perception that the language in the schools is the language of the teacher.

Auditory techniques such as listening to the sounds realized by each respondent will be used to ascertain the respective variants of these sounds.

## **1.3 SIGNIFICANCE OF THE STUDY**

This focuses on the sociolinguistic study of consonantal variations in the English spoken in Ghana by Ghanaians. The study adds to knowledge on Ghanaian English as it identifies how English is taught and learnt as one of the major factors responsible for the use of different

allophones in the enunciation of the affricates and the fricatives in given environments and not necessarily an individual's level of education.

Again, since the study was carried out on teachers and their respective students, it reveals relevant information that confirms the general perception that the language of the schools is the language of the teacher.

This will add to the discussion on Ghanaian English, since another sociolinguistic dimension of the discussion has been brought to the fore.

The research will also encourage others who are interested in language variation to research into phonetic variants to determine their impact on the phonological variations in Ghanaian English.

## **1.4 RESEARCH QUESTIONS**

This study is guided by the following questions:

- What are the alternative realizations of the affricates and the fricatives in the English spoken in Ghana?
- Does educational level correlate with a variant choice?
- To what extent do differences in educational levels affect variant choices in Ghanaian English?
- What are the motivations for the alternative realization of consonant sounds in the English spoken in Ghana?

## 1.5 LIMITATIONS

This is basically a descriptive and comparative study. The research seeks to identify alternative realizations [pronunciations] of the fricatives and the affricates by 30 teachers[who also double as University graduates] and 30 pupils and students from two Senior High Schools, two Junior High Schools and two Primary Schools in Ghana, and to determine whether an individual's level of education correlates with a variant choice.

The teachers were mostly either University or Training College graduates while the Junior and Senior High School students were all in their final term and had just started writing the West African Examination Council Exams. The primary six pupils had just started writing their Promotion exams to JHS 1. All the respondents have therefore acquired quite a number of vocabularies and a considerable level of pronunciation in their quest to study the English language.

This study, therefore, identifies and describes how the respondents from the various levels of education mentioned in this research realize the affricates and the fricatives and compares this to that of the RP.

This study does not state or prescribe which of the differences found between the 60 respondents' pronunciation and RP must be used as a norm for Ghanaian speakers of English. Again, it does not state which of the sounds identified must be used by teachers and students in Ghanaian Institutions. It thus, restricts itself to the effect of educational levels on the realization of the affricates and the fricatives and their respective variants.

This research is also a case study of only 60 respondents and therefore cannot be used to make certain generalizations. However, the findings would be very useful in identifying how pupils

and students from the first and second cycle institutions as well as university graduates pronounce the affricates and the fricatives. It also brings to bear how teachers teach and use English and the effect their teaching has on the way pupils and students speak English in Ghana.

## **1.6 ORGANIZATION OF THE STUDY**

The introductory chapter examines the background and the rationale for the study. It also looks at the significance of the study, its limitations as well as the research questions used in the study.

Chapter two deals with some related literature on Ghanaian English and variations in other Englishes. It also discusses the theoretical framework of the study. Chapter three also focuses on the research methodology, description of respondents as well as the transcription and analysis of the data for the study whilst chapter four deals with the findings on the realization of the affricates and the fricatives by the various respondents.

Chapter five compares the sounds so realized by the primary, Junior and the Senior High Schools to each other whilst chapter six compares the realization of the sounds by the students to that of their respective teachers.

Chapter seven, which is the final chapter, presents the summary and the general conclusions of the study. It also suggests areas for further studies.

## CHAPTER TWO

### 2.1 LITERATURE REVIEW

Apart from Adjaye (2005) and Quartey (2009), Socio-phonetics has not been used extensively in studying language variation relating linguistic variation to social variables such as linguistic background, level of education, age, gender, occupation, social network etc.in the English spoken in Ghana. However, quite a number of works has been done on Ghanaian English phonology by Spencer (1971), Sey (1973), Dako (1991, 2001), Simo Bobda (2000b), Koranteng (2006), Huber (2008) among others. These studies looked at Ghanaian English phonology to identify vowel and consonant phonemes as used by Ghanaians against the RP. They did descriptive and comparative study of the sound system of English as used by Ghanaians to identify what makes Ghanaian English distinct from what obtains in the RP.

Adjaye (2005) compares the pronunciation of thirty eight (38) Ghanaians from three different linguistic backgrounds-Akan, Ewe and Ga with RP. Her findings are that ‘the phonological features of the English spoken in Ghana are distinct from Akan, Ewe and Ga, all of which differ from one another. She further states that ‘although ethnic based characteristics are inevitable and variability resulting from socio-educational factors exists within each boundary there are.... great similarities from the three linguistic groups studied suggesting the mainstreaming and standardization of common features of the Ghanaian English accent’’. She also notes that Ghanaian English makes use of 20 vowels instead of the 24 RP and that the dental fricatives are usually replaced by alveolar stops.

In a related work, Dako (2001) examines the recordings of the speech of some students of the Department of English, University of Ghana who come from four Linguistic backgrounds- Akan(Akuapem and Asante Twi), Ga, Ewe and Dagare. Her aim was to find out the sound features that are common to the students' English irrespective of their L1s (linguistic background). She points out that L1 transfers do affect the way Ghanaians speak English but notes that 'there are features which are common to all Ghanaians irrespective of their native Languages'. She also found out that younger speakers tend to substitute /ð/ with /d/ and /θ/ with /t/. Quartey (2009) is however, of the view that 'it would be difficult to draw conclusions that the features Dako identifies are really indicative of all Ghanaians because of the small size of the respondents. This statement does not however, negate the fact that Dako's finding is a reflection of what pertains in the Ghanaian Society since Adjaye (2005) has also made the same observation and notes that 'some of the features of Ghanaian English are shared, not only with other African and outer circle Englishes, but also with inner circle Englishes'.

These features that are common to all Ghanaians that almost all scholars on Ghanaian English have identified may be consequent on how English is taught in our institutions where students from different linguistic backgrounds gather in the same school to be taught by the same teachers, and interact among themselves using the same language.

Milroy (2002), in his examination of the impact of social network, language variation and change emphasizes that 'though one society may have one particular language, the different social networks within the society may have certain linguistic forms which are different from others'. He reiterates that 'both the negative and the positive impact of social network...to some extent trigger a linguistic change by a group within the same society'.

Jonestone and Bean (1997) argue that self-expression is a crucial though largely overlooked part of linguistic variation and that self-expression radiates between linguistic choices and social factors such as gender, occupation, linguistic ideology and place of origin as speakers use language not only to express their identification with or rejection of social groupings but also to express their individuality.

Quartey (2009) compared and contrasted the pronunciation of 20 Final Year Senior High School students from two linguistic backgrounds-Akan (Asante Twi) and Ga with RP to determine the phonological features of the spoken English of the students. The aim of her study as she puts it was ‘to determine if any trends can be detected in the English spoken by these students’. Two things were of major interest to her. These were;

- To see where similarities, approximations and differences occur between the English spoken by the students and RP, and
- To find out if there were any differences between students whose L1s are Ga or Asante-Twi speak English, and if these differences can help identify the student’s L1(7).

Her work was comparative as well as descriptive and covered both the consonant and vowel phonemes of Ga, Akan and RP. Her findings were that there are some systemic differences between Ga, Akan and RP vowels that affect the way the respondents speak English (128). On the realization of the consonant sounds, she stated that even though /θ/, /ð/ and /z/ are not phonemes in Ga and Twi, the respondents were largely able to realize these sounds. However, the velar nasal /ŋ/ that is common to both Ga and Asante Twi was never realized by the respondents in RP. She adds that the only sounds that can be used to identify one group (Ga) from the other (Twi) are the glottal fricative/h/, the post alveolar /r/ and the alveolar approximant/l/ and

concludes that ‘even with /r/ and /l/, the differences between the two groups are not significant’. This phenomenon is not peculiar to only Akans but even among native speakers of English Language. Clark and Yallop (1990:129) admit that in English, /l/ and /r/ are prone to confusion and ‘even fluent native speakers may stumble over words containing /l/ and /r/ in ‘awkward’ combination’ such as ‘ meteorological, corollary, irrelevantly’ among others. However, whereas /l/ and /r/ changeability is usually attributed to the fact that these sounds are in free variation in Akan, they caution that “the similarity that allows these two consonants to be identified or confused must be understood systematically: in many languages /l/ and /r/ are the only two continuant consonants which are neither fricatives nor nasal’. They also report that there are varieties of English mostly found in Midland and north of England where ‘words such as sing, rung, singer etc., are pronounced with /g/ following the velar nasal, (eg. sing is /sɪŋg/) (127).

In another study, Koranteng (2006) undertakes a detailed and comprehensive study of the sound system of Ghanaian English with a view to;

Investigate and describe the variety of English that is spoken in Ghana.....and ....to find out what the standard to aim at is which can serve as a reference point for teachers and examiners (1).

She is of the view that the model of English taught, learnt and used in all teaching institutions in Ghana is not RP, but a form one might readily describe as Ghanaian English, though there is no official recognition of any such model, because it is not codified (1).

What she does not acknowledge or may not be aware of is the fact that the current Senior High School curriculum for English Language has RP pronunciation as a model for teaching English pronunciation which is examined by the West African Examination Council. (S.H.S., Syllabus for English Language). The major problem in the teaching and learning of this model however, is

the lack of competent teachers to teach this kind of pronunciation. Therefore, while some schools with the competent human resource are teaching this aspect of the English Language, others ignore it and only find people to teach it only when the students are about to write their final exams.

Nonetheless, this omission on her part does not invalidate her findings which are very crucial in the discussion of Ghanaian English Phonology. With regard to the consonants of Ghanaian English, she observes that Ghanaian English has 22 consonants as compared to the RP which has 24. She further states that “the consonants interestingly correspond to those of RP except for /ʒ/ and /ŋ/ whose distribution is markedly different from RP”. She again, points out that /θ/ and /ð/ are phonemic in Ghanaian English but there is oscillation in their use, as individuals switch to /t/ and /d / in their place, often unconsciously in rapid speech and that /ʒ/ does not have ‘full phonemic’ status since it is realized as a variant of /ʃ/. Does this mean that individuals are aware of the standard variants and readily use them and that it is only when in rapid speech that they tend to use the non-standard? She does not clarify this, neither does she identify when /θ/ and / ð/ are used in rapid speech.

On the realization of the vowels, she notes that Ghanaian English has five pure vowels as against the twelve RP pure vowels. This is corroborated by Huber (2008).

The discussion so far attests to the fact that there are variations in the English spoken in Ghana. But whereas Dolphyne (1999:97) attributes this to L1 transfers, social attitudes (conformity), the environment the individual grew up, the influence of teachers who do not speak good English and the lack of standard for Ghanaians, Adjaye (2005:277-8) enumerates spelling analogy, native Englishes and L1 characteristics with the most significant being the latter as operating either

independently or concurrently to shape Ghanaian English accent. The spelling pronunciation is also corroborated by Asante (1996) and Gyasi (1991) reported in Anderson (2009) that “Ghanaian English is characterized by the phenomenon of spelling pronunciations”. She states that Asante attributes this feature to the mode of teaching and learning of English in Ghana. That is “the teaching of English through the written medium”Asante (134) in Anderson (23).

While this assertion is tenable in the pronunciation of words such as ‘occasion’/əkeɪʒən/, ‘confusion’/kənʃu:ʒən/, ‘visit’/vɪzɪt/ and ‘vision’/vɪʒən/ as /əkeɪʃən/, /kənʃu:ʃən/, /vɪzɪt/ and /vɪʃən/ respectively, it cannot explain why words such as ‘consume’/kənsju:m/, ‘assume’/əsju:m/, ‘conservation’/kənsəveɪʃən/ and ‘conservative’/kənsɜ:vətɪv/ are realized as /kənzju:m/, /əzju:m/, /kənzəveɪʃən/ and /kənzɜ:vətɪv/ by most Ghanaians. It stands to reason therefore, that this kind of pronunciation has nothing to do with spelling pronunciation but everything to do with how those words have been taught and pronounced over the years and so have become part of the phonology of the English spoken in Ghana.

Huber (2008) points out that Ghanaian English is a system of tendencies rather than categorical differences from the British Standard. He also identifies an individual’s Linguistic competence and L1, the level of L2 command of English [roughly correlating with level of education], the formality of the situation and the wish of the speaker to project Ghanaianess. He again, states that there is intra and inter individual variation in Ghanaian English and that such variations are as a result of Advanced Tongue Root(ATR),vowel nasalization and glottal reinforcement.

From the discussion so far, it is obvious that the second language situation that lacks the natural environment for the full acquisition of L2 is what brings about the variation in the English spoken in Ghana and other outer circle Englishes.

Clark and Yallop (1990:116) in discussing phonetic variability asserts that “ a language selects from the human articulatory potential” and that “ it systematizes that selection”. They call this phonetic normativity and argue that

This phonological normativity.....is not a matter of legal obligation or moral duty, nor in most cases does it emerge from formal training or instruction in pronunciation; rather it unfolds in the process of our growing up in a particular speech community, and acquiring and maintaining the speech habits of that community.

This implies that second language learners who are not caught up in this ‘phonological normativity’ are likely to develop a norm or a kind of speech habit that is quite distinct from what pertains in the target Language. They are also of the view that

“ Speakers of a language such as English, spread across a large and diverse population around the world, may be familiar with many different norms and may themselves exploit different norms according to circumstances, shifting....between a local or informal style of pronunciation and one that would be considered more standardized and formal. (116). They argue that “ if we do not acknowledge this normative character we have little justification for talking about and investigating normal pronunciation.....for pronunciation is ...highly variable, even within the limits of what may be agreed as normal”

Montgomery (2006:65) in talking about variation reports that in New York, the initial consonants or words such as “thirsty”, “thing” or “thick” is pronounced in at least three different ways: /θ/, /t/ or /tθ/. So ‘33<sup>rd</sup> street’ may be pronounced as “thirty third” (using /θ/), “toity toid”

(using /t/) or with a version that comes halfway between the two (t<sup>h</sup>). He further states that the initial (/ð/) of words such as ‘these’, ‘them’ and ‘those’ can be pronounced /d/ as in ‘dese’, ‘dem’ and ‘dose’. He adds that these phenomena are easy to find in the British Isles and that in Norwich and many other parts of Britain, the presence or absence of /h/ as the initial sound of such words as ‘house’, ‘horse’ or ‘heavy’ is socially stratified and that the more social class the speaker, the more likely s/he will pronounce /h/. He concludes that in both Norwich and New York, ‘... the individual sound.... is only one among the range of sounds that are particularly sensitive to social stratification in their pronunciation’.

This stratification depends on the speech community which is made up of different groups. These groups are likely to operate with different versions of the same language. Different varieties are therefore used by different groups and speech will differ according to the primary group of the speaker around crucial reference points such as class, region, ethnicity, gender and age. (105). He argues that ‘such reference points heavily shape our speech’ so that ‘we inevitably signal much about our social identity in producing even the most banal utterance’ and concludes that ‘we speak a particular kind of English depending.....upon which region of the country we come from or upon which class we are most strongly affiliated with’(105).

To a large extent, this is true because even in Ghana, it is possible to sometimes determine a person’s ethnic background by listening to him/her when the person speaks English. This shows that not only the social variables such as age, gender, ethnicity or linguistic background, level of education, that are pivotal in the selection of a linguistic variant but also the kind of learning situation or environment an individual finds him/herself in for ‘language varies not just according to who we are but also according to the situations in which we find ourselves’ (125).

Trudgill (1983) also states that social variables affect the probability of a linguistic variant selection and lists some of these variables as gender, age, social class, social network, education, ethnicity and religion. He further states that these variables differ from one speech community to another because each society has its own social norms, ‘...and that each of these factors has been known to influence the probability of a variant occurrence’.

This corresponds to what Hudson (2005:147) says that “... Individual speakers choose among the available variants of all the available variables in order to locate themselves in a high complex multi-dimensional social space” and that “... these different linguistic variables reflect different social contrasts”.

In attempting to explain how social factors affect individual’s choice of a linguistic variant, Wolfram and Schilling-Estes (2000) quoted in (Al-Ali & Arafa 2010) mention matters of identity and personal presentation vital in relating linguistic differences to social ones. Chambers (1995) also promotes the effect of social pressure on the usage of standard or non-standard dialect.

According to Al-Ali and Arafa (2010), this social pressure is what Labov (1966) refers to as prestige awareness. They argue that language prestige depends on the social evaluation the upper social class gives to a particular variety of language and conclude that this prestige represents the cosmetic makeover, which determines whether or not a variety is acceptable in society. They are however of the view that what is viewed as pleasing and satisfactory in one society, might not necessarily be so in another.

Each of these variables has been identified in most correlational studies in sociolinguistics to influence a variant selection. For example, Labov (1966) found out that the pronunciation of /r/ in words such as ‘fourth’ and ‘floor’ in New York is determined by social class consciousness

and formality of speech. This came out when he examined how social factors such as style, social class and age affect the pronunciation of /r/ in Martha's Vineyard.

Trudgill (1974) also found out that an increase in social class and formality results in the selection of a standard variant. Quartey (2009) also demonstrates that the selection or otherwise of /h/ in the initial sounds of words such as 'hundred', 'hospital' or 'have' could be as a result of one's linguistic background.

Adjei (2005:277) in talking about the influence of Ghanaian languages on the English spoken in Ghana observes that;

It is inevitable that the GhE accent will be influenced by the indigenous languages in the country, particularly since English is one of many languages and is in constant contact with the other languages. Most speakers of GhE are at one and the same time speakers of one or more indigenous languages. There is therefore a two-way transference: from English to the other languages and vice versa, with the result that the pronunciation of certain segments in GhE could be attributed to various local languages.

She identifies the merging of /æ/, /a/, and /ʌ/; and the use of [ɔ] for [ɒ] with the subsequent merging of /ɒ/ and /ɔ:/ as /ɔ/ as some of the vowel features attributable to L1 influence. Again, she mentions the possible absence of the dental fricatives [θ] and [ð] in some idiolects which reflects the non-existence of these sounds of the various L1s. She adds that the substitution of [r] for [l] might sometimes be observed in the speech of Akans, particularly Twi speakers of English. This is quite true because in Akan- Fante & Twi, /r/ and /l/ are in free variation sometimes such that [pra] and [pla] means the same as sweep. She also mentions consonant cluster reduction in word final or word medial positions as well as intonational features such as

‘the interpretation of English stress in terms of pitch accents and downdrift’ as some occurrences that ‘could be attributed to L1’.

Koranteng (2006) also observes that young speakers tend to use the non-standard variants.

What she does not say is what accounts for this phenomenon. Why should young speakers who can easily learn the standard variants when exposed to them use the non-standard variants more frequently? Is it the ‘norm’ in the society? If not, where do the young speakers get the non-standard variant which they use quite often from? Again, she states that females have the higher tendency than males to realize /θ/ and /ð/. This corresponds with Yule (1997) when he says that “one general conclusion from dialect surveys is that females tend to use more prestigious forms than the male speakers with the same general social background”. Montgomery (2006:153) corroborates this when he states that “...on social class measurements of pronunciation, women generally score higher for prestige forms than men do right up and down the social scale’. Of course, her research was conducted on students in the English department who may be aware of these variants. But the question that needs answering is, if both males and females are not exposed to the standard variant, will there be a possibility of any of them using the standard variant?. There is the need therefore, to look at factors which may be responsible for these variations across the board to objectively arrive at what really are responsible for the choice of this particular phonological variations in the use of /θ/ and / ð /.

Most of the works on Ghanaian English Phonology such as Adjaye (2005), Dako (2001), Quartey (2009), Koranteng (2006), Huber (2008) and others agree that there are both consonant and vowel variations in the English spoken in Ghana. For example, all of them found out that there are different realizations of /θ/ and /ð / in the English spoken by Ghanaians.

Some of the phonetic variables that are liable to change include the following

/pæθ/                    [pæθ] or [paθ]    ‘path’

/pæt/                    [pæt] or [pat]    ‘path’

/pæf/                    [pæf] or [paf]    ‘path’

/deθ/                    [deθ]            ‘death’

/det/                    [det]            ‘death’

/def/                    [def]            ‘death’

/ðeɪ/                    [ðeɪ]            ‘they’

/deɪ/                    [deɪ]            ‘they’

/ðɪ:z/                   [ðɪ:z]           ‘these’

/dɪ:z/                   [dɪ:z]           ‘these’

The preferred vowel for the RP vowel /æ/ being /a/ in words such as path, bath, fat, mat etc. It should be noted that these variables can also trigger meaning change since / ð / and /d/, /t/, /f/ and /θ/ phonemic and could be used as separate contrastive phonemes in a number of pairs in standard British English, examples of this phenomenon include the following;

/ðeɪ/                    /deɪ/            ‘they’

/deɪ/                    /deɪ/            ‘day’

/ðaɪ/                    [ðaɪ]            ‘die’

/daɪ/

[daɪ]

'die'

It is therefore very important for educated Ghanaians to understand this so that communication cannot be unduly affected. However, it is also important to note that the context in which an utterance is made helps significantly in disambiguation. Peter Auer (1992:4) makes this point very clearly that '...the semiotic resources employed are very crucial in order to create the proper context in which the verbal message is to be understood'. He is also of the opinion that 'all relevant activities that are engaged in by participants help in the interpretation of an utterance in its particular locus of occurrence'. There is therefore, no doubt that the context in which any of these different realizations are used will help in the determination of the intended meaning.

This problem can also be traced to the lack of correspondence between the pronunciation and spelling of English words. A study of English pronunciation and spelling shows that there is

no regularized correspondence between the sound of a word in standard speech and its expression in written symbols. For example, the twenty vowel sounds (pure vowels and diphthongs) are represented by just five written letters and the 21 consonants is represented by 24 consonant sounds. Sometimes, spelling with the same letters is realized differently. For example, 'th' in 'death' is pronounced /θ/ whereas the same letters are pronounced / ð / in 'bathe' and this brings confusion sometimes.

Some Ghanaians are compelled as a result to use any of them where there is 'th' spelling and this may also account for some of the variations in Ghanaian English.

Hymes (2003) also singles out diversity of speech as a problem that manifests itself in many sectors of life such as education, development and transcultural communication. He mentions bilingualism as one of the factors of diversity of speech aside other factors. This is tenable since

certain ‘sounds’ in one language may not exist in another, hence when an individual comes into contact with an unfamiliar word, it is possible that ‘sound’ will be realized quite differently from what the native speaker will produce. It is therefore possible to examine the impact of L<sub>1</sub> on language variation in Ghana, since the majority of Ghanaians learn English from books.

Trugill (1983) enumerates social variables such as gender, age, social class, social network, education, ethnicity and religion as factors that affect the probability of linguistic variant selection. Some of these social variables will be explored in this study to determine which of them can trigger a variant choice which brings about language variations in Ghanaian English.

All the scholars quoted have come up with copious examples which clearly suggest that there is variation everywhere including the English spoken in Ghana when put side by side with the RP, which is British English. But none of them has conspicuously enumerated comprehensively the factors responsible for such occurrences, even though all of them one way or the other attributes this phenomenon to the influence of the various linguistic backgrounds of Ghanaians, spelling pronunciations. The results of this study show that indeed, there is variation in the realization of the affricates and the fricatives in the English spoken by the respondents. However, the teachers of the various institutions, who themselves are Ghanaians, largely influence these variations since student respondents from different linguistic backgrounds exhibited similar traits which were exhibited by their teachers.

## 2.2 THEORETICAL FRAMEWORK

It is generally accepted that no linguistic observation or description can be devoid of theory and that all linguistic description is to that extent ‘theory impregnated’ (Popper 1972:104) quoted in Docherty, Foulkes, Milroy & Milroy & Walshaw (1997). They further state that ‘anyone attempting to describe a corpus of data brings to bear pre-theoretical assumptions which in part dictate the method of analysis’ and that any ‘entities in the data identifiable as phonemes, morphemes, words and sentences..... are theory dependent constructs’. They conclude that:

Data analysis necessarily involves a process of extraction which is to some extent informed by an individual’s own judgment and interpretations however (implicitly or explicitly) by theoretical linguistic framework’.

In the study of language, several theories have been used to assess accents. Some of these include The Accent Phonology Theory by Trubetzkoy (1931), Contrastive Analysis by Yankson (1971) and a host of others. The emergence of other accents is as a result of other non-native varieties of language such as English that have evolved over the years.

Wells (1982) examines the differences between accents and defines the Accent Phonology Theory as a ‘synchronic approach to analyzing the differences between accents’. In supporting the use of this approach in describing the differences in accents, he states

“In the synchronic approach, we attempt to describe the existing accent as they are. We investigate the differences in phonetic detail. We examine possible differences in phonological structure (phonotactic distribution). We ask whether the phonemic systems of the various accents are isomorphic (i.e. whether there is one –to- one relationship between the phonemes of Accent A and those of Accent

B). We look for the differences in the use of particular phonemes in particular words and morphemes’.

This research works within the variationist theory which makes reference to social and linguistic information derived from specific groups in specifying the constraints on variability Milroy & Milroy (1997).

He points out that frequencies of particular variants are constrained not only by different linguistic context such as gender, status or level of education and the kind of social context in which language samples are embedded.

Sylvie Dubois and David Sankoff (2003) support the variationist approach and points out that this approach to sociolinguistic study involves open-ended procedures to obtain representative and comparative data, which contrasts with principles of control and predictability in other experimental-evaluative approaches.

They emphasize that ‘the variationist method relies on quantitative analysis to validate interpretation of data’ and point out four purposes or reasons for the use of the quantitative method within the variationist approach. These are;

‘To highlight the sociocultural meaning of linguistic variation as the nature of relationship among the linguistic aspects in probabilistic terms ‘,

2) To provide a more accurate understanding of the usage and the frequency of the forms within the community as well as a way of detecting linguistic change’

3) That ‘the frequency of forms and speakers’ preferences give a more realistic overview of the usage of linguistic structures’ and

4) ‘Statistical tools allow us to pinpoint the social and linguistic conditioning as well as the tendencies and regularities in the linguistic system.

Their conclusion is that it is the ‘more objective and more accurate basis of analyses and that ‘the quantitative method is a powerful and efficient tool in sociolinguistic analysis.

The study will establish the allophonic variants of the consonants under study (affricates and fricatives) of Ghanaian English and compare them to the RP noting the social conditions responsible for such realizations.

## CHAPTER THREE

### 3.1 METHODOLOGY

#### 3.1.1 SELECTION OF EDUCATIONAL LEVEL

Educational Level is selected as a social variable for this study. It is based on the current Educational System which has two years pre- school, six years primary education, three years Junior High School, three years of either college of Education or Polytechnic Education and four years of University Education.

The duration of Senior High School which was extended to four years has been reverted to its original three year period. However, the duration for all the other levels has remained the same since 1992. Each of the levels from the J.H.S. level could be terminal. The JHS is the lowest level of termination whilst the University is considered the highest.

Educational level has particularly been selected because it is believed that the higher an individual's level of education the better his/her quality of language and for that matter pronunciation. There are yet others who are of the view that language is best learnt when an individual is young and therefore, pupils in the basic schools should be able to pronounce words correctly even though they are still learning English language. The Educational level is also selected because almost everybody who speaks English passes through the educational system.

Again, the English language spoken in schools in Ghana is largely perceived to be the language of the teacher since what they teach is what is carried from one level of learning to the next. Even though there are other influences such as electronic, parental, peer-group etc. that affect the way English is spoken in Ghana, no one can deny the fact that English is largely learnt in the

schools in Ghana. Teachers as well as students in the various levels of education will therefore be the focus of this study.

It needs to be added that the Senior High Schools are where English is seriously taught for at least three years. It is also a period when students apply the principles they learn themselves. Whatever goes on in the teaching and learning of the English language should be of great interest to everyone, especially researchers. However, it is also worth noting that if pronunciation is properly taught at the basic schools by competent teachers certain variations may not even arise at all in the English spoken in Ghana.

### **3.1.2 SELECTION OF PHONETIC VARIABLES (SOUNDS)**

The affricates as well as the fricatives are the phonetic variables that are selected for this study. Their selection is consequence on a pilot study the researcher conducted in 2011 which discovered that the affricates and the fricatives are some of the phonetic variables that lend themselves to variation in the English spoken in Ghana.

The researcher is aware of the ideolectal differences or peculiarities that are associated with Ghanaians from different linguistic backgrounds that affect the way English is spoken in Ghana, however, this research is only interested in the similarities which are common to all Ghanaians irrespective of their ethnic or ideolectal differences.

### 3.1.3 SELECTION OF SCHOOLS

Two Senior High Schools, two Junior High Schools and two primary schools were selected for this study. All the schools were selected from the Greater Accra Region for the reason that;

The Schools are located in areas which can be seen as a representative of all Ghanaians and therefore, the outcome of the research is seen as a reflection of all Ghanaians. Greater Accra Region though is the region of the Ga-Dangme ethnic group, Accra, where the research took place is the home Region of the Gas who are spread along the coast with a few of them inland. But due to its metropolitan nature, rural urban migration and the fact that it is the capital of Ghana, it has all manner of people from different linguistic backgrounds inhabiting there for education, apprenticeship, and politics or mainly for business purposes almost all the ethnic groups in Ghana reside there.

Again, the use of the computerized school placement system for Senior High Schools has also made it possible for all Ghanaians from different linguistic and social background to congregate in the Senior High Schools for academic work. This has also brought about the multi-ethnic dimension to the Senior High Schools especially, the highly endowed ones in Ghana and Greater Accra is not an exception.

Achimota Senior High School as well as Morning Star Junior High School and primary School are selected to represent the very best whilst Kaneshie Senior High and Rev. Thomas Clegg Junior High School and Primary school are chosen to represent the average schools.

The Schools could either be a day or a boarding school but what is very important is that the schools should be mixed to reflect the Ghanaian population. Achimota Senior High School is both day and boarding school but Kaneshie Senior High School is a day school but that

notwithstanding, all the schools are mixed. All the basic schools in this study are day schools and mixed.

### **3.1.4 SELECTION OF RESPONDENTS**

Thirty students and thirty teachers were selected for the study: five students from each of the schools selected; five teachers each from the primary, Junior High and Senior High Schools were also selected. Even though the respondents were randomly selected, equal number of males and females were selected from each school.

The criteria for selecting the respondents are as follows;

- The senior High School students should be in their final year
- They should have been in the school for at least three years
- Though randomly selected, respondents should reflect the various linguistic and social backgrounds of Ghanaians.

The Junior High school students were in their final year while the primary school students were in primary six. The students or pupils had been in their respective schools for at least three years to have passed through the hands of their teachers.

The teacher respondents in each of the schools had also taught in their respective schools for at least two years. This was to ensure that the teachers had exerted a considerable influence either directly or indirectly in the way students and pupils pronounce words, read sentences and speak English. The teacher respondents in the High Schools were all University graduates whereas those in the primary and Junior High Schools were either Post Secondary or University Graduates.

### 3.1.5 DESCRIPTION OF RESPONDENTS

The Respondents are grouped according to their level of education, sex, mother tongue, school and place of residence.

The tables below give a detailed description of the respondents to the criteria stated above.

Table 1(see Appendix D for details)

<b>TABLES</b>	<b>RESPONDENTS</b>	<b>NUMBER/SERIAL NOS.</b>
Table 1	Kateco SHS Students	5 (KS 1-KS 5)
Table 2	Kateco SHS Teachers	5 (KT 1-KT 5)
Table 3	Achimota SHS Students	5 (AS 1-AS 5)
Table 4	Achimota SHS Teachers	5 (AT 1-AS 5)
Table 5	Rev. Thomas Cleg Meth. JHS Students	5 (JS 1-JS 5)
Table 6	Rev. Thomas Cleg Meth. JHS Teachers	5 (JT 1-JT 5)
Table 7	Rev. Thomas Cleg Meth Primary Students	5 (PS 1-PS 5)
Table 8	Rev. Thomas Cleg Meth Primary Teachers	5 (PT 1-PT 5)
Table 9	Morning Star JHS Students	5 (MJ 1-MJ 5)
Table 10	Morning Star JHS Teachers	5 (MT 1-MT 5)
Table 11	Morning Star Primary Students	5 (MP1-MP 5)
Table 12	Morning Star Primary Teachers	5 (Mt 1-Mt 5)
	<b>Total</b>	<b>60</b>

Table 1

The respondents were given serial numbers according to their schools for easy identification and analysis. Thus, the first student respondent from the Kaneshie Senior High Technical School is KS 1; Achimota Senior High School is AS 1, while that of the teachers from the two schools is KT 1 and AT 1 respectively. This was so for all respondents. Each school had five respondents; therefore, the serial numbers for each school ends at 5. See table 1 above.

Apart from AS 4 who claimed to have travelled outside the country to Sweden for more than six months, even though this did not reflect on her pronunciations, all the other respondents at all the levels had acquired all their education in Ghana and had therefore, not been influenced by any foreign accent. KT 1 is a trained English language teacher but this did not largely show in her realization of some of the sounds under study. All the other teacher respondents, apart from the class teachers, teach various subjects such as mathematics, science, Geography etc. The class teachers in the primary schools also teach all subjects including English language, however, the upper primary teachers in Morning Star Preparatory were taught by subject teachers just like their counterparts in the Junior and Senior High Schools.

All the sixty (60) respondents are from different ethnic backgrounds and speak different local languages such as Akan (Fante and Twi), Nzema, Ewe, Guan, Ga, Krobo, Lelemi, Dagbani, Hausa, Dangwe and Sefwi. The primary respondents are between the ages of 12 and 13, JHS 13-15 and SHS, 15-20. The teacher respondents are also between the ages of 25 and 40. This shows that all the respondents are young and very active.

## **3.2 DATA COLLECTION**

The data for this study came from the recorded speeches of twenty (60) respondents. Each respondent read a passage which was recorded on a digital recorder and subsequently transcribed and analyzed and this formed the basis for this research work.

### **3.2.1 PROCEDURE**

The procedure for the collection of the data was formal, however, it was cordial enough to ensure that the respondents were at ease or relaxed to enable them pronounce the sounds the way they would normally do.

Respondents were told prior to the commencement of the exercise that they would be recorded and that their consent to take part in the research was required before they could be recorded.

After they had read through the consent forms and agreed by filling the forms, they were taken through the questionnaires designed for the research. This was not recorded but it helped in relaxing the respondents especially the students. Respondents were then asked to read the passage which was recorded.

The student respondents were told to skip any unfamiliar word that they found difficult to prevent them from guessing which would defeat the purpose of the study, however, the teacher respondents were not asked to skip any words since it was assumed that all of them could read.

Student Respondents from the Kaneshie Senior High Technical School were the first to be recorded. They were the final year students who had spent four (4) years in the school and were

about to write their final Exams in March, 2012. Even though they were randomly selected, the selection process ensured that both males and females were selected for the study.

### **3.2.2 QUESTIONNAIRES**

Two separate questionnaires were designed and administered: One for the Teacher respondents and the other for the Student Respondents, to investigate their personal, educational, social and linguistic backgrounds. This was done prior to the actual reading and recording. This helped tremendously since it gave respondents the opportunity to relax and to ask any question regarding the study before the actual reading which followed immediately. (See appendix c for Questionnaires).

### **3.2.3 CONSENT FORM**

A consent form designed ostensibly to seek the consent of each respondent was first administered.

Once a Respondent agreed to take part in the study by filling the form, s/he went ahead to fill the questionnaires after which the actual reading and recording was done. This also helped in removing any anxiety that was likely to affect the recordings since it enabled the Respondents to ask questions regarding their involvement in the research. (See Appendix A p 105). Pupils in the Basic Schools (Primary and Junior High Schools) were given the consent forms together with the questionnaires to send home through their Schools for their parents to sign since they were below 18 years.

### **3.2.4 READING MATERIAL**

A passage containing various consonant realizations in different spelling environments –word initial, word medial and word final where necessary as well as words arranged in alphabetical order constituted the reading material for this research work. The choice of a passage was to ensure that the respondents would not realize exactly what was being tested whilst the words arranged in alphabetical order and pronounced in isolation also determined whether there would be any differences between the realization of the sounds in sentences and those enunciated in isolation, and this made the recordings as objective as possible. The passage also ensured that some of the words appeared at least twice to ensure the objectivity in the transcription and subsequent analysis. (See Appendix C p. 111).

### **3.3 TRANSCRIPTION AND DATA ANALYSIS**

The recordings elicited from the various respondents were transferred from the recorder to a computer. The recordings were then transcribed phonetically in a quiet room to ensure that no outside noise affected its quality. The sounds so realized were then compared to the Received Pronunciation (RP) to determine whether there were variations in the realization of the sounds under consideration. The various realizations of a particular sound by a particular respondent were then listed and described.

The transcription was auditory or impressionistic and reflected how the sounds were realized, and is based on the RP phonemes by Gimson (2001).

The consonant sounds under study were tested for their phonetic realizations in different environments – word initial, medial and final where necessary.

It was followed by a detailed description and discussion of each of the sounds realized. This was to identify the number of allophones used in the realization of a particular consonant phoneme by the respondents from the various educational institutions in Ghana.

For each affricate or fricative sound, six words in the reading passage were selected and grouped to test their realizations in word initial, medial and final positions. They were then picked individually and analyzed.

It was identified that almost the same responses run through the realizations of the respondents from the various educational levels with negligible distinctions.

## CHAPTER FOUR

### 4.1 THE ENGLISH CONSONANTS

The English Language has twenty four (24) distinctive consonantal phonemes. These phonemes are identified and described based on their places of articulation, manner of articulation and voicing or phonation.

The places of articulation are the bilabial, labiodental, dental, alveolar, post alveolar, palato alveolar, palatal, velar and glottal sounds. The manner of articulation also determines whether a sound is a plosive, fricative, affricate, nasal or an approximant. A consonant phoneme can also be either voiced (produced with the vibration of the vocal cords) or voiceless (produced without the vibration of the vocal cords) based on where and how it is produced.

Gimson (2001:149) further differentiates sonorant sounds from obstruent sounds. With sonorant sounds, there is ‘only a partial closure or an unimpeded oral or nasal escape of air’ in their production. Nasals and approximants fall in this category. While in the production of obstruent sounds ‘there is a total closure or stricture causing friction’. Plosives, Fricatives and Affricates are also in this group.

The table below gives a summary of the English consonant sounds according to Gimson (2001:149).

	Plosives	Affricates	Fricatives	Nasals	Approximants
Bilabial	p, b			m	(w)
Labiodental			f, v		
Dental			θ, ð		
Alveolar	t, d		s, z	n	l
Post-alveolar					r
Palato-alveolar		tʃ, dʒ	ʃ, ʒ		
Palatal					j
Velar	k, g			ŋ	
Glottal			h		

Summary of the English Consonants (Gimson, 2001: 149)

#### 4.2 STUDY VARIABLES IN THIS RESEARCH

Eleven dependent phonetic variables (/θ/, /ð/, /f/, /v/, /s/, /z/, /ʃ/, /ʒ/, /tʃ/, /dʒ/ and /h/) and one social factor (Educational level) were investigated in this study. These phonetic variables that constitute the affricates and the fricatives were selected for this study because a pilot study conducted prior to this research revealed that the affricates and the fricatives lend themselves to variations in the English spoken in Ghana.

The other sounds such as the plosives and the approximants are usually realized as it is in R P. This research is therefore based on the affricates and the fricatives.

## 4.3 FINDINGS ON THE ALTERNATIVE REALISATION OF THE CONSONANTS

## 4.3.1 THE AFFRICATES

## 1. Voiceless palato-alveolar affricate /tʃ/

Initial: children, champion, chance, cheap, chip

Medial: situate, nature, question, teacher, opportune

Final: launch, starch, fetch, march, snatch

Word	Realization									
	KS 1	KS 2	K S 3	KS 4	KS 5	AS 1	AS 2	AS 3	AS 4	AS 5
SITUATED	t	t	t	t	t	t	t	t	t	t
CHEAP	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ
CHILDREN	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ
QUESTION	ʃ	t	t	tʃ	ʃ	ʃ	tʃ (J)	ʃ	ʃ	ʃ
STARCH	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ
LAUNCH	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ

/tʃ/ in initial and final positions is realized as [tʃ], but in the medial position, it is realized as [t], [ʃ] or [tʃ]. This runs through the realization of this sound by all respondents.

Phonemes	No. of occurrence	Percentage
/t/	12/60	20%

/ʃ/	6/60	10%
/tʃ/	41/60	68.3%
/tʃ/ or /ʃ/	1/60	1.7%

The data here shows that /tʃ/ which is the RP variant was used in 68.3% of the total number of the occurrence of the /tʃ/ variable by the respondents from the two Junior High Schools, while /t/, /ʃ/ and /tʃ/ or /ʃ/ which are identified with the Ghanaian users of the English language were employed in 20%, 10% and 1.7% respectively in all /tʃ/ occurrences. However, speakers from both schools vary to some extent in their adoption of these alternative variants. For instance, while both schools were ‘unanimous’ in their realization of ‘situated’ [sɪtʃuːeɪtɪd] as [sɪtuːeɪtɪd], and pronounced ‘cheap’ [tʃiːp], ‘children’ [tʃɪldrən], ‘starch’ [stɑːtʃ] and ‘lunch’ [lʌntʃ] using the RP variant [tʃ] in all instances, they differed however, in their realization of ‘question’ [kweʃtʃɪn]. Whereas the KS respondents preferred [ʃ], [t] and [tʃ], the preference for the AS respondents was [ʃ] with AS 2 realizing it as either [ʃ] or [tʃ].

This suggests that Ghanaian students in each school may have a preference in the realization of a particular sound depending on the particular variants that have the highest ‘currency’ in their school environment. It also suggests that these variations within the schools at the same levels are also likely to encourage variations in the English spoken in Ghana.

## Word Realization

	KT 1	KT 2	KT 3	KT 4	KT 5	AT 1	AT 2	AT 3	AT 4	AT 5
SITUATED	tʃ	t	t	t	t	t	t	t	t	t
CHEAP	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ
CHILDREN	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ
QUESTION	ʃ	ʃ	t	t	t	ʃ	ʃ	ʃ	t	ʃ
STARCH	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ
LAUNCH	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ

Phonemes	No. of occurrence	Percentage
/t/	13/60	21.7%
/ʃ/	6/60	10%
/tʃ/	41/60	68.3%

The respondents here are teachers from the two Senior High Schools. Apart from KT 1 who realized /tʃ/ in ‘situated’ as RP, all the others were also ‘unanimous’ in their realization, with /t/ as their preferred choice. All of them realized ‘cheap’, ‘children’, ‘starch’ and ‘launch’ as in RP but differed in their realization of ‘question’. Whereas the AS respondents had preference for [ʃ], KT respondents had [t] as their preference, with two respondents realizing it as [ʃ].

Even though teachers in the two schools differed in their adoption of [t] and [ʃ] variants in the pronunciation of ‘question’, they all realized both sounds. This suggests that, in the realization of ‘question’, the preferred variable is either [t] or [ʃ]. It also suggests that the RP variant [tʃ] is not used by these respondents (from the two schools) in the realization of ‘question’. This has very

significant implication in the teaching and learning of the English spoken in Ghana. That notwithstanding, /tʃ/ has the highest occurrence by this group and this is followed by [t] 21.75% and [ʃ].

Word Realization

	JS 1	JS 2	JS 3	JS 4	JS 5	MJ 1	MJ 2	MJ 3	MJ 4	MJ 5
SITUATED	t	t	t	t	t	t	t	t	t	t
CHEAP	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ
CHILDREN	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ
QUESTION	ʃ	ʃ	t	t	ʃ (t)	ʃ	tʃ	ʃ	ʃ	ʃ
STARCH	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ
LAUNCH	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ

Phonemes	No. of occurrence	Percentage
/t/	12/60	20%
/ʃ/	6/60	10%
/tʃ/	41/60	68.3%
/ʃ/ or /t/	1/60	1.7%

The data shows that both schools use the RP variant [tʃ] in the realization of ‘cheap’, ‘children’, ‘starch’ and ‘launch’. Again, both schools realized [tʃ] in ‘situated’ as [t] but differed in their realization of ‘question’. The data clearly shows that, whereas the JS respondents realized both [ʃ] and [t] in the realization of ‘question’, the preferred variant for MJ respondent is [ʃ] with one of them using the RP variant [tʃ]. On the whole, their adoption of the variants of [tʃ] is shown above.

## Word Realization

	JT 1	JT 2	JT 3	JT 4	JT 5	MT 1	MT 2	MT 3	MT 4	MT 5
SITUATED	t	t	t	t	t	t	t	t	t	t
CHEAP	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ
CHILDREN	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ
QUESTION	ʃ	ʃ	t	ʃ	t	ʃ(t)	tʃ	t	ʃ(t)	ʃ
STARCH	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ
LAUNCH	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ

Phonemes	No. of occurrence	Percentage
/t/	13/60	21.7%
/ʃ/	4/60	6.7%
/tʃ/	41/60	68.3%
/ʃ/ or /t/	2/60	3.3%

The JHS teacher respondents from the two schools were similar in their adoption of [tʃ] variants. 21.7%, 6.7% and 68.3% realized [t], [ʃ] and [tʃ] respectively, with the remaining 3.3% realizing the same sound as either [ʃ] or [t]. Both schools used the alternative Ghanaian variant [t] in their realization of ‘situated’. However, they both used the RP variant [tʃ] in their pronunciation of ‘cheap’, ‘children’, ‘starch’ and ‘launch’. Teachers from both schools use [ʃ] or [t] as alternative variants in the realization of ‘question’, with MT 2 realizing it as RP [tʃ]. What is evident is that whereas two of the MT respondents consistently realized it as either [t] or [ʃ], with MT 3 and MT 5 realizing it as [t] and [ʃ] respectively. Three of the JT respondents used [ʃ], however, JT 3 and

JT 5 used [t]. That notwithstanding, the respondents have [ʃ] and [t] in the repertoire of their language. Here, it is evident from the findings that, in the realization of ‘situated’ and ‘question’, the alternative Ghanaian variants are preferred by teachers in both schools. This is very significant in the teaching and learning of English language at the JHS level since teachers will only give what they have, for in the long run, their adoption of these alternative Ghanaian variants is expected to result in language change at the phonetic level in the English spoken in Ghana.

Word Realization

	PS 1	PS 2	PS 3	PS 4	PS 5	MP 1	MP 2	MP 3	MP 4	MP 5
SITUATED	t	t	t	t	t	t	t	t	t	t
CHEAP	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ
CHILDREN	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ
QUESTION	ʃ	ʃ	ʃ	ʃ	ʃ (t)	ʃ	ʃ	ʃ	ʃ	ʃ
STARCH	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ
LAUNCH	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ

Phonemes	No. of occurrence	Percentage
/t/	10/60	16.7%
/ʃ/	8/60	13.3%
/ʃ/	41/60	68.3%
/ʃ/ or /t/	1/60	1.7%

Students respondents from the two primary schools studied also realized [t], [ʃ] and [ʃ], with 16.7%, 13.3% and 68.3% respectively with the remaining 1.7% realizing it as either [t] or [ʃ].

Their use of these variants is not different from what their counterparts at the JHS and the SHS had done; however, they seem to be consistent in the realization of ‘question’. The preferred variant for both schools is [ʃ] but whilst PS 5 uses [t] as allophonic variant of [ʃ], MP 5 uses the RP variant [tʃ]. Clearly, it seems that at this level, the primary respondents are more comfortable in their adoption of [ʃ] variant.

Word Realization

	PT 1	PT 2	PT 3	PT 4	PT 5	Mt 1	Mt 2	Mt 3	Mt 4	Mt 5
SITUATED	t	t	t	t	t	t	t	t	t	t
CHEAP	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ
CHILDREN	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ
QUESTION	ʃ	ʃ	ʃ	ʃ	t	tʃ	t	t	ʃ	t (ʃ)
STARCH	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ
LAUNCH	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ	tʃ

Phonemes	No. of occurrence	Percentage
/t/	13/60	21.7%
/ʃ/	5/60	8.3%
/tʃ/	41/60	68.3%
/ʃ/ or /t/	1/60	1.7%

Teachers from both schools realized [t] 21.7%, [ʃ] 8.3% and [tʃ] 68.3%, with the remaining 1.7% realizing it as either [ʃ] or [t]. What is interesting is that whereas PT respondents’ preferred variant is [ʃ], the MT respondents produced it variously as [t], [ʃ] and [tʃ].

The voiceless palato-alveolar affricate /tʃ/ has the following three discrete voiceless variants in the English spoken by the respondents: The voiceless palato-alveolar affricate [tʃ], the voiceless alveolar plosive [t] and the voiceless palato-alveolar fricative [ʃ]. Each of these variants represents a separate phoneme in the English Language. That means the three variants contrast in quite a number of words when they occur in different environments. The following minimal pairs exemplify that:

/tʃip/	[tʃip]	‘chip’
/tip/	[tip]	‘tip’
/ʃip/	[ʃip]	‘ship’

But these variants [tʃ], [t], and [ʃ] can be allophonic variants of the same phoneme /tʃ/ in the English spoken in Ghana. The following as realized by the respondent is a typical example.

/kwɛstʃɪn/	[kwɛstʃɪn]	‘question’
/kwɛstɪn/	[kwɛstɪn]	‘question’
/kwɛʃɪn/	[kwɛʃɪn]	‘question’

The voiceless palato-alveolar affricate [tʃ] represents the RP while the dental stop [t] and the palato-alveolar fricative [ʃ] variants represent the alternative Ghanaian realization of the same phoneme [tʃ].

The following frequencies are the distribution of [tʃ] variants among the respondents in the various educational levels investigated. The variant [tʃ] was found to have the largest amount of distribution with a percentage of (68.3%), whereas [t] has the occurrence of (20.3%), [ʃ] (9.7%),

[t] or [ʃ] (1.4%) and [tʃ] or [ʃ] (0.3%) representing the lowest frequency in the respondents' speech. As stated earlier, when /tʃ/ occurs in word initial or final, the RP /tʃ/ is realized as evidenced in the realization of 'cheap', 'children', 'starch' and 'launch'. However, the variations occur when /tʃ/ occurs in word medial.

For instance, /t/ was used by 59 out of the 60 respondents in the realization of 'situated', representing 98.3% and 1.7% for /tʃ/ respectively. Whereas in the realization of 'question', [ʃ] has the highest occurrence of (58.4%), followed by /t/ with the frequency of (23.3%) and [tʃ] (8.3%). The realization of either [tʃ] or [ʃ] by the same respondent is (1.7%) whereas [ʃ] or /t/ by the same respondent is (8.3%).

## 2. The voiced palato-alveolar affricate /dʒ/

Initial: giant, joy, during, junction, germ

Medial: educated, graduate, digital, gradual, digest

Final: lodge, large, knowledge, revenge, dirge, gesture

## Words Realizations

	KS 1	KS 2	KS 3	KS 4	KS 5	AS 1	AS 2	AS 3	AS 4	AS 5
EDUCATED	d	d	d	d	d	d	d	d	d	d
GESTURE	dʒ	g	g	g	dʒ	g	g	dʒ	g	g
GRADUATE	d	d	d	d	d	d	d	d	d	d
JOY	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ
DIGITAL	g	g	g	g	g	g	g	dʒ	g	g
LARGE	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ

Phonemes	No. of occurrence	Percentage
/d/	20/60	33.3%
/dʒ/	24/60	40%
/g/	16/60	26.7%

Respondents from both schools realized [d] 33.3%, [dʒ] 40% and [g] 26.7%. They were similar in their adoption of [d] and [g] in the pronunciation of ‘educated’, ‘graduate’ and ‘digital’. All of them used the alternative Ghanaian variants in the pronunciation of the words above. /g/ also

seems to be the preferred choice for both schools in the pronunciation of ‘gesture’ [dʒestʃə] since four of the AS and three of the KS respondents realized it as [g]. KS 1, KS 5 and AS 3 realized it as RP. But in the realization of ‘joy’ [dʒɔɪ], and ‘large’ [la:dʒ], the preferred choice for all respondents is the RP variant [dʒ]. This seems to suggest that the choice of a particular variant depends on the word being pronounced, and whether the sound occurs in word initial, medial or final. This phenomenon is not peculiar to any of the two schools above since there is no significant difference between the two schools’ realization of the variants of [dʒ].

Word Realization

	KT 1	KT 2	KT 3	KT 4	KT 5	AT 1	AT 2	AT 3	AT 4	AT 5
EDUCATED	dʒ	d	d	d	d	d	d	d	d	d
GESTURE	dʒ	g	g	g	g	g	g	dʒ	g	dʒ
GRADUATE	d	d	d	d	d	d	d	d	d	d
JOY	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ
DIGITAL	g	g	g	g	g	g	g	g	g	g
LARGE	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ

Phonemes	No. of occurrence	Percentage
/d/	19/60	31.7%
/dʒ/	24/60	40%
/g/	17/60	28.3%

Teachers in both SHS studied had three variants in the realization of [dʒ]. These are [d], 31.7%, [dʒ] 40% and [g] 28.3%. Apart from KT 1 who realized ‘educated’ with the RP variant [dʒ], all the others used the voiced alveolar stop [d]. This sound was also used by all respondents in the realization of ‘graduate’. Again, all respondents in the two schools used the RP variant [dʒ] in pronouncing ‘joy’ and ‘large’. [g], however, was used by all the teacher respondents from the two schools in the realization of ‘digital’, and to a large extent, the realization of ‘gesture’ even though KT 1, AT 3 and AT 4 realized [dʒ] in ‘gesture’.

Since teachers from both schools are exhibiting similar traits in the realization of these sounds, it suggests that they are likely to teach this in their respective schools which will help perpetuate the variations they have exhibited hence contributing to a large extent to the distinctive nature with which English is spoken in Ghana.

Words                      Realizations

	JS 1	JS 2	JS 3	JS 4	JS 5	MJ 1	MJ 2	MJ 3	MJ 4	MJ 5
EDUCATED	d	d	d	d	d	d	d	d	d	d
GESTURE	g	g	g	g	g	dʒ	g	dʒ	dʒ	g
GRADUATE	d	d	d	d	d	d	d	d	d	d
JOY	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ
DIGITAL	g	g	g	g	g	dʒ	g	dʒ	dʒ	g
LARGE	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ

Phonemes	No. of occurrence	Percentage
/d/	20/60	33.3%
/dʒ/	26/60	43.4%
/g/	14/60	23.3%

As shown above, the JHS respondents also realized the three alternative variants of the voiced alveopalatal affricate /dʒ/. These are [d] 33.3%, [dʒ] 43.4% and [g] 23.3%. Clear differences were not found between the use of the RP variant [dʒ] and its corresponding alternative Ghanaian variants [d] and [g] among the respondents from the two Junior High schools since none of the variants 50% of all the total occurrences.

As revealed by the data under discussion, both schools used [d] variant in the realization of ‘educated’ and ‘graduate’. They also used the RP variant [dʒ] in realizing ‘joy’ and ‘large’. This is very common to all of them. However, in the realization of ‘gesture’ and ‘digital’, MJ 1, MJ 3 and MJ 4 used the RP variant while MJ 2 and MJ 5 used the alternative Ghanaian variant [g]. In contrast, all the JS respondents used [g] and this is the only difference between the two schools. That notwithstanding, all the respondents from the two schools realized all the three alternative variant of the same phoneme /dʒ/.

## Words Realizations

	JT 1	JT 2	JT 3	JT 4	JT 5	MT 1	MT 2	MT 3	MT 4	MT 5
EDUCATED	d	d	d	d	d	d	d	d	d	d
GESTURE	g	g	g	g	g	dʒ	dʒ	dʒ	g	g
GRADUATE	d	d	d	d	d	d	d	d	d	d
JOY	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ
DIGITAL	g	g	g	g	g	dʒ	dʒ	dʒ	g	dʒ
LARGE	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ

/d/	20/60	33.3%
/dʒ/	27/60	45%
/g/	13/60	21.7%

Teachers from the two schools also realized the three alternative variants of the voiced alveopalatal affricate /dʒ/; [d] 33.3%, [dʒ] 45% and [g] 21.7%. They both tend to use [d] in the pronunciation of ‘educated’ and ‘graduate’ as well as [dʒ] in the realization of ‘joy’ and ‘large’. They however, differed in the realization of ‘gesture’ and ‘digital’. Whereas the JT respondents used the alternative Ghanaian variant [g] throughout in their enunciation of the two words above, the MT respondents largely used the RP respondents [dʒ], however, MT 4 and MT 5 used [g] in the realization of ‘gesture’.

## Words Realizations

	PS 1	PS 2	PS 3	PS 4	PS 5	MP 1	MP 2	MP 3	MP 4	MP 5
EDUCATED	d	d	d	d	d	d	d	d	d	d
GESTURE	g	g	g	g	g	g	g	g	dʒ	dʒ
GRADUATE	d	d	d	d	d	d	d	d	d	d
JOY	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ
DIGITAL	g	g	g	g	g	g	g	g	dʒ	dʒ
LARGE	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ

/d/	20/60	33.3%
/dʒ/	24/60	40%
/g/	16/60	26.7%

The data above indicates that the realization of the voiced alveopalatal affricate /dʒ/ by the primary respondents from the two primary schools is not different from what was realized by the JHS and the SHS respondents. They also had [d] 33.3%, [dʒ] 40% and [g] 26.7%. Both schools pronounced 'educated' and 'graduate' using the voiced alveolar stop, which is the alternative Ghanaian variant. Again, both 'joy' and 'large' were realized with the RP variant [dʒ]. The schools were also consistent in the realization of 'gesture' and 'digital' using [g], however, MP 4 and MP 5 used the RP variant [dʒ].

## Words Realizations

	PT 1	PT 2	PT 3	PT 4	PT 5	Mt 1	Mt 2	Mt 3	Mt 4	Mt 5
EDUCATED	d	d	d	d	d	dʒ	d	d	d	d
GESTURE	g	g	g	g	g	dʒ	g	dʒ	g	g
GRADUATE	d	d	d	d	d	dʒ	d	d	d	d
JOY	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ
DIGITAL	dʒ	g	g	g	g	dʒ	g	dʒ	g	g
LARGE	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ

/d/ 18/60 30%

/dʒ/ 27/60 45%

/g/ 15/60 25%

The teacher respondents from the two schools realized three alternative variants; [d] 30%, [dʒ] 45% and [g] 25%. It is obvious that /d/ is the preferred variant by all respondents in the realization of ‘educated’ and ‘graduate’ even though MT 1 realized both of them using the RP [dʒ]. The variant [g] was largely employed in ‘digital’ and ‘gesture’, however, Mt 1 and Mt 3 used the [dʒ] variant while PT 1 used the sound in realizing ‘digital’. The same sound was also used in ‘joy’ and ‘large’. Mt 1 used the RP variant [dʒ] in the realization of all the words analyzed.

The realization of these variants by the various respondents do not arise suddenly neither are they transient, rather it has been building and developing since Ghanaians came into contact with

the English language in the 14<sup>th</sup> century or earlier and has gained its uniqueness by the way English language has been taught and entrenched in Ghanaian society over the years.

The voiced palato-aveolar affricate [dʒ] has three discrete voiced alternative realizations. These are: the voiced palato-alveolar affricate [dʒ], the voiced dental stop [d] and the voiced velar plosive [g]. The voiced palato-alveolar affricate [dʒ] is the RP while the other alternative variants are the Ghanaian realizations which are allophonic variants of the same phoneme [dʒ].

The study revealed that, [dʒ] which is the RP has the highest frequency of 42.2% whereas [d] and [g] which are the other alternative realization of the same phoneme occurred with a percentage of 32.5% and 25.3% respectively. All respondents realized /dʒ/ in 'joy' and 'large'. However, in the realization of 'education', 58% of the respondents realized it as /d/ whilst 2% produced it as /g/. The pronunciation of 'Gesture' also occurred with the following frequencies: /g/ 73.3% and /dʒ/ 26.7%. 'Digital' also occurred with the following frequencies: /g/ 78.3% and /dʒ/ 21.7%. 'Graduate' on the other hand was largely realized as /d/ 98.3% with the remaining 1.7% realizing it as /dʒ/.

#### 4.3.2 THE FRICATIVES

##### 4.3.3 Voiceless labiodental fricative /f/

Initial: further, function, father, phone, philosophy

Medial: office, comfort, emphasize, effort, elephant

Final: deaf, rough, loaf, tough, life

This sound did not show any alternative realization or variants. All respondents realized [f] as in R P. There was therefore no variation from the R P.

##### 4. Voiced labiodental fricative /v/

Initial: vendor, vision, view, visit, vengeance

Medial: behavior, television, driver, liver, investment

Final: live, cave, leave, groove, sleeve

This sound was realized in various environments as in R P. There was therefore, no variations in its pronunciation by respondents since all respondents representing 100% realized this sound as in RP.

## 5. Voiceless interdental fricative /θ/

Initial: think, thought, thirst, thief, thank

Medial: anthem, methods, lethal, ethic, enthusiasm

Final: north, birth, cloth, path, filth, south, loath, health

Word Realization

	KS 1	KS 2	KS 3	KS 4	KS 5	AS 1	AS 2	AS 3	AS 4	AS 5
NORTH	t	t	θ	t	t	t	t	t	t	t
THINK	t	t	θ	θ	t	θ	θ	θ	θ	θ
METHODS	t	t	θ	θ	θ	t	t	t	θ	θ
ETHIC	t	θ	t	t	t	t	t	t	t	θ
BIRTH	t	t	t	θ	t	t	t	t	t	t
THOUGHT	θ	t	θ	t	t	θ	t	t	θ	θ

Phonemes	No. of occurrence	Percentage
/t/	39/60	65%
/θ/	21/60	35%

Two variants were produced by the respondents. These are [θ] and [t]. The voiceless alveolar stop /t/, which is the alternative variant, is the preferred choice since 65% of the total occurrences are /t/. But the RP variant seems to be the preferred variant in the pronunciation of ‘think’ by the respondents. This goes to support, to some extent, the general belief that Ghanaians substitute the alveolar stop with the voiceless dental fricative.

## Word Realization

	KT1	KT 2	KT 3	KT 4	KT 5	AT 1	AT 2	AT 3	AT 4	AT5
NORTH	t	t	f	f	θ	t	t	θ	t	t
THINK	θ	t	t	t	θ	θ	θ	t	θ	θ
METHODS	θ	t	θ	θ	θ	θ	θ	θ	t	t
ETHIC	θ	t	θ	t	t	t	θ	θ	t	t
BIRTH	t	t	t	f	f	t	t	t	t	t
THOUGHT	θ	t	t	t	t	t	t	t	θ	t

Phonemes	No. of occurrence	Percentage
/t/	35/60	58.3%
/θ/	21/60	35%
/f/	4/60	6.7%

Three variants were realized here. [t], [θ] and [f]. Here, the realizations seem to confirm the findings of Quartey (2009:74) that ‘/θ/ in initial and medial position is realized as /t/ or /θ/, but in the final position it can be /t/, /θ/ or /f/. This was largely exhibited in the realization of the words in the study. It is obvious that the preferred variant among the realizations is the alveolar stop /t/ since 58.3% realized it. We can also say that there is also a high use of /θ/ since quite a significant percentage (35%) of the respondents used it.

## Word Realization

	JS 1	JS 2	JS 3	JS 4	JS 5	MJ 1	MJ 2	MJ 3	MJ 4	MJ 5
NORTH	θ	t	t	f	θ	θ	θ	θ	θ	θ
THINK	θ	t	t	t	θ	θ	θ	θ	θ	θ
METHODS	t	t	t	θ	θ	t	θ	θ	θ	θ
ETHIC	θ	t	t	t	t	θ	θ	t	θ	t
BIRTH	θ	t	t	t	θ	θ	θ	θ	θ	θ
THOUGHT	t	t	t	t	θ	θ	θ	θ	θ	θ

Phonemes	No. of occurrence	Percentage
/t/	22/60	36.7%
/θ/	37/60	61.6%
/f/	1/60	1.7%

Here too, the JHS respondents from the two schools realized the three variants [t], [θ] and [f].

What is significant is that here, the RP variant [θ] seems to be the preferred choice by all the respondents even though quite a significant percentage 36.7% used /t/. However, a critical look at the realizations by both schools reveals that /t/ is the preferred choice for the JS respondents whereas MJ respondents preferred /θ/. This shows that the predominant in the MJ school environment is /θ/ whilst that of the JS respondents is /t/.

## Word Realization

	JT 1	JT 2	JT 3	JT 4	JT 5	MT 1	MT 2	MT 3	MT 4	MT 5
NORTH	θ	θ	θ	θ	θ	θ	θ	θ	θ	θ
THINK	θ	θ	θ	θ	t	θ	θ	θ	θ	θ
METHODS	θ	t	t	t	t	θ	θ	θ	θ	θ
ETHIC	t	t	θ	t	t	θ	θ	θ	t	t
BIRTH	θ	θ	θ	t	θ	θ	θ	θ	θ	θ
THOUGHT	t	θ	θ	t	t	θ	θ	θ	θ	θ

Phonemes	No. of occurrence	Percentage
/t/	15/60	25%
/θ/	45/60	75%

The respondents realized two variants /θ/ and /t/, but /θ/ was used extensively by the respondents from the two schools, forming 75% of all occurrences. What seems to be happening here is that the respondents know how to articulate the voiceless dental fricative /θ/ and will articulate it whether it occurs in word initial, medial or final.

## Word Realization

	PS 1	PS 2	PS 3	PS 4	PS 5	MP 1	MP 2	MP 3	MP 4	MP 5
NORTH	t	t	θ	t	f	θ	θ	θ	θ	θ
THINK	t	t	t	t	t	θ	θ	θ	θ	θ
METHODS	t	t	t	t	t	θ	t	θ	θ	θ
ETHIC	t	t	t	t	t	θ	θ	θ	θ	θ
BIRTH	t	t	t	t	t	θ	θ	θ	θ	θ
THOUGHT	t	t	t	t	t	θ	θ	θ	θ	θ

Phonemes	No. of occurrence	Percentage
/t/	29/60	48.3%
/θ/	30/60	50%
/f/	1/60	1.7%

/θ/ has three variants in the repertoire of the primary respondents' speeches. These are /t/, /θ/ and /f/. The RP variant [θ] seems to be the preferred choice with a percentage of 50%. However, it is evident that the MP respondents used /θ/ while the PS respondents used /t/ with PS 5 realizing /θ/ in 'north' as [f]. Here, it does not matter whether the /θ/ sound occurs in word initial, medial or final, the MP respondents realized it as in RP while the PS respondents consistently used /t/. These kinds of differences among the respondents are what contribute to variations in the English spoken in Ghana.



The voiceless interdental fricative /θ/ as realized by the respondents has three discrete voiceless variants: the voiceless interdental fricative [θ], the voiceless dental stop [t] and the voiceless labiodental fricative [f]. The voiceless interdental fricative [θ] is the R P while [t] and [f] are the other voiceless allophonic Ghanaian variants.

As indicated already, each of these three variants represents a separate phoneme which can bring about a change of meaning in the English language. They therefore, contrast in a number of words when they occur in different environments. This situation is exemplified in the following:

/θæŋk/            [θæŋk]            ‘thank’

/tæŋk/            [tæŋk]            ‘tank’

/θɪn/              [θɪn]              ‘thin’

/tɪn/              [tɪn]              ‘tin’

/fɪn/              [fɪn]              ‘fin’

But due to educational factor or social variables, these three variants [θ], [t] and [f] can be allophonic variants of the same phoneme [θ] in the English spoken in Ghana. Here are a few examples

/bæθ/              [bæθ] or [baθ]    ‘bath’

/bæt/              [bæt] or [bat]    ‘bath’

/bæf/              [bæf] or [baf]    ‘bath’

In the three realizations above, /θ/ in [bæθ] is the standard variant or RP whereas /t/ in [bæt] and /f/ in [bæf] are the non-standard variants or the other alternative Ghanaian realizations.

It was discovered that [θ], which is the standard variant or RP has the highest frequency with a percentage of 51.1%, in comparison to [t] which formed 46.7%, and [f] which showed a low occurrence of 2.2% from the respondents.

#### 6. The voiced interdental fricative /ð/

Initial: though, that, these, they, them, than, this

Medial: mother, southern, rather, further, smother, whether

Final: soothe, with, smooth, writhe, loathe

The voiced interdental fricative /ð/ has two voiced variants and three discrete voiceless variants: the voiced interdental fricative [ð], the voiced dental stop [d], the voiceless dental stop [t], the voiceless interdental fricative [θ] and the voiceless labiodental fricative [f]. These five variants are used as allophones of the same phoneme /ð/ in different environments in Ghanaian English. /ð/ is the standard RP variant while /t/, /d/, /f/ and /θ/ are the other alternative Ghanaian realizations. The following are a few examples

/wɪð/	[wɪð]	‘with’
	[wɪt]	‘with’

[wɪd]	‘with’
-------	--------

[wɪθ]	‘with’
-------	--------

[wɪt]	‘with’
-------	--------

The voiced variants /ð/ and /d/ can also be used in a number of words as allophonic variants of the same phoneme /ð/. The following illustrates that

/ðeɪ/	[ðeɪ]	‘they’
-------	-------	--------

[deɪ]	‘they’
-------	--------

/ðɪ:z/	[ðɪ:z]	‘these’
--------	--------	---------

[dɪ:z]	‘these’
--------	---------

But the distinction between [ð] and [d] is phonemic in nature. This is because they are used as separate contrastive phonemes in a number of minimal pairs in standard British English. The following are instances of this phenomenon.

/ðeɪ/	[ðeɪ]	‘they’
-------	-------	--------

/deɪ/	[deɪ]	‘day’
-------	-------	-------

/ðaɪ/	[ðaɪ]	‘thy’
-------	-------	-------

/daɪ/	[daɪ]	‘die’
-------	-------	-------

/ðam/                      [ðam]                      ‘thine’

/dam/                      [dam]                      ‘dine’

The five variants of the voiced interdental fricative /ð/ as revealed in the research occurred with the following frequencies: [d] 50.8%, [t] 31.7%, [θ] 11.1%, [ð] 6.1% and [f] 0.3%. This shows that [d] has the highest occurrence in the English spoken in Ghana whilst [f] has the lowest frequency.

Apart from ‘southern’, [sauðən], ‘with’ [wið] and ‘smooth’ [smu:ð] which were realized variously by all the respondents, all the other words were pronounced using /d/. /t/ was employed in the realization of ‘southern’ by both teacher and student respondents from the Senior High Schools with KT 4 realizing it as /f/.

The realization of JS and MJ respondents from the Junior High Schools was similar to that of the Senior High Schools. However, the JS and the MJ respondents made use of the voiced interdental fricative /ð/ in the pronunciation of ‘southern’, though MJ 5 and MT 1 used /t/, /θ/, /ð/ and /d/ while ‘with’ was realized by respondents using /t/, /θ/ and /d/.

As stated already, the alternative Ghanaian variant /d/ is the preferred choice by all respondents at all the levels in the realization of the voiced interdental fricative /ð/. This seems to confirm what Gimson (2001:184-185) says that;

“Most learners will have an L1 which does not have /θ,ð/ (though Arabic and European Spanish speakers do) and will usually replace them with /t,d/, two exceptions being French or German which are more likely to replace by /s,z/, and Hindi speakers who use their /t,d/.

### 7. The voiceless palato alveolar fricative /ʃ/

Initial: shop, shine, shirt, shy, shame, ship

Medial: mission, initiate, promotion, machine, retention

Final: mesh, cash, lash, harsh, flesh, harsh

Apart from the two (2) respondents out of the sixty (60) who realized [ʃ] in 'mission' as [ʒ], all the other sixty four (58) respondents representing 96.7% realized this sound as it is in RP. We cannot therefore, draw a general conclusion that there is an alternative realization of the phoneme /ʃ/.

However, we can say that there is the tendency for an individual to realize [ʃ] in 'mission' as [ʒ] since the 3% realized by the two respondents can be negligible.

### 8. The voiced palato alveolar fricative /ʒ/

Initial: genre

Medial: treasure, occasion, confusion, pleasure, decision, visual, transfusion, leisure, collusion

Final: prestige, rouge, beige

### The voiced Alveopalatal Fricative /ʒ/

This phonetic variable has three discrete variants in the English spoken in Ghana: the voiced alveopalatal fricative [ʒ] which is the standard British variant, the voiced alveopalatal affricate /dʒ/ and the voiceless alveopalatal fricative /ʃ/ as the alternative Ghanaian realizations. Their realizations are not necessarily phonemic in Ghanaian English. The following are some examples:

/presti:ʒ/	[presti:ʒ]	‘prestige’
	[pri:sti:dʒ]	‘prestige’
/ʒɒnrə/	[ʒɒnrə]	‘genre’
	[dʒeniə]	‘genre’
/vɪʒən/	[vɪʒən]	‘vision’
	[vɪʃɪn]	‘vision’
/kɒŋklu:ʒən/	[kɒŋklu:ʒən]	‘conclusion’
	[kɒŋklu:ʃɪn]	‘conclusion’

As stated above, /ʒ/ has three variants: [dʒ], [ʒ] and [ʃ]. The following show their realizations as produced by the respondents. The variant [ʃ] has the largest frequency with a percentage of 47.2%, [ʒ] also formed 36.1% whilst [dʒ] occurred with the lowest percentage of 16.7%.

Apart from KT 1 who realized ‘occasion’, ‘confusion’ and ‘decision’ with the RP variant /ʒ/, all the other respondents including the teachers at all the levels used the alternative Ghanaian variant

/ʃ/. 'Pleasure' and 'treasure' were realized with /ʒ/ while 'prestige' was pronounced with /dʒ/ by all respondents.

#### 9. The voiceless alveolar fricative/s/

Initial: society, social, circle, squat, some, surface, city

Medial: conservative, assume, basic, consumers, accept, absurd, taxi

Final: books, mice, ice, looks, price, cause, loss, gloss

#### The voiceless Alveolar Fricative /s/

This variable has two variants: the voiceless alveolar fricative /s/ and the voiced alveolar fricative /z/. /s/ is the RP whereas /z/ is its alternative Ghanaian realization. This alternative realization has high currency in the English spoken in Ghana. What is rather interesting is that most of these words are typographically presented as 's' and should be realized as such yet it is realized as /z/. Even though these two sounds are separate phonemes their interchangeability does not necessarily trigger meaning change of any of the words where the sound/s/ is replaced with /z/ sound.

The two variants [s] and [z] as realized by the respondents occurred with 41.9% and 57.5% respectively with the remaining 0.6% representing the same respondents who realized the /s/ phoneme as either [s] or [z] on a number of occasions. This shows that the same phoneme may be realized as either [s] or [z] by the same speaker.

#### 10. The voiced alveolar fricative/z/

Initial: xylophone, zoo, zero, zeal, zygote, zone, zest, zip

Medial: reason, resist, residential, presentation, prison, resort

Final: girls, owners, see, deals, meals, nouns, verbs, bags

This sound has two discrete variants in the repertoire of all the respondents: the voiced alveolar fricative/z/and its voiceless counterpart/s/. [s] is mostly realized in plural nouns and the 3<sup>rd</sup> person singular verbs where /s/ usually comes after a voiced sound and must be realized phonologically as [z].The following illustrates that: ‘bags’ [bægz] and ‘feels’ [fi:lz] are realized as [bægs] and [fi:ls] respectively. There are also quite a number of words such as ‘visit’/vizit/ ‘residue’/rezidju:/, ‘rouse’/raʊz/, ‘phase’/feiz/, ‘opposite’/, please, position, positive, possess, praise, presence, president etc in English Language that are realized with [s].

The variants of the voiced alveolar fricative /z/ as realized by all the respondents show the following occurrence. [s] has the highest distribution with 51.7% , [z] follows closely with 48.% and [s] or [z] realization by the same respondent formed the lowest occurrence with 0.3%.

#### 11. The voiceless glottal fricative/h/

Initial: hand, house, hurt, heat, heal, hell, heart, huge

Medial: behavior, household, disheartened, behead,

Final: [ - ]

There was no alternative realization of this sound as all respondents realized this it as it is in RP.

## CHAPTER FIVE

### 5.1 DISCUSSION

#### 5.1.1 EDUCATIONAL LEVELS COMPARISON

This chapter compares the realization of the affricates and the fricatives by the respondents from the various educational levels – Primary, Junior and Senior High Schools – to determine whether an individual's level of education could be responsible for a particular variant selection.

It also identifies any similarities, differences or approximations that exist among them and could be used as a symbol of Ghanaian identity.

#### 5. 1.2 THE AFFRICATES

##### 5.1.3 The voiceless alveopalatal affricates /tʃ/

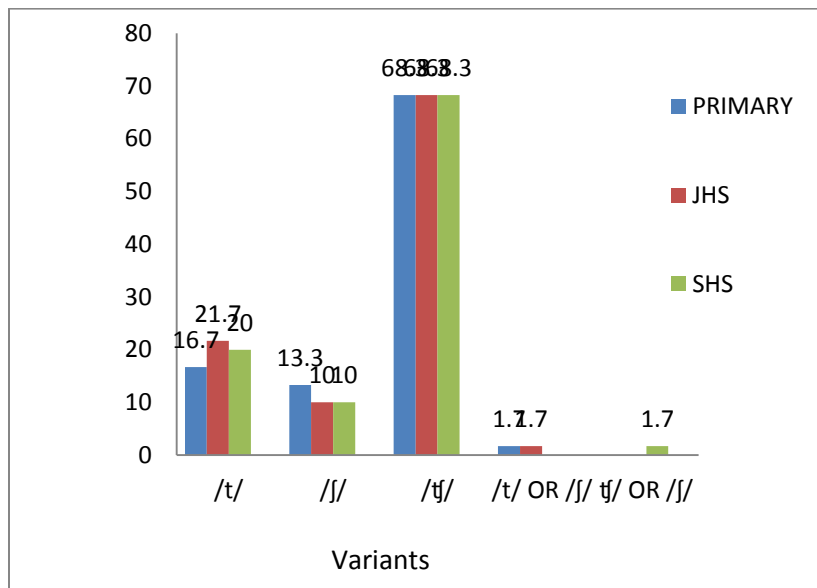


Figure1. Distribution of /tʃ/ variants across educational levels

The data analysis as revealed in chapter 4 shows that /tʃ/ has three variants [tʃ], [ʃ] and [t].

Regarding the relationship between the variants of /tʃ/ and educational levels, the data indicate that the various levels tend to pronounce words with /tʃ/ as [tʃ] when /tʃ/ occurs in word initial and word final. For example, all the respondents from the primary, Junior and Senior High Schools pronounce cheap, children, starch and launch using /tʃ/.

However, when /tʃ/ occurs in word medial in words such as ‘situated’ and ‘question’, there is variation. This variation is exhibited by all respondents irrespective of their level of education in the realization of /tʃ/.

There is therefore some commonality in the realization of this sound by all respondents. This shows that when [t] and [ʃ] are used, they are largely in word medial as exhibited by the respondents from all levels and not necessarily one’s level of education.

No clear differences were found in the use of [tʃ], [t] and [ʃ] among the various educational levels. 68.3% of the respondents from each of the levels under consideration realized [tʃ]. [ʃ] 10% each for JHS and SHS whilst Primary respondents had the highest percentage of 13.3%. This shows that the primary respondents opt for [ʃ] more than the JHS and SHS do. JHS respondents on the other hand use [t] 21.7% more than SHS 20% and Primary 16.7%. There is also a small percentage that realize either [tʃ] or [ʃ] 1.7% and [ʃ] or [t] 1.7%.

From the data above, it is evident that the various educational levels mostly use the alternative variants [ʃ] and [t] when /tʃ/ occurs in word medial, and this is common to all respondents from the various educational levels.

#### 5.1.4 The voiced alveopalatal affricate /dʒ/

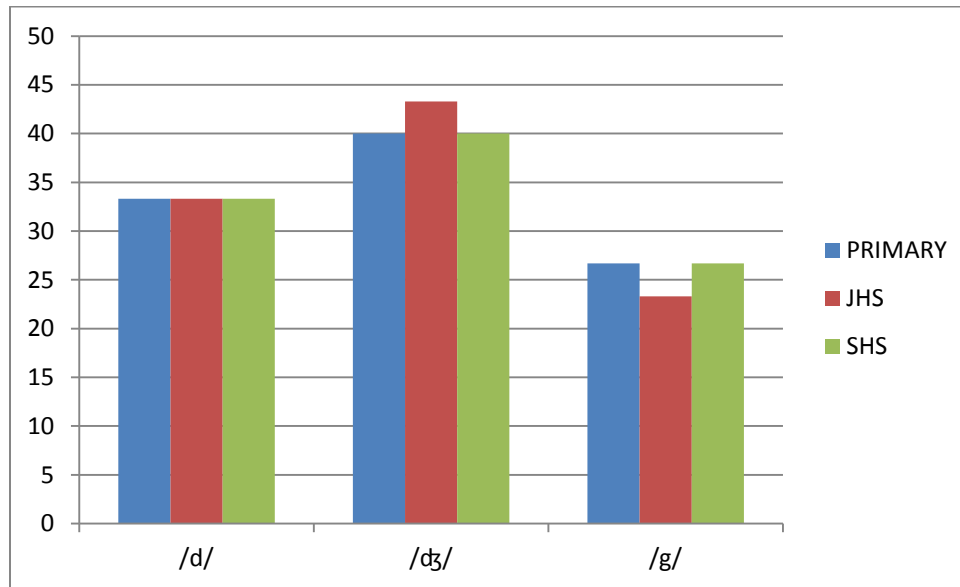


Figure 3. Distribution of /dʒ/ variants across educational levels

As indicated earlier, /dʒ/ was discovered to have three variants in the respondents' realizations. These are [dʒ], [d] and [g]. The study revealed that [dʒ] has the highest distribution with the percentage of 42.2% in comparison to [d] and [g] which occurred with 32.5% and 25.3% respectively.

In presenting the relationship between /dʒ/ variation and the various educational levels under study, it was discovered that JHS respondents tend to use [dʒ] 43.3% more frequently than Primary and SHS which realized 40% each. All levels realized [d] 33.3%. Whereas both Primary and SHS respondents produced [g] with 26.7 each, the JHS realized 23.3%.

These results show that, the various educational levels tend to use the RP variant [dʒ] more often than the other alternative Ghanaian variants when /dʒ/ occurs in words such as 'joy', 'large' etc.

However, when this sound surfaces in words such as 'educated', 'graduate', 'digital' etc, they are realized differently by respondents. This disparity in the realization of [dʒ] and its

alternative Ghanaian variants is consistent with all the respondents from the various educational levels. Suffice to say that there is something in our schools that encourages the use and the transmission of these variants from one level of the educational ladder to the other.

## 5.2 SUMMARY ON THE AFFRICATES

All the three educational levels studied are consistent in their realization of other variants of the affricates beside the RP. However, the differences in terms of percentages differ from one level to the other even though they are not exclusive to any one group.

The voiceless alveopalatal affricate /tʃ/ was found to have three variants. These are [tʃ], [tʃ̥] and [tʃ̥̥] with [tʃ̥̥] having the highest frequency. These variants were also identified by Koranteng (2006).

But whilst this study confirms Koranteng's findings that

“neither /tʃ/ nor /dʒ/ presents any problems to respondents...as they consistently use /tʃ/ and /dʒ/ for the RP counterparts” and therefore, ‘phonemes /tʃ/ and /dʒ/ are in GE just as in RP. It reveals that contrary to her conclusion that ‘...the slight variations ...could be viewed as individual idiosyncrasies rather than the general trend of GE use with /tʃ/ and /dʒ/’. This study revealed that the variations are not as a result of individual idiosyncrasies but rather a trend that has become a norm which cuts across all the educational levels studied-Primary, Junior and Senior High Schools and therefore does not corroborate Koranteng's assertion.

The voiced alveopalatal affricate /dʒ/ also revealed three variants. The RP variant [dʒ] and the two alternative Ghanaian variants: [d] and [g].Koranteng (2006) also identified [dʒ] and [d] but did not discover [g] which is being revealed here for the first time. The use of these variants, as

the study shows are gradually becoming a norm at all levels of the Ghanaian Educational System which reflects the consonantal variations in the English spoken in Ghana.

### 5.3 THE FRICATIVES

Out of the nine fricative consonants, five showed variations in their realizations by the respondents. These are /θ/, /ð/,

#### 5.3.1 The voiceless alveopalatal fricative /θ/

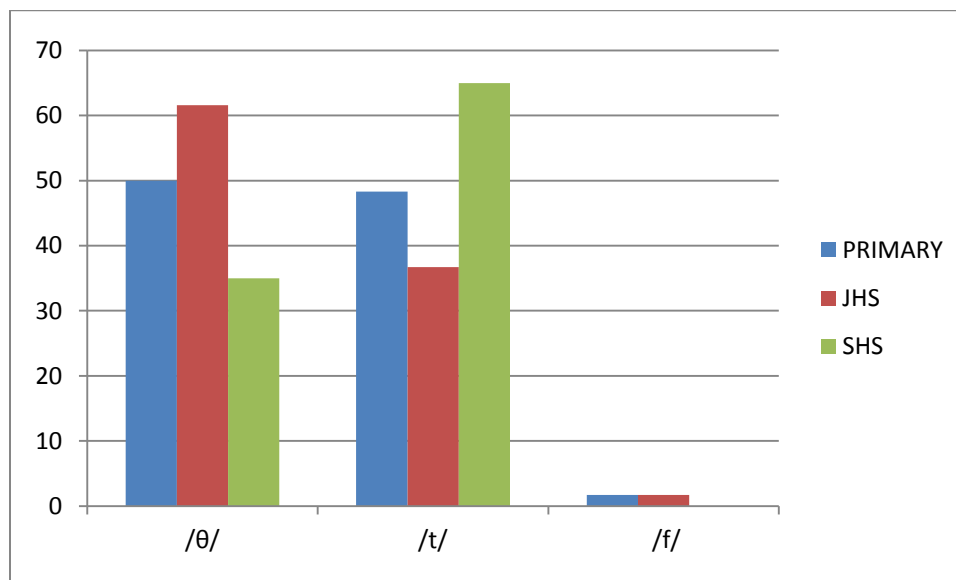


Figure 3. Distribution of /θ/ variant across educational levels.

As displayed in the figure above, /θ/ has three (3) variants in the respondents' speech, [θ], [t] and [f]. The variant [t] was found to have the highest frequency with a percentage of 65% among the SHS respondents. This was followed by primary 48.3% and JHS 36.7%. The JHS respondents on the other hand showed a higher usage (43.3%) of [θ] in comparison to that of SHS (40%) and primary (40%). Even though figure 3 shows that [f] has a very low frequency in comparison to the other variants, it illustrates that the use of [f] is found in primary (1.7%) and JHS (1.7%).

This result indicates that when the variants of /θ/ are used, they are not exclusive to any one level since all the respondents from the various levels under study exhibited them in their pronunciations and therefore, have them in their repertoire of language.

### 5.3.2 The voiced interdental fricative /ð/

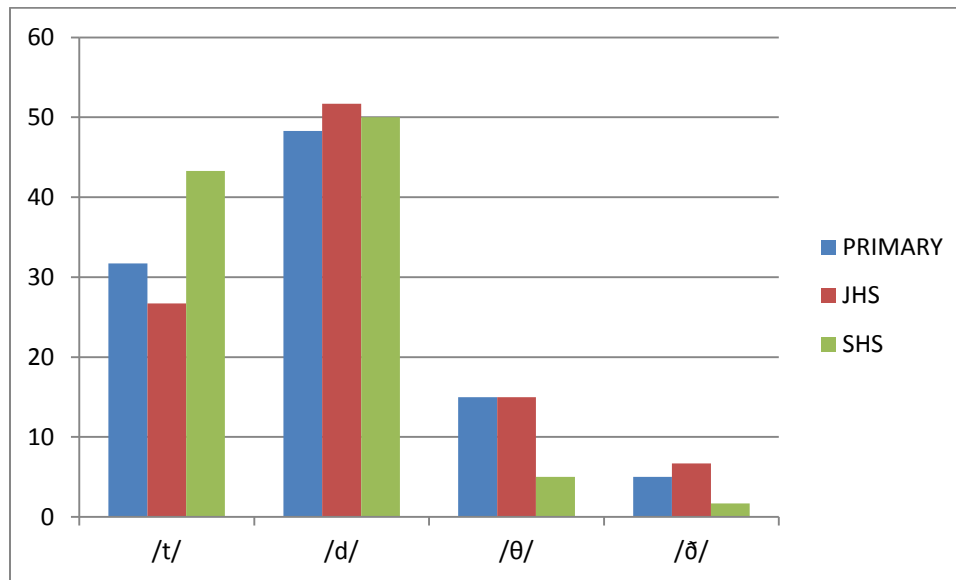


Figure 4. Distribution of /ð/ variants across educational levels

The study revealed that /ð/ has five variants; [t], [d], [θ] and [ð] and [f]. [d] was found to have the highest occurrence of 50.8% among all the variants. This was followed by [t] 31.7%, [θ] 11.1%, [ð] 6.1% and [f] 0.3%. However, four variants were found in the repertoire of the primary, Junior and Senior High School respondents. These are shown by figure 4 above.

In considering the relationship between the educational levels and the variants, figure 4 shows that all respondents largely use the alternative Ghanaian variants [d] more often than the other variants, it is worth noting that each of the levels-Primary, JHS and SHS realized all the other variants but differed in terms of percentages. This shows that the 4 variants are not peculiar to

any one level and that it is a phenomenon at the very core of Ghanaian English usage. JHS had the highest occurrence of [d] 51.7%, followed by SHS 50% and Primary 48.3%. SHS on the other hand had the highest occurrence of [t] 43.3 whereas the primary realized 31.7% with JHS realizing the small occurrence of 26.7%. Again, both primary and JHS realized [θ] 15% each while the SHS came out with the lowest occurrence of 5%. Primary respondents also formed [ð] 5% in comparison to JHS and SHS which had 6.7% and 1.7% respectively.

This revelation, certainly, does not show any clear pattern indicating that an individual's choice or selection of a particular variant is as a result of his/her educational level. Rather, it points to the fact that, no matter one's level of education in Ghana, there is the tendency or possibility of a Ghanaian to a large extent, to use anyone of the alternative Ghanaian variants rather than the RP.

### 5.3.3 The voiced alveopalatal fricative /ʒ/

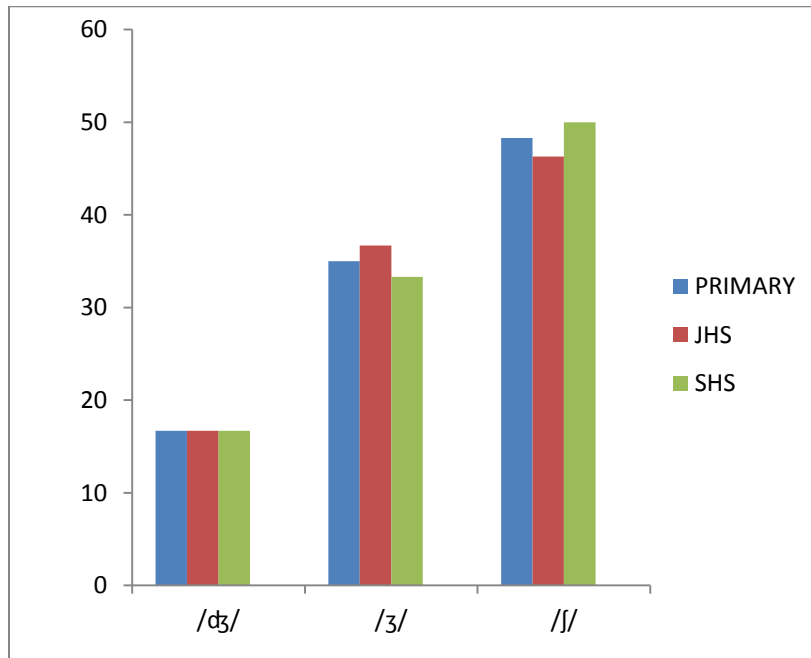


Figure 5. Distribution of /ʒ/ variants across educational levels

The voiced alveopalatal fricative /ʒ/ was found to have three variants in the speeches of the respondents from the various educational levels. These are [dʒ], [ʒ] and [ʃ].

In examining the relationship between the variants of /ʒ/ and the educational levels, the study revealed that all the levels tend to use the alternative Ghanaian variant [ʃ] more frequently than the RP /ʒ/ and the other Ghanaian variant [dʒ] as shown by figure 5 above. SHS respondents tend to use [ʃ] 50% in comparison to primary and JHS which was 48% and 46.6% respectively. This was followed by [ʒ] 36.7 for JHS whereas primary and SHS had 35% and 33.3% respectively. This clearly demonstrates that it is not one's educational level that determines his/her choice of RP variant but what one is exposed to in the teaching and learning process in the Ghanaian institutions. The [dʒ] variant, however, has a lower frequency since all respondents from the various levels realized 16% each of the [dʒ] variant.

### 5.3.4 The voiceless alveolar fricative /s/

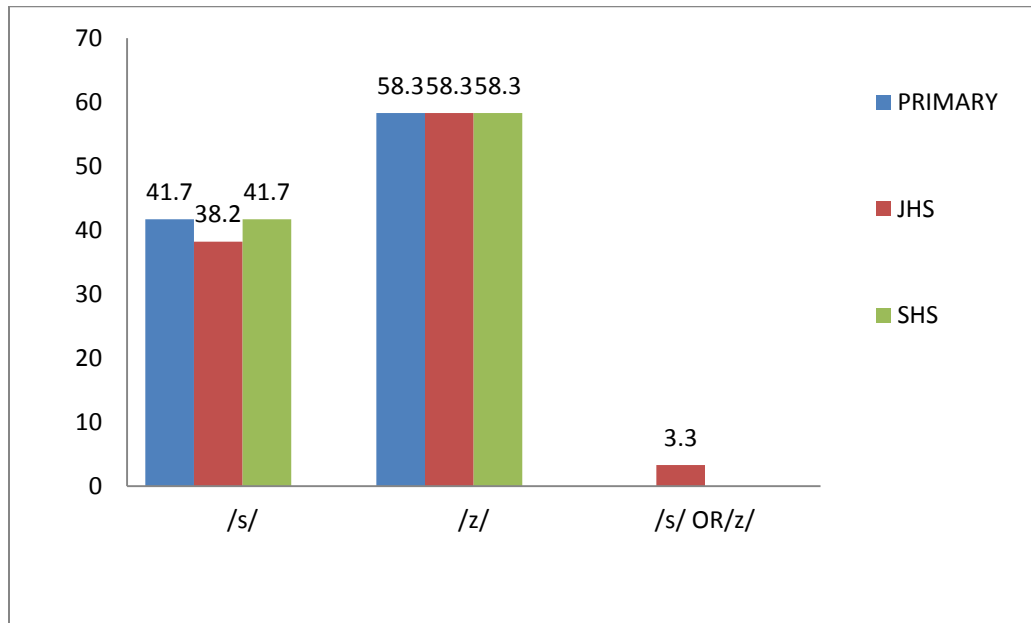


Figure 6. Distribution of /s/ variants across educational levels.

The voiceless alveolar fricative /s/

The data analysis revealed that /s/ has two variants, [s] and [z] with the following frequencies:

the variant [s]

Regarding the relationship between the variants of /s/ and the educational levels, it was realized that 58.3% of each of the levels under consideration realized the alternative Ghanaian variant [z].

Both Primary and SHS respondents also realized [s] 41.7% while the JHS respondents formed 38.2%. There are some individuals 3.3% from JHS who realized the same sound as either [s] or [z].

### 5.3.5 The voiced alveolar fricative /z/

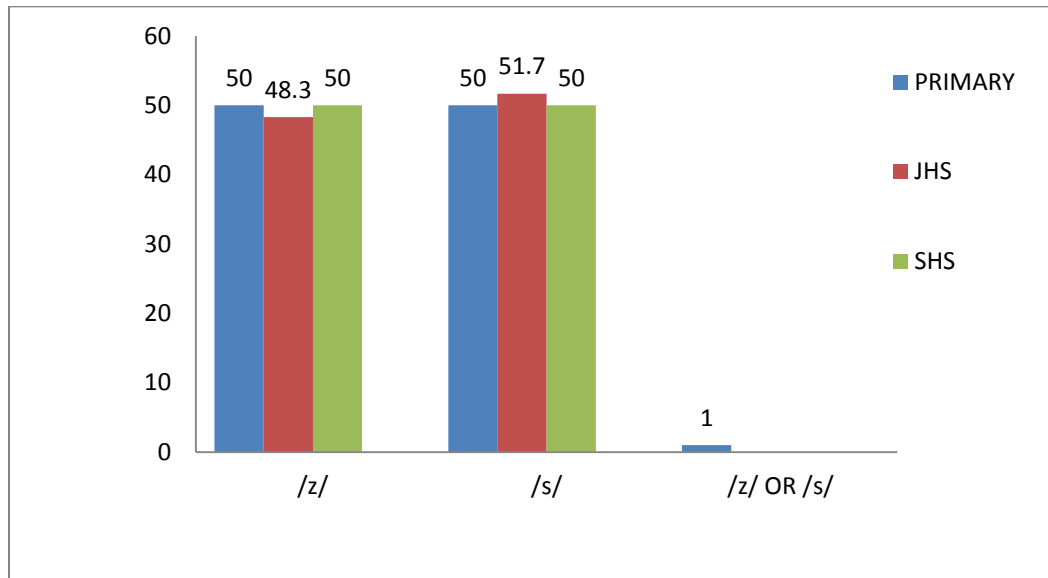


Figure 7. Distribution of /z/ variants across educational levels

On the realization of the voiced alveolar fricative /z/, two variants were discovered, [s] and [z], and this manifested in the pronunciation of all the respondents. 50% of both the Primary and the SHS respondents realized [z] and [s] in comparison with that of the JHS which was 48.3% [z] and 51.7% [s].

These results show that it is not necessarily an individual's level of education that determines the selection of a particular variant since the primary respondents realized [z] 50% more than the JHS respondents.

## CHAPTER SIX

### 6.1 COMPARISON OF PRIMARY, JUNIOR AND SENIOR HIGH SCHOOL RESPONDENTS' REALIZATIONS TO THAT OF THEIR RESPECTIVE TEACHERS

This chapter compares the realization of the affricates and the fricatives by the Primary, Junior and Senior High School respondents to that of their respective teachers to determine if any trend can be detected in the way pupils and students pronounce words and speak English.

#### 6.2 Voiceless alveopalatal affricate /tʃ/

VARIANTS	PRIM.	TRS.	JHS	TRS.	SHS	TRS.
/t/	16.7%	21.7%	21.7%	21.7%	20%	21.7%
/ʃ/	13.3	8.3%	10%	6.7%	10%	10%
/tʃ/	68.3%	68.3%	68.3%	68.3%	68.3%	68.3%
/tʃ/ or /ʃ/	-	-	-	-	1.7%	-
/ʃ/ or /t/	1.7%	1.7%	1.7%	3.3%	-	-

Table 1: Variants of /tʃ/ in percentages by teachers and their respective students at each level

Both students and their respective teachers at all levels under study realized [t], [ʃ] and [tʃ] as the variants of the same phoneme /tʃ/. However, they differed in terms of percentages. As the table shows, /tʃ/ which is the RP variant occurred with the highest frequency at all levels 68.3%(for both teachers and students at each level).

This shows that [tʃ] is a preferred variant for all respondents at all levels, however, it must be noted that the choice of a particular variant depends on the word under consideration, and whether /tʃ/ occurs in word initial, medial or final.

Primary respondents realized [t] 16.7% as against 21.7% of their teachers. The JHS respondents on the other hand had 21.7% just as their teachers whereas the SHS respondents had 20% in comparison to that of their teachers which was 21.7%. [ʃ] was the lowest variant at all levels and by all the teachers. While the primary respondents got 13.3%, that of their teachers was 8.3%. JHS had 10% as against 6.7% of their teachers in comparison to that of SHS respondents and that of their teachers which was 10% each.

From the table and the descriptions above, it is evident that /tʃ/ had the highest distribution among the variants and this was followed by [t] and [ʃ] having the lowest realizations.

Words such as ‘cheap’ [tʃi:p], ‘children’[tʃɪldrən], ‘starch’[sta:tʃ] and ‘launch’[lɔ:nʃ] were all realized by both teachers and students using [tʃ]. However, in the realization of ‘situated’[sɪtʃuːeɪtɪd], teachers and their respective students at all levels realized [tʃ] in it as [t] [sɪ:tu:eɪtɪd]. ‘Question’ [kwɛstʃən] on the other hand revealed very fascinating results. Both teachers and students at all the levels under consideration realized it variously as [kwɛstɪn], [kwɛʃɪn] or [kwɛʃtʃɪn] and the same respondent alternating their realization in the same speech.

The trend that seems to cut across all the realizations is that, where the teachers did not show any variation, the students did not show variations and this was consistent with all the other realizations.

## 6.3 Voiced alveopalatal affricate /dʒ/

VARIANTS	PRIMARY	TRS	JHS	TRS.	SHS	TRS.
/d/	33.3%	30%	33.3%	33.3%	33.3%	31.7%
/dʒ/	40%	45%	43.3%	45%	40%	40%
/g/	26.7	25%	23.3%	21.7%	26.7%	28.3%

Table 2: variants of /dʒ/ in percentages by teachers and their respective students at each level

As indicated in the table above, the voiced alveopalatal affricate /dʒ/ has three variants [d], [dʒ] and [g]. These were realized by all respondents as the variants of the same phoneme /dʒ/. The primary respondents had [d] 33.3%, [dʒ] 40% and [g] 26.7%. Their teachers on the other hand, had [d] 30%, [dʒ] 45% and [g] 25%. This shows that both primary students and teachers had the highest occurrence of [dʒ] and the lowest occurrence of [g].

This phenomenon is exhibited by the JHS respondents. Both teachers and students had [d] 33.3%. They were however, different in the realization of [dʒ] 45% and 43% as well as [g] 21.7% and 23.3% respectively.

The SHS respondents did not show much difference from the primary and the JHS respondents. The students had 33.3% of [d], 40% of [dʒ] and 26.7% of [g]. Their teachers also had 40% of [dʒ] just as their students had. However, they differed in the realization of [d] 31.7% whilst [g] was 28.3%.

Clearly, both teachers and students at all the levels had a higher usage of [dʒ] in their repertoire of language, and this was followed by [d] with [g] having the least occurrence.

What is noteworthy however, is that, in the realization of words such as ‘joy’ [dʒɔɪ] or ‘large’ [la:dʒ] where /dʒ/ occurs in either word initial or final, they were realized as [dʒ] by both teachers and students. However, when /dʒ/ occurs in words such as ‘educated’ [edʒu:keitɪd] or ‘graduate’ [grædʒu:eɪt], they are realized largely as [d]-[edukeited] and [grædu:eɪt], and when it occurs in words such as ‘digit’ [dɪdʒɪt], it is realized as [dɪɡɪt].

Spelling pronunciation (Gyasi 1991), may be attributed to this but since both teachers and their respective students studied exhibited this quality, it stands to reason that the students are only exhibiting what their teachers had taught them.

We can conclude that the realization of the sounds by the students and for that matter their language is influenced by their teachers.

## 6.4 Voiceless interdental fricative /θ/

VARIANTS	PRIMARY	TRS.	JHS	TRS.	SHS	TRS.
/t/	48.3%	46.7%	36.7%	25%	65%	58.3%
/θ/	50%	50%	61.6%	75%	35%	35%
/f/	1.7%	3.3%	1.7%	-	-	6.7%

Table 3: variants of /θ/ by teachers and their respective students at each level

The realization of the inter-dental fricative /θ/ by both students and their respective teachers are very similar with slight variations, the major variations were within the schools. As indicated in the table above, both teachers and their respective students at all levels realized three variants; [t], [θ] and [f].

While both primary pupils and their teachers were consistent with the realization of [θ] variant (50% each), they differed in the enunciation of [t], which formed 48.3%, for primary and 46.7%, for their teachers. A marginal 1.7% of the primary and 3.3% of their teachers realized the variant [f]. The realizations are a reflection of what happens in each of the schools.

For instance, the table shows that the JHS teachers formed [t] 25%, and that of their students was 36.7%. This is in sharp contrast with SHS teachers who formed 58.3% with their students forming 65% of the [t] variant. The JHS teachers on the other hand had the highest occurrence of [θ] 75% as against 61.6% of their students, while both SHS teachers and their students had 35% each. This result indicates that while [θ] variant is the preferred choice or phonetic variable at the JHS level, the preferred choice at the SHS level for both teachers and their students is [t]. Whereas no respondent at the JHS level realized the variant [f], 6.7% of the teacher respondents at the SHS level realized it. Suffice it to say that, these differences at the various levels and in

each educational setting indicate that the language that the teachers in each of the schools use determines the language of their students. Where the teachers are inclined to the use of a particular variant, the students are likely to exhibit that as revealed in this study.

Both SHS students and teachers use [t] 65% and 58.3% more than [θ] 35% each, and [f] 6.7% for only teachers. JHS students and teachers on the other hand use [θ] 61% and 75% more than [t] 36.7% and 25% respectively, while both primary students and teachers also use [θ] 50% each, [t] 48.3% and 46.7% as well as [f] 1.7% and 3.3% respectively. These differences at the various educational levels are brought about by the differences in the teaching and learning in our schools.

These variations that exist in the various educational institutions at the various levels as shown by this study are likely to perpetuate the consonantal variations and indeed all other variations that exist in the English spoken in Ghana.

Words such as ‘north’, ‘think’, ‘methods’, ‘ethic’, ‘birth’, and ‘thought’ which were selected for analysis were realized differently as either [t], [θ] or [f].

## 6.5 Voiced inter-dental fricative /ð/

VARIANTS	PRIMARY	TRS.	JHS	TRS.	SHS	TRS.
/t/	31.7%	21.7%	26.7%	21.7%	43.3%	45%
/d/	48.3%	53.3%	51.7%	53.3%	50%	48.3%
/θ/	15%	16.7%	15%	18.3%	5%	1.7%
/ð/	5%	5%	6.7%	6.7%	1.7%	3.3%
/f/	-	-	-	-	-	1.7%

Table 4: variants of /ð/ by teachers and their respective students at each level

The realization of the voiced inter-dental fricative /ð/ by all teachers and students from the various educational levels did not show much variation. /ð/ was found to have five variants- [t], [d], [θ], [ð] and [f], higher than all the other phonetic variables under study.

In comparing the realization /ð/ variants by the primary respondents to that of their teachers, the data as shown in the table indicate that primary teachers tend to use the alternative Ghanaian variant [d] more frequently (53.3%) than their students do (48.3%), whereas the primary students show a higher tendency to use the other Ghanaian variant [t] (31.7%) whilst that of their teachers is (21.7%). Both of them realized [θ] 16.7% and 15% respectively. There is, however, no difference in their realization of [ð] which was 5% each.

JHS teachers also realized [d] 53.3% higher than what their students produced which was 51.7%. The JHS students also showed a higher tendency to use [t] 26.7% as against 21.7% realized by their teachers. They further differed in the realization of [θ]. Whilst the teachers had 18.3%, that of their students was 15%, both teachers and students however, realized the RP variant [ð] 6.7% each.

SHS students on the other hand, had a higher realization of [d] 50% as against 48.3% of that of their teachers. The teachers also had a greater usage of [t] 45% whereas the students got 43.3%.

Again, both students and their teachers realized [θ] 5% and 1.7% as well as [ð] 1.7% and 3.3% respectively.

The data as examined above indicate that all respondents have the higher tendency in the use of [d] and this is followed by [t], [θ], [ð] and [f] respectively, with the realization of [ð] being marginal. It is evident that the students and the pupils are only exhibiting what goes on in their respective schools.

## 6.6 Voiced alveopalatal fricative /ʒ/

VARIANTS	PRIMARY	TRS.	JHS	TRS.	SHS	TRS.
/dʒ/	16.7%	16.7%	16.7%	16.7%	16.7%	16.7%
/ʒ/	35%	36.7%	36.7%	35%	33.3%	40%
/ʃ/	48.3%	46.6%	46.6%	48.3%	50%	43.3%

Table 5: variants of /ʒ/ by teachers and their respective students at each level

The voiced alveopalatal fricative /ʒ/ had three variants in the repertoire of both the teachers and their respective students at all levels. These are; [dʒ], [ʒ] and [ʃ], with [ʃ] being the preferred variant at all the levels by both teachers and students. It must however be noted that [dʒ] was realized in ‘prestige’ [presti:ʒ] was realized by all teachers and their respective students as [pristɪdʒ].

In comparing the realization of these variants by the various levels to that of their respective teachers, the table shows that the primary students had the highest occurrence of [ʃ] 48.3% as against 46.6% of their teachers. However, the teachers had 36% of [ʒ] more than the students (35%).

The JHS teachers had [ʃ] 48.3% whereas their students had 46.6%. Again, [ʒ] for JHS teachers was 36.7% whilst that of their students was 35%. The SHS students, however, had 50% of [ʃ] which was higher than that of their teachers (43.3%) but the teachers also had [ʒ] 40% more than the SHS students (33.3%).

[ʒ] was realized by all teachers and students at all levels in words such as ‘pleasure’ [pleʒə], ‘treasure’ [treʒə], however, in words such as ‘occasion’ [əkeiʒən], ‘confusion’ [kənʃju:ʒən] and

'decision'[dɪːsɪʒən] were all realized by both teachers and students as [ʃ] apart from KT 1 who realized occasion and decision using [ʒ]-She is a trained English language teacher.

## 6.7 Voiceless alveolar fricative /s/

VARIANTS	PRIMARY	TRS.	JHS	TRS.	SHS	TRS.
/s/	41.7%	40%	38.2%	41.7%	41.7%	48.3%
/z/	58.3%	60%	58.3%	58.3%	58.3%	51.7%
/s/ or /z/	-	-	3.3%	-	-	-

Table 6: variants of /s/ by teachers and their respective students at each level

As stated in chapter 4, /s/ has two variants- [s] and [z]. The variant [z] which is the alternative Ghanaian variant has the largest amount of distribution among all the teachers and their respective students at all levels as shown by the table above.

Primary teachers had 60% more than their students 58.3% [z] whereas their students had 41.7% more than them 40%. Both JHS teachers and their students had [z] 58.3% each and [s] 41.7% and 38.2% respectively with the remaining 3.3% of the primary respondents realizing the same sound as either [s] or [z].

Words such as ‘conservative’, ‘assume’ and ‘consumers’ were all enunciated with [z] instead of [s] whereas ‘society’ and ‘accept’ were pronounced with [s]. ‘Basic’ however, was pronounced with either [s] or [z].

The students did not know any underlying principle that ensures that a word is pronounced with either /s/ or /z/ phoneme. What was evident throughout the research was that the students pronounce the words just as their teachers do, and where the teachers did not show any variation, they too did not show any variation. This was amply the trend that ran through all the realizations.

## 6.8 Voiced alveolar fricative /z/

VARIANTS	PRIMARY	TRS.	JHS	TRS.	SHS	TRS.
/z/	50%	46.7%	48.3%	48.3%	50%	45%
/s/	50%	51.7%	51.7%	51.7%	50%	55%
/z/ or /s/	-	1.6%	-	-	-	-

Table 7: variants of /z/ by teachers and their respective students at each level

As the table indicates, /z/ has two alternative variants in the speeches of all the respondents. The primary respondents realized [s] 50% more than their teachers (46.7%). Their teachers however, had [z] 51.7% as against the 50% obtained by their teachers. A marginal 1.6% of the teachers also realized the same sound as either [s] or [z] by the same respondents.

No difference was identified in the realization of [s] and [z] by both JHS teachers and students since all of them had [s] 48.3% and [z] 51.7% respectively. This shows that the JHS students are to a large extent are only imitating what their teachers do and for that matter showing what goes on in their school.

SHS students, however, had [s] 50% and [z] 50% whereas their teachers 45% and 55% respectively. Clear differences were therefore not found in the realization of [s] and [z] by the teachers and their respondents at all levels. Words such as ‘reason’ [rɪ:zən], and ‘presentation’ [prɪzenteɪʃn] were realized as such by both teachers and their respective students. ‘Girls’ [gɜ:lz], ‘Residential’ [rezidenʃɪəl] and ‘owners’ were however realized by all respondents as [s] with ‘resist’ being realized variously as either [s] or [z].

## CHAPTER SEVEN

### 7.1 SUMMARY AND CONCLUSION

This research set out to identify and describe the alternative realizations of affricates and fricatives as spoken by students at the various levels of education-Primary, JHS and SHS- and teachers in these institutions.

The study compared the realization of the selected sounds by respondents from the various educational levels to determine if any trend about the way users speak English in Ghana could be detected.

The data generated from the students were compared to those of their respective teachers to determine whether the teachers had any influence on the way their students speak English.

#### 7.2 The affricates /tʃ/ and /dʒ/

All the student respondents, and for that matter speakers of English language at all the levels studied, realized both the voiceless and the voiced affricates /tʃ/ and /dʒ/ reasonably correctly.

The voiceless palatoalveolar affricate /tʃ/ was found to have three alternative realizations of the same phoneme /tʃ/ at all the levels and by all the teachers. They vary between [tʃ], [tʃ] and [t]. The RP /tʃ/ has the highest rate of occurrence among all the variants. The following are the percentages. [tʃ] 68.3%, [t] 20.3%, [tʃ] 9.7%, [t] or [tʃ] and [tʃ] or [tʃ] by the same respondents is 1.4% and 6.3% respectively.

The voiced palatoalveolar affricate /dʒ/ also had three alternative variants of the same phoneme /dʒ/. These are [dʒ], [d] and [g], with the RP variant [dʒ] having the highest frequency of 42.2%. This is followed by [d] 32.5% and [g] 25.3%. It was also identified that whereas [dʒ] occurs in

words such as ‘joy’, ‘large’, ‘lodge’ etc, [g] surfaced in ‘digit’, ‘digital’ etc with [d] occurring in ‘educate’, ‘graduate’ etc.

These variations occurred at all the levels with the teachers exhibiting similar traits. It appears as if orthography plays a part in the determination of the variant that was chosen.

### 7.3 The fricatives

The fricatives were realized by all the respondents at all levels. The voiced and voiceless labiodental fricatives /f,v/ as well as the glottal fricative /h/ did not show any alternative realizations in their enunciation by all the respondents.

The inter-dental fricatives /θ/ and /ð/ were realized variously by all the respondents at all the levels. The voiceless interdental fricative /θ/ had three alternative variations-[θ], [t] and [f] with [θ] having the highest rate of occurrence. [θ] was 51.1%, [t] 46.7%, and [f] 2.2%. The voiced interdental fricative /ð/ on the other hand, had five alternative variants-[θ], [t], [f], [d] and [ð] with [d] being the highest variant in the respondents’ speeches among all the variants. These are the percentages among the five variants. [d] 50.8%, [t] 31.7%, [θ] 11.1%, [ð] 6.1% and [f] 0.3%.

Both the voiced and the voiceless alveolar fricatives /s/ and /z/ were realized as it is in RP in certain words by all the respondents. However, there were consistent and conscious switches from either [s] to [z] and vice versa in the realization of certain words. For example, words such as ‘visit’, ‘assume’, ‘basic’, etc. These were not occasional switches from /s/ to /z/ or /z/ to /s/, but were a result of how those words are taught, learnt and realized by the respondents. There is also the occasional switch from /s/ to /z/ and vice versa with the same person realizing the same word with either [s] or [z].

The voiced alveopalatal fricative /ʒ/ had three alternative variants-[ʒ], [ʃ] and [dʒ] with [ʃ] being the highest among all the variants in the speeches of all the respondents. Apart from [ʃ] in ‘mission’ which was realized as [ʒ] by two respondents, all the other respondents realized it as it is in RP and therefore did not show any ostensible variation in the speeches of over 90% of all the respondents. While words such as ‘measure’, and ‘pleasure’ were all realized with [ʒ], that in ‘occasion’, ‘conclusion’, ‘decision’, etc. were all realized with [ʃ] and this was consistent with all the realizations.

The realization of the affricates and the fricatives by the respondents at the Primary, Junior and the Senior High Schools are very similar with very few variations. All the three levels used all the alternative realizations identified in this study but differed in percentages and preferences.

This shows that ‘a variant that is in high demand in a particular level may not be so in another level’ even though all the variants are common to all the levels.

There seemed to be a trend in the schools that ensure that these variants are not peculiar to any particular level and that the variations permeate all the levels.

The analysis also reveals that what goes on in the various educational levels determines how certain sounds are made by students in Ghana. How English is taught and learnt has greater effect on speech variation than educational level, though it must be admitted that one’s level of education to a large extent determines one’s level of competence in grammar and semantics but not in pronunciation.

The choice of a particular variant by the primary, JHS and SHS respondents were not arbitrary but were influenced by teacher motivations as shown by the study. How the teachers pronounce words and speak English in each of the school communities studied affect the way students

pronounce words and speak English. The students in general tend to accommodate their linguistic behaviour to the patterns of the various educational communities, therefore, the alternative realization of these sounds by the students and their teachers reflect how these sounds are realized and used in the various institutions. The preference of one variant rather than the other depends on the school environment an individual finds him/herself in.

The social context of speech may lead student participants to make their speech conform to what obtains in that particular school, which betrays them as members of that school.

Le Page & Tabouret Keller (1985) talking about ‘Acts of Identity’, observe that “speakers’ linguistic behaviour is motivated by the wish to resemble as closely as possible that of the group with which they wish to identify”. Respondents in each school certainly will wish to be identified with the ‘linguistic norms’ of their school communities and are therefore motivated to make their linguistic choices to reflect what goes on in their respective communities.

This tendency may also be explained in the light of teacher contact, community membership and peer pressure. This means that since teachers are the ‘benchmarks’ in this regard, what they say and teach in the schools becomes the communal norm.

This to a large extent reflects the linguistic choices which distinguish and identify Ghanaian speakers of English as distinct from other speakers of the language.

What was evident in this research was that where the teachers did not show any variations, their respective students also did not and where the teachers exhibited a clear preference for a particular variant, the students followed suits. This is ample evidence to suggest that the language of the school is the language of the teacher.

There is no evidence to suggest that as one's level of education increases, there is a corresponding change from the way sounds are realized. Rather, there seemed to be an institutionalized system of pronunciation that cut across all levels of education, which ensures that anyone who acquires basic and Senior High education in Ghana exhibits certain characteristics that are peculiar to Ghanaian students, and for that matter, symbolizes the unique and distinctive ways Ghanaians enunciate certain sounds in predetermined context in their attempt to speak the English language.

It is admissible that a number of factors such as the mass media, parental background, socio-economic status, gender, age, habitation pattern, spelling pronunciation, linguistic backgrounds etc. could have implications on how English is spoken in Ghana.

But while L1 influence may be inevitable in the study of English in Ghana due to the multilingual nature of Ghanaians with the resultant transfer of the features of the languages in contact, that of spelling analogy that Adjei (2005) talks about could be significantly reduced if English teachers are trained and equipped with the relevant pedagogical skills to teach phonetics at all the levels of the Ghanaian Educational system, while at the same time providing relevant teaching materials that will enhance the teaching and learning of English in Ghana.

The fact that spelling pronunciation plays a significant role in the realizations of the teachers in this research confirms that their knowledge in phonetics is limited. This brings to question the kind of pronunciation used at the basic schools as well as the language used by all the teachers at all the levels and their contribution to the variations in the English spoken in Ghana.

Until such a time that the practice of engaging unqualified teachers (mostly pupil teachers) is stopped or those engaged given proper training, and the teaching of English language taken

seriously, especially with the teaching of phonetics at all the levels, this phenomenon will deepen with new phonetic variations emerging. For in the end, what pertains in Ghanaian schools is what will largely influence how English is spoken in Ghana.

### 7.1.3 Suggestions for Further Research

One of the limitations of this study is that it did not look at all the consonants in the English language. A further study into all of them and an increase in the sample study may reveal other interesting information. For example, a few more contexts can be identified and performance judged on whether orthography is a determinant in the choice of variants or the need to be like their teachers, who serve as models. There could also be assimilatory considerations determining the choice of variants. This study has been limited to some selected consonants and so far the trends have been consistent. It might help to do the same study on vowels in our effort to determine the nature of pronunciation of English by Ghanaian school children.

## APPENDIX A

## CONFIDENTIALITY AND CONSENT FORM

Title of Project

A SOCIOLINGUISTIC STUDY OF LANGUAGE VARIATION IN THE ENGLISH SPOKEN  
IN GHANA

The purpose of this study is to identify variations in the English spoken in Ghana.

In order to do this, I would like your permission (to ask your child) to read a passage for me to record and to fill a form for me.

Use of information

The information provided by you (by your child) will be used to describe the English spoken in Ghana.

Extract may be quoted in my project, which will be read by examiners. The project will be archived at the University of Ghana.

All the information you provide will remain completely anonymous.

**By providing me with written and recorded information you indicate your consent to the collection, use, storage and processing of this information by the University of Ghana solely for the purposes described above in the section on use of information.**

Signed.....

Date .....

(Under 18's only)

Parent / guardian's Signature.....

Date .....

## CONSENT FORM

Please tick to

Confirm

- I confirm that I have been given and have read and Understood the information sheet for the above study, and have asked and received answers to any questions raised.
- I understand that my participation is voluntary and that I am free to withdraw at anytime without a reason, and without my rights being affected in any way.
- I understand that the researcher will hold all the information and data collected securely and in confidence, and that all efforts will be made to ensure that I cannot be identified as a participant in the study, and I give permission for the researcher to hold relevant personal data.

- I agree to take part in the above study.



Signed .....

Name

Signature

Date

Name of Researcher

Signature

Date

## APPENDIX B (1)

## Sociobiographic Questionnaire

## PERSONAL INFORMATION ( for students)

1. Name / Code

2. Sex : male [ ] female [ ]

3. Age : [ ] 10-12 [ ] 13-16 [ ] 17-22 [ ] 23-25 [ ] 26-30 [ ]

4. School

.....

5. Form:

6. How long have you been in this School?

7. Where do you live?

8. Where were you born?

9. What is your mother tongue?

10. Which other languages do you speak? List them in order of proficiency

(1)

(2)

(3)

11. Have you ever lived abroad for more than six months? Yes [ ] No [ ]

12. If yes where?

Thank You.

## APPENDIX B (2)

## PERSONAL INFORMATION ( for teachers)

1. Name/Code :

2. Sex: male [ ] female [ ]

3. Age : 20-25 [ ] 26-30 [ ] 31-35 [ ] 36-40 [ ] 41-45 [ ] 46-50 [ ]

4. School :

5. Which Forms/ classes do you teach?

6. What subject(s) do you teach?

7. How long have you been teaching in this school?

8. Level of Education: JHS [ ] SHS [ ] Polytechnic [ ] Training College [ ] University [ ]

other(s)

9. What is your mother Tongue?

10. Which other languages do you speak? List them in order of proficiency

(1)

(2)

11. Have you lived abroad for more than six months? Yes [ ] No [ ]

12. If yes where?

Thank You

## APPENDIX C

## Reading Material

## Reading Passage

## The Promotion

A promotion was held at the north shop situated at the edge of the Kaneshie market to launch a cheap starch known as ‘prestige’ in March this year. The owners and the chief salesman educated the conservative consumers during the occasion that they should not think, assume or entertain the thoughts that the product was for children.

They were also of the view that the decision to gradually initiate such a vision and mission was without any confusion in the society since it is for everybody especially workers, students and anybody who dresses. Consumers were therefore, urged not to anticipate any question but accept that it was an opportune time for them to ask questions and get answers.

He further stated that there is every reason for *prestige* to become the number one household name in Ghana.

A large or giant digital television was used showing some residential graduate students at the University of Ghana using *prestige* to iron their shirts.

The sales officer added that from birth to death and north to south, anyone who lives and treasures quality health and lifestyle should not rise to question or resort to resist the uniqueness of *prestige*. For *prestige* gives comfort and shine to the tough and rough garments. He emphasized that basic methods and professional ethics were used to come out with *prestige*.

But the behavior of some hardened thieves behind a garage and disheartened by their inability to steal at the promotion hurt a driver whose taxi was among the vehicles that had come to cart goods.

After the rather smooth and impressive presentation, the feeling was great and so consumers-vendors, girls, boys, brothers, sisters, the deaf -present received prestige with enthusiasm and no one could measure their joy and pleasures.

The General Manager rang a bell, sang a song, thanked the consumers and asked them to visit their main office to bring the promotion to its logical conclusion.

## Appendix D

Table (1) Student Respondents

Respondents	Sex	Mother Tongue	School	Place of Residence	Level of Education
SH 1	M	Akan(Twi)	KATECO	Adabraka	SH 4
SH 2	F	Akan(Fante)	KATECO	Achimota	SH 4
SH 3	F	Guan	KATECO	Santa Maria	SH 4
SH 4	M	Ewe	KATECO	Mallam	SH 4
SH 5	F	Ga	KATECO	Bubuashie	SH 4

Table (2) Teacher Respondents

Respondents	Sex	Mother Tongue	School	Place of Residence	Level of Education
KT 1	F	Ewe	KATECO	Accra	University
KT 2	F	Guan	KATECO	Lapaz	University
KT 3	M	Akan(Fante)	KATECO	Mamprobi	University
KT 4	M	Akan(Akyem)	KATECO	Awoshie	University
KT 5	M	Ewe	KATECO	Abosokai	University

## ACHIMOTA SENIOR HIGH RESPONDENTS

Table (3) Student Respondents

Respondents	Sex	Mother Tongue	Place of Residence	Level of Education
AS 1	F	Akan(Twi)	Achimota Estates	SH 4
AS 2	M	Ga	Osu	SH 4
AS 3	F	Akan(Twi)	New Achimota	SH 4
AS 4	M	Ga	Teshie	SH 4
AS 5	M	Akan(Twi)	Baatsona	SH 4

Table (4) Teacher Respondents

Respondents	Sex	Mother Tongue	No of yrs in School	Level of Education	Subject Taught
AT 1	M	Akan(Twi)	10years	University	Economics
AT 2	M	Akan(Fante)	2years	University	Social Studies
AT 3	M	Krobo	11years	University	Integrated Science
AT 4	F	Akan(Twi)	2years	University	Mathematics
AT 5	F	Lelemi	3years	University	Food and Nutrition

Table (5) Student Respondents (Rev. Thomas Clegg Methodist JHS, Kaneshie)

Respondent	Sex	Mother Tongue	Place of Residence	Level of Education	Age/Place of birth
JS 1	F	Akan(Twi)	Kaneshie	JSS 3	13-16,Kumasi
JS 2	F	Ga	Kaneshie	JHS 3	13-16, Kaneshie
JS 3	F	Twi	Odorkor	JHS 3	13-16
JS 4	M	Akan.(Twi)	Korle-bu	JHS 3	13-16,Accra
JS 5	M	Ga	Mamprobi	JHS 3	13-16, Accra

Table (6) Teacher Respondent

Respondents	Sex	Mother Tongue	Number of yrs in School	Level of Education	Subject Taught
JT 1	M	Ga	3 years	University	Integrated Science
JT 2	M	Ga	4 years	Training College	Ga
JT 3	F	Ga	3 years	University	Social Studies
JT 4	M	Ewe	2 years	University	English
JT 5	M	Dagbani	4 years	University	Mathematics

Table (7) Pupil Respondents (Rev. Thomas Clegg Methodist Primary School)

Respondents	Sex	Mother Tongue	Place of Residence	Level of Education	Age/Place of birth
PP 1	M	Ga	Kaneshie	P6	10-12, Accra
PP 2	F	Nzema	Abossey Okai	P6	10-12, Bonyere
PP 3	M	Akan(Twi)	Awoshie	P6	10-12, Accra
PP 4	F	Hausa	Kaneshie	P6	10-12, Bolga
PP 5	M	Akan(Twi)	Odorkor	P6	10-12, Kumasi

Table (8) Primary Teacher Respondents

Respondents	Sex	Mother Tongue	Number of yrs in School	Level of Education	Subject Taught
PT 1	F	Dangme	2 years	Training College	Class Tr. All Subjects.
PT 2	F	Akan(Twi)	2 years	Training College	Class Tr.
PT 3	F	Ga	3 years	Training College	Class Tr.
PT 4	M	Akan(Twi)	3 years	University	Class Tr.
PT 5	F	Akan(Twi)	2 years	Polytechnic	Class Tr.

Table (9) JHS Respondents (Morning Star Preparatory School, Cantonment-Accra)

Respondents	Sex	Mother Tongue	Place of Residence	Level of Education	Age/Place of Birth
MJ 1	F	Akan(Twi)	Cantonment	JHS 3	13-16,Accra
MJ 2	F	Akan(Twi)	Labone	JHS 3	13-16,Accra
MJ 3	F	Akan(Fante)	Ringway Estates	JHS 3	13-16,Accra
MJ 4	M	Akan(Twi)	Dome	JHS 3	13-16,Accra
MJ 5	M	Ga	New Achimota	JHS 3	13-16,Accra

Table (10) Teacher Respondents (JHS-Morning Star)

Respondents	Sex	Mother Tongue	Number of yrs in School	Level of Education	Subject Taught
MT 1	M	Ga	8 years	University	Integrated Science
MT 2	M	Akan(Fante)	8 years	University	English
MT 3	M	Akan(Twi)	11 years	University	Asante Twi
MT 4	F	Dangwe	14 years	University	English/Maths
MT 5	F	Ga	3 years	University	Home Economics

Table (11) Primary Respondents (Morning Star)

Respondents	Sex	Mother Tongue	Place of Residence	Level of Education	Age/Place of Birth
MP 1	M	Akan(Twi)	Adenta Estates	Class 6	10-12,Accra
MP 2	F	Akan(Twi)	La	Class 6	10-12,Accra
MP 3	F	Akan(Akuapem Twi)	East Legon	Class 6	10-12,Cape Coast
MP 4	M	Ewe	Adenta West	Class 6	10-12, Winneba
MP 5	F	Akan(Twi)	Parakuo Etates,Sakumono	Class 6	10-12,Tema

Table (12) Teacher Respondents-Morning Star Primary

Respondents	Sex	Mother Tongue	Number of yrs in School	Level of Education	Subject Taught
MT 1	M	Sefwi	20 years	Training College	All subjects
MT 2	F	Akan(Fante)	11 years	University/T.	French
MT 3	M	Ewe	11 years	University	All Subjects
MT 4	M	Akan(Twi)	20 years	Training College	All Subjects
MT 5	F	Ewe	10	Technical Skills	All Subjects

## Word Realization

	KS 1	KS 2	KS 3	KS 4	KS 5	AS 1	AS 2	AS 3	AS 4	AS 5
SOUTHERN	t	t	t	t	t	t	t	t	t	t
RATHER	d	d	d	d	d	d	d	d	d	d
FURTHER	d	d	d	d	d	ð	d	d	d	d
WITH	t	t	d	θ	t	d	d	d	d	d
THEY	d	d	d	d	d	t	t	t	t	t
SMOOTH	t	t	t	t	t	t	t	t	θ	θ

Phonemes	No. of occurrence	Percentage
/t/	26/60	43.3%
/d/	30/60	50%
/θ/	3/60	5%
/ð/	1/60	1.7%

Word Realization

	KT1	KT2	KT3	KT4	KT5	AT 1	AT 2	AT 3	AT 4	AT 5
SOUTHERN	t	t	t	f	t	t	t	t	t	t
RATHER	d	d	d	d	d	d	d	d	d	d
FURTHER	d	d	d	d	d	d	d	d	d	d
WITH	θ	t	t	t	t	d	d	d	d	d
THEY	ð	d	d	d	d	t	t	t	t	t
SMOOTH	ð	t	t	t	t	t	t	t	t	t

Phonemes	No. of occurrence	Percentage
/t/	27/60	45%
/d/	29/60	48.3%
/θ/	1/60	1.7%
/ð/	2/60	3.3%
/f/	1/60	1.7%

## Word Realization

	JS 1	JS 2	JS 3	JS 4	JS 5	MJ 1	MJ 2	MJ 3	MJ 4	MJ 5
SOUTHERN	t	t	t	t	t	ð	ð	ð	ð	d
RATHER	d	d	d	d	d	d	d	d	d	d
FURTHER	d	d	d	d	d	d	d	d	d	d
THEY	d	d	d	d	d	d	d	d	d	d
SMOOTH	t	t	t	t	t	θ	θ	θ	t	t
WITH	t	t	t	t	θ	θ	θ	θ	θ	θ

Phonemes	No. of occurrence	Percentage
/t/	16/60	26.7%
/d/	31/60	51.7%
/θ/	9/60	15%
/ð/	4/60	6.6 %

## Word Realization

	JT 1	JT 2	JT 3	JT 4	JT 5	MT 1	MT 2	MT 3	MT 4	MT 5
SOUTHERN	t	t	t	t	t	t	ð	ð	ð	ð
RATHER	d	d	d	d	d	d	d	d	d	d
FURTHER	d	d	d	d	d	d	d	d	d	d
THEY	d	d	d	d	d	d	d	d	d	d
SMOOTH	t	t	t	t	θ	θ	d	d	θ	t
WITH	t	θ	θ	t	θ	θ	θ	θ	θ	θ

Phonemes	No. of occurrence	Percentage
/t/	13/60	21.7%
/d/	32/60	53.3%
/θ/	11/60	18.3%
/ð/	4/60	6.7%

Word Realization

	PS 1	PS 2	PS 3	PS 4	PS 5	MP 1	MP 2	MP 3	MP 4	MP 5
SOUTHERN	t	t	t	t	t	t	t	ð	t	ð
RATHER	d	d	d	d	d	d	d	d	d	d
FURTHER	d	d	d	d	d	d	d	d	d	ð
THEY	d	d	d	d	d	d	d	d	d	d
SMOOTH	t	t	t	t	t	θ	t	θ	θ	θ
WITH	t	t	t	t	t	θ	θ	θ	θ	θ

Phonemes	No. of occurrence	Percentage
/t/	19/60	31.7%
/d/	29/60	48.3%
/θ/	9/60	15%
/ð/	3/60	5%

## Word Realization

	PT 1	PT 2	PT 3	PT 4	PT 5	Mt 1	Mt 2	Mt 3	Mt 4	Mt 5
SOUTHERN	t	θ	t	t	t	ð	ð	ð	d	d
RATHER	d	d	d	d	d	d	d	d	d	d
FURTHER	d	d	d	d	d	d	ð	d	d	d
THEY	d	d	d	d	d	d	d	d	d	d
SMOOTH	t	θ	t	t	t	ð	θ	θ	t	θ
WITH	t	θ	t	t	t	d	θ	θ	θ	θ

## Phonemes No. of occurrence Percentage

/t/ 13/60 21.7%

/d/ 32/60 53.3%

/θ/ 10/60 16.7%

/ð/ 5/60 8.3%

## Words Realization

	KS 1	KS 2	KS 3	KS 4	KS 5	AS 1	AS 2	AS 3	AS 4	AS 5
PRESTIGE	ɔ̃	ɔ̃	ɔ̃	ɔ̃	ɔ̃	ɔ̃	ɔ̃	ɔ̃	ɔ̃	ɔ̃
TREASURE	ʒ	ʒ	ʒ	ʒ	ʒ	ʒ	ʒ	ʒ	ʒ	ʒ
OCCASION	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ
CONFUSION	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ
PLEASURE	ʒ	ʒ	ʒ	ʒ	ʒ	ʒ	ʒ	ʒ	ʒ	ʒ
DECISION	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ

Phonemes	No. of occurrence	Percentage
/dʒ/	10/60	16.7%
/z/	20/60	33.3%
/ʃ/	30/60	50%

Words                      Realization

	KT 1	KT 2	KT 3	KT 4	KT 5	AT 1	AT 2	AT 3	AT 4	AT 5
PRESTIGE	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ	dʒ
TREASURE	z	z	z	z	z	z	z	z	z	z
OCCASION	z	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ
CONFUSION	z	ʃ	ʃ	ʃ	z	ʃ	ʃ	ʃ	ʃ	ʃ
PLEASURE	z	z	z	z	z	z	z	z	z	z
DECISION	z	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ

Phonemes	No. of occurrence	Percentage
/dʒ/	10/60	16.7%
/z/	24/60	40%
/ʃ/	26/60	43.3%

## Word Realization

	JS 1	JS 2	JS 3	JS 4	JS 5	MJ 1	MJ 2	MJ 3	MJ 4	MJ 5
PRESTIGE	ɔ̃	ɔ̃	ɔ̃	ɔ̃	ɔ̃	ɔ̃	ɔ̃	ɔ̃	ɔ̃	ɔ̃
TREASURE	ʒ	ʒ	ʒ	ʒ	ʒ	ʒ	ʒ	ʒ	ʒ	ʒ
OCCASION	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʒ	ʃ	ʃ	ʃ
CONFUSION	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʒ	ʃ	ʃ	ʃ
PLEASURE	ʒ	ʒ	ʒ	ʒ	ʒ	ʒ	ʒ	ʒ	ʒ	ʒ
DECISION	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ

## Phonemes

## No. of occurrence

## Percentage

/ɔ̃/

10/60

16.7%

/ʒ/

22/60

36.7%

/ʃ/

28/60

46.6%

## Word Realization

	JT 1	JT 2	JT 3	JT 4	JT 5	MT 1	MT 2	MT 3	MT 4	MT 5
PRESTIGE	ɔ̃	ɔ̃	ɔ̃	ɔ̃	ɔ̃	ɔ̃	ɔ̃	ɔ̃	ɔ̃	ɔ̃
TREASURE	ʒ	ʒ	ʒ	ʒ	ʒ	ʒ	ʒ	ʒ	ʒ	ʒ
OCCASION	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʒ	ʃ	ʃ
CONFUSION	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ
PLEASURE	ʒ	ʒ	ʒ	ʒ	ʒ	ʒ	ʒ	ʒ	ʒ	ʒ
DECISION	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ

## Phonemes

## No. of occurrence

## Percentage

/ɔ̃/

10/60

16.7%

/ʒ/

21/60

35%

/ʃ/

29/60

48.3%

Word Realization

	PS 1	PS 2	PS 3	PS 4	PS 5	MP 1	MP 2	MP 3	MP 4	MP 5
PRESTIGE	ɔ̃	ɔ̃	ɔ̃	ɔ̃	ɔ̃	ɔ̃	ɔ̃	ɔ̃	ɔ̃	ɔ̃
TREASURE	ʒ	ʒ	ʒ	ʒ	ʒ	ʒ	ʒ	ʒ	ʒ	ʒ
OCCASION	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʒ	ʃ	ʃ
CONFUSION	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ
PLEASURE	ʒ	ʒ	ʒ	ʒ	ʒ	ʒ	ʒ	ʒ	ʒ	ʒ
DECISION	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ

Phonemes

No. of occurrence

Percentages

/ɔ̃/

10/60

16.7%

/ʒ/

21/60

35%

/ʃ/

29/60

48.3%

Word Realization

	PT 1	PT 2	PT 3	PT 4	PT 5	Mt 1	Mt 2	Mt 3	Mt 4	Mt 5
PRESTIGE	ɔ̃	ɔ̃	ɔ̃	ɔ̃	ɔ̃	ɔ̃	ɔ̃	ɔ̃	ɔ̃	ɔ̃
TREASURE	ʒ	ʒ	ʒ	ʒ	ʒ	ʒ	ʒ	ʒ	ʒ	ʒ
OCCASION	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʃ	ʒ	ʃ	ʃ



Words

Realizations

	KT 1	KT 2	KT 3	KT 4	KT 5	AT 1	AT 2	AT 3	AT 4	AT 5
CONSERVATIVE	z	z	z	z	z	z	z	z	z	z
ASSUME	s	z	z	z	z	z	z	z	z	z
SOCIETY	s	s	s	s	s	s	s	s	s	s
CONSUMERS	s	z	z	z	z	z	z	z	z	z
BASIC	s	s	z	z	s	s	s	z	s	s
ACCEPT	s	s	s	s	s	s	s	s	s	s

Phonemes

No. of occurrence

Percentage

/s/

29/30

48.3%

/z/

31/30

51.7%

/s/

Words

Realizations

	JS 1	JS 2	JS 3	JS 4	JS 5	MJ 1	MJ 2	MJ 3	MJ 4	MJ 5
CONSERVATIVE	z	z	z	z	z	z	z	z	z	z
ASSUME	z	z	z	z	z	z	z	z	z	z
SOCIETY	s	s	s	s	s	s	s	s	s	s
CONSUMERS	z	z	z	z	z	z	z	z	z	z
BASIC	z	z	z	z	s	s	s	z (s)	z (s)	z
ACCEPT	s	s	s	s	s	s	s	s	s	s

Phonemes	No. of occurrence	Percentage
/s/	23/60	38.3%
/z/	35/60	58.4%
/s/ or /z/	2/60	3.3%

/s/

Words Realizations

	JT 1	JT 2	JT 3	JT 4	JT 5	MT 1	MT 2	MT 3	MT 4	MT 5
CONSERVATIVE	z	z	z	z	z	z	z	z	z	z
ASSUME	z	z	z	z	z	z	s	z	z	z
SOCIETY	s	s	s	s	s	s	s	s	s	s
CONSUMERS	z	z	z	z	z	z	z	z	z	z
BASIC	s	z	z	z	s	z	s	z	s	z
ACCEPT	s	s	s	s	s	s	s	s	s	s

Phonemes	No. of occurrence	Percentage
/s/	25/60	41.7 %
/z/	35/60	58.3%

## Words Realizations

	PS 1	PS 2	PS 3	PS 4	PS 5	MP 1	MP 2	MP 3	MP 4	MP 5
CONSERVATIVE	z	z	z	z	z	z	z	z	z	z
ASSUME	z	z	z	z	z	z	z	z	z	z
SOCIETY	s	s	s	s	s	s	s	s	s	s
CONSUMERS	z	z	z	z	z	z	z	z	z	z
BASIC	z	s	s	s	s	z	z	z	z	s
ACCEPT	s	s	s	s	s	s	s	s	s	s

## Phonemes

## No. of occurrence

## Percentage

/s/

25/60

41.7%

/z/

35/60

58.3%

/s/

## Words

## Realizations

	PT 1	PT 2	PT 3	PT 4	PT 5	Mt 1	Mt 2	Mt 3	Mt 4	Mt 5
CONSERVATIVE	z	z	z	z	z	z	z	z	z	z
ASSUME	z	z	z	z	z	z	z	z	z	z
SOCIETY	s	s	s	s	s	s	s	s	s	s
CONSUMERS	z	z	z	z	z	z	z	z	z	z
BASIC	s	s	z	s	z	s	z	z	z	z
ACCEPT	s	s	s	s	s	s	s	s	s	s



## Word Realization

	KT 1	KT 2	KT 3	KT 4	KT 5	AT 1	AT 2	AT 3	AT 4	AS 5
REASON	z	z	z	z	z	z	z	z	z	z
GIRLS	s	s	s	s	s	s	s	s	s	s
RESIST	z	z	z	s	z	s	z	z	z	z
RESIDENTIAL	s	s	s	s	s	s	s	s	s	s
OWNERS	s	s	s	s	s	s	s	s	s	s
PRESENTATION	z	z	s	z	z	z	z	z	z	z

## Phonemes No. of occurrence Percentage

/z/ 27/60 45%

/s/ 33/60 55%

## Word Realization

	JS 1	JS 2	JS 3	JS 4	JS 5	MJ 1	MJ 2	MJ 3	MJ 4	MJ 5
REASON	z	z	z	z	z	z	z	z	z	z
GIRLS	s	s	s	s	s	s	s	s	s	s
RESIST	z	z	z	z	z	z	z	s	z	z
RESIDENTIAL	s	s	s	s	s	s	s	s	s	s
OWNERS	s	s	s	s	s	s	s	s	s	s
PRESENTATION	z	z	z	z	z	z	z	z	z	z

## Phonemes No. of occurrence Percentage

/z/ 29/60 48.3%

/s/ 31/60 51.7%

## Word Realization

	JT 1	JT 2	JT 3	JT 4	JT 5	MT 1	MT 2	MT 3	MT 4	MT 5
REASON	z	z	z	z	z	z	z	z	z	z
GIRLS	s	s	s	s	s	s	S	s	s	s
RESIST	z	z	s	z	z	z	z	z	z	z
RESIDENTIAL	s	s	s	s	s	s	s	s	s	s
OWNERS	s	s	s	s	s	s	s	s	s	s
PRESENTATION	z	z	z	z	z	z	z	z	z	z

## Phonemes No. of occurrence Percentage

/z/ 29/60 48.3%

/s/ 31/30 51.7%

## Words Realizations

	PS 1	PS 2	PS 3	PS 4	PS 5	MP 1	MP 2	MP 3	MP 4	MP 5
REASON	z	z	z	z	z	z	z	z	z	z
GIRLS	s	s	s	s	s	s	s	s	s	s
RESIST	z	z	z	z	z	z	z	z	z	z
RESIDENTIAL	s	s	s	s	s	s	s	s	s	s
OWNERS	s	s	s	s	s	s	s	s	s	s
PRESENTATION	z	z	z	z	z	z	z	z	z	z

Phonemes	No. of occurrence	Percentage
/z/	30/60	50%
/s/	30/60	50%

/z/

Word Realization

	PT 1	PT 2	PT 3	PT 4	PT 5	Mt 1	Mt 2	Mt 1	Mt 1	Mt 5
REASON	z	z	z	z	z	z	z	z	z	z
GIRLS	s	s	s	s	s	s	s	s	s	s
RESIST	z	z	s	s	z	z	z	z	z	z
RESIDENTIAL	s	s	s	s	s	s	s (z)	s	s	s
OWNERS	s	s	s	s	s	s	s	s	s	s
PRESENTATION	z	z	z	z	z	z	z	z	z	z

Phonemes	No. of occurrence	Percentage
/z/	28/60	46.7%
/s/	31/60	51.7%
/s/ or /z/	1/60	1.7%

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