ADDISABABA UNIVERSITY
SCHOOL OF GRAGUATE STUDIES



ETHIOPIAN LEARNERS' PRONUNCIATION DIFFICULTIES AND INTELLIGIBILITY OF THEIR SPOKEN ENGLISH: SPEAKERS OF AMHARIC AS A NATIVE LANGUAGE IN FOCUS

By:

Anegagregn Gashaw Ferede

June 2012

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A Dissertation Presented to the School of Graduate Studies of Addis Ababa University for the Degree of Doctor of Philosophy (PHD) in Teaching English as a Foreign Language (TEFL)



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ABSTRACT

The study diagnosed difficulties of English pronunciation that Amharic native learners might be experiencing from the influence of their native language and exposed the global impact of these difficulties in global communication contexts. To this end, the study employed three distinct but related approaches: 1) phonological contrast; 2) phonological error analysis; and 3) intelligibility test. Contrastive analysis being the frame of reference for this study, phonological contrast both at the levels of segmental and suprasegmental was initially conducted between Amharic and English; and those areas which are lacking in Amharic were identified and predicted as potential problem areas.

The speech perception test that investigated the subjects' detection and recognition of foreign items showed that contrastive-origin problem areas still restrict university students' successful perception of English pronunciation. The result also showed that not all novel sounds presented equal amount of perception difficulty for the subjects with weak forms, sentence stress, and intonation being the most difficult areas. The production test identified segmental level pronunciation tendencies for Amharic native participants in their sample speeches elicited from reading aloud texts. Global error measures showed that the subjects' speech production is largely restricted by L1 characteristics, with vowels presenting more systematic problems than consonants. Mispronounced phonemes were further evaluated for two additional criteria depending on their frequency and functional importance in the target language. As a result, not all mispronunciations should be given equal priority for the Amharic speaker subjects. Accordingly, some errors were given precedence in the final inventory as 'high priority' (HP) problems while others were scaled down as 'optional alternative' (OA) and 'low priority' (LP). The intelligibility test measured the extent that Amharic native learners were understandable in their speeches to native English speakers living in Addis Ababa. Based on correct word transcription scores, it was possible to conclude that overall intelligibility measures university level subjects gained was not encouraging. Native speakers' familiarity with the way Ethiopians pronounce English seems more detrimental factor than the subjects' pronunciation goodness.

Findings of this study support the focus on the role that native language plays in English pronunciation, the importance of balancing perceptual as well as productive skills, and the need for developing L1-based and empirically informed syllabus than using generic and intuitively based approach. Recommendations are made for future research to extend the current study to a number of other dimensions.

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CHAPTER ONE

1. INTRODUCTION

1.1. Background of the study

Though for a long time second language teaching is said to have remained sceptical on the importance of teaching the pronunciation component, changes in perspectives on second language learning and teaching have impacted the field to undergo 'something of a trend reversal' and 'groundswell of movement to write pronunciation back into the instructional equation' (Morley, 1991:488-489). Indeed, not few writers and methodologists agree to the principle that pronunciation deserves equally important place relative to other language components such as grammar and vocabulary covered in the curriculum, and convey their concerns that the majority of learners might be disadvantaged with reduced attention to pronunciation (Stern, 1983, 1992; Tench, 1981; Brown, 1994; Harmer, 2001; Celce-Murcia and Olshtain, 2000, Underwood, 1989), etc. The general commentaries in favour of (teaching) pronunciation may generally be described in relation to its importance to the learner towards the development of 'linguistic, affective and communicative' competencies (Stern, 1992). This rationale appears to be universally applying to all situations regardless of the pedagogical context. To use Stern's words, "The value of pronunciation for learning a language is pervasive, and the teaching of pronunciation under any circumstances cannot be regarded as a luxury one can easily dispense with" (p. 116).

Among the most typical views forwarded as to why pronunciation is worthy of receiving an essential place in L2 instruction take account of the advantage of constant practice on pronunciation to facilitate the learning of grammar, lexicon and discourse, and the improvement of speaking and listening skills as well - which all make use of sound differences, stress, intonation, elision, contractions, etc (Radford, 1981; Porter and Grant, 1992). Pronunciation is also seen in relation to the 'affective component' known to be playing a crucial role in smoothing the learning of a new language. As Stern (1992:115) notes, 'adjusting emotionally to the strangeness of the target sound system' helps for easy learning of other aspects in the L2 such as 'grammar, vocabulary, writing system, etc'.

With the advent of Communicative Language Teaching (CLT), much greater attention in L2 pedagogy is known to have been given to all features of a language (and even to non-verbal features) that can

impinge upon communication. Following prevailing envision of the time that recognize formal features of a language, including its phonology, as essential elements of 'communicative competence', language pedagogy has received a rise of claims in favour of teaching pronunciation for its role to achieve some measure of learners' oral competencies (Stern, 1992; Brown, 1994; Celcie–Murcia and Olshtain, 2000). As Morley observes this area of emphasis on meaningful communication, she urges professionals 'to take note of the fact that pronunciation - like grammar, syntax, and discourse organization – *communicates'*, and argues persuasively that '... the very act of pronouncing, not just the words we transmit, are essential part of what we communicate about ourselves as people' (p.488; emphasis in original).

While pronunciation is admittedly one of several factors in communication, understanding and being understood in the process of speech involves the production and perception of speech sounds (pronunciation) just as many other aspects; hence, defects in it (perceptually and productively) can impair communication. While the literature reflects deeper theoretical understanding for the role of pronunciation in oral discourse (Brown, 1994), research evidence has continued to verify pronunciation as probably an important factor in spoken communication (Taylor, 1993; Tench, 1981; Harmer, 2001; Jenkins, 2000).

Currently, "...pronunciation has come of age and is unlikely to remain on the margins of language teaching as it did for much of the final part of the twentieth century" (Jenkins, 2004: 126). Today's approaches to L2 teaching generally distinguish pronunciation as having a key role in the achievement of successful communication and to teach it effectively relative to other language areas as a way of ensuring learners' global communicative efficiency. However, the rational for this growing interest on pronunciation has been recognized with 'a new look and basic premise' introduced to the field: '*Intelligible pronunciation is essential component of communicative competence*' (Morley, 488; emphasis in original). "A growing premium on oral comprehensibility", Morley explains, "makes it of critical importance to provide instruction that enables students, not 'perfect pronouncers' of English, but intelligible, communicative, confident users of spoken English for whatever purposes they need" (p.489). More fundamentally, as Levis (2005) and Jenkins (2004) observe recent developments, renewed interest in L2 phonological acquisition research has enabled pronunciation teaching and learning to re-emerge as relevant language experience, though as a more flexible phenomenon largely influenced by principles of the importance of context and differential importance corresponding to the learners' needs.

In the quest of exploring non-native pronunciation and the factors involved in learning and using it, L2 phonological acquisition researches tend to approach the ways learners may encounter pronunciation difficulties through three distinct (but related) notions, where pronunciation teaching bears much of its theoretical foundations: contrastive analysis, error analysis or interlanguage, and intelligibility (Spolsky, 1974; Jenkins, 2000, 2004). A review of the existing literature on L2 pronunciation reveals that an increasing number of factors are known to involve in the learning and using of new pronunciation. Scholars have tried to establish hierarchies of importance among all known factors and commonly put the learners' NL as exerting the most important influence (Derwing and Munro, 1997). The influence of the NL in pronouncing English is often demonstrated by the fact that a foreign accent (FA) has some of the sound characteristics of the learner's NL (Kenworthy, 1987). While the major influence arises from L1-L2 differences, certain interlanguage factors (e.g. exposure, attitude, instruction, etc.), also contribute to L2 pronunciation learning and use (Flege, 2002). Studies also show that elements of L2 pronunciation tendencies (or foreign accent) have perceptual consequences to listeners in many ways including understanding.

The first systematic approach in pronunciation teaching and research involved contrastive analysis techniques to the sound segments of the L1 and L2 to identify differences between them and so, it was assumed, to highlight areas where L1 transfer errors were likely to occur (Kenworthy, 1987; Brown, 1997). Later developments in the field has begun to embrace more sophisticated approaches to 'interlanguage phonology', taking account of other processes (e.g. 'universal', or 'developmental') interacting with L1 transfer (Pennington and Richards, 1986; Brown, 1997; Jenkins, 2000).

Jenkins (2004) confirms that contrastive analysis-based research still prevails today and continues, in part at least, because of the current emphasis in L2 pedagogy on individual learner needs. The large body of researchers such as Italo (1988), Chan (2007), Moustofa (1979), Jilg (1999), Huang & Radant (2009), just to mention a few, show that the interest in contrastive analytical research itself has never disappeared entirely. Substantial evidence from Jenkins on the central role contrastive analysis tradition currently playing in L2 pedagogy comes from "a growing body of research-based publications for teachers of students from L1s that earlier research had tended to overlook and/or treat superficially, by ignoring, where relevant, the role of local L1-L2 contact" (p. 113). Pronunciation research and pedagogy, therefore, has always continued to believe in the important influence of the mother tongue on L2

pronunciation. Thus as Jenkins (2004) argues, "It would, in any case, have been a serious mistake to throw out the modern contrastive analysis baby with the old contrastive analysis bathwater" (p. 113).

However, contrastive analysis seems nowadays complemented by 'an equally robust interest in other approaches to interlanguage phonology' (Jenkins, 2004: 113). As is evident in a range of researches such as Halle et al. (1999), Pennington and Richards (1986), Flege et al. (1998), Andrade (2003), Field (2005), Bent and Bradlow (2003), Nagamine (2002), Aoyama (2004), Bent et al. (2008), etc., L2 pronunciation has been investigated by involving contrastively-based pronunciation problem areas in relation to interlingual factors such as experience and amount of teaching, etc. There has also been increasing focus on suprasegmental features along with segmental (Nguyen, 2002; and Ingram and Nguyen, 2005).

Concurrently, pronunciation research and pedagogy has continued to add to the body of work already existing on the pronunciation needs of L2 speakers to prepare them for actual interaction with speakers of the language (i.e. for native/non-native communication). Jenkins (2004) describes this tendency as, "A number of researchers have ceased treating pronunciation as a somewhat isolated, self-contained linguistic and pedagogic phenomenon, but are forging links with research into other aspects of language and language teaching". In the same vein, Levis (2005) discusses the two competing ideologies between the 'nativeness principle' and the 'intelligibility principle' and argues that overwhelming amount of evidence challenges 'the nativeness principle' leading to the current trend that envisages aiming for nativeness as 'an unrealistic burden for both teacher and learner' (p.370).

Very few teachers today would claim that a pronunciation that is indistinguishable from that of a native speaker is necessary. Besides, many teachers worldwide have come to recognize that it is unrealistic, time-consuming, and potentially inhibitory to aim for a native-like accent, and that such a goal might not necessarily represent the learners' wishes (Field, 2005). The intelligibility principle embeds in it a number of important assumptions. One is that it recognizes that communication can be successful when foreign accents are noticeable or even strong and that certain types of pronunciation errors may have a disproportionate role in impairing comprehensibility (Munro and Derwing, 1999). Secondly, the intelligibility principle carries sensitivity to context; "Intelligibility assumes both a listener and a speaker, and both are essential elements for communication" (Levis, 2005: 372). Intelligibility-based pronunciation teaching therefore, assumes a principle of 'differential importance' whereby different features have different effects on understanding for different speakers and listeners and 'instruction

should focus on those features that are most helpful for understanding and should deemphasize those that are relatively unhelpful' (Levis, 2004: 370).

The evidence in the three areas of L2 pronunciation researches, contrastive-analysis, interlanguage, and intelligibility, is almost uniformly consistent in indicating that learners often have extraordinary difficulty mastering the pronunciation patterns of their L2 and that the extent and type of difficulties vary across groups mainly because of the role of L1, social experiences and other elements of context. Reviewing previous researches on the area, Flege (1988) acknowledges the extent of pronunciation difficulty in an L2 and its effect on communication to relate to the divergence of the native language from the target language phonetic and phonological norms for the number and severity of segmental misarticulations, and for implementation of stress, rhythm, and intonation (p. 70). Intelligibility studies also show that intelligibility problem may result from such a unique deviation source as sound substitution, deletion or addition within a single word (Jenkins, 2000; Kenworthy, 1987). More commonly, however, unintelligibility is the cumulative result of multiple segmental and suprasegmental deviation, either with in a single word or among consecutive words or utterance (Jenkins, 2000; Munro and Derwing, 1995).

Though several studies have attempted to establish hierarchies of pronunciation errors as to which specific aspects are most crucial for intelligibility, the difference in L1 under study, and the context at hand make firm conclusions impossible (Munro and Dewing, 1999; Jenkins, 2000; Flege, 2002). The apparent contradiction and lack of universal conclusion may be explained in relation to the principle of differential importance and context-sensitive approach in pronunciation teaching. This, in fact, has to do with different level of attention and focus that should be in place according to the learners' needs in a particular context. For instance, what is supposed to be a problem for a Korean or Egyptian learner is unlikely to be the same for Ethiopian learners in general or to a group of learners from a particular L1.

Writers suggest as to which element must be concentrated upon and with what degree of emphasis to be decided based on careful description of the learners' pronunciation in reference to L1-L2 differences, interlingual factors, and the extent of its role to interfere with the process of communication in a particular context at hand (Jenkins, 2000; James, 1998). This in fact has to do with the need for *describing*, *identifying* and *evaluating* pronunciation difficulties learners have in learning and using the new pronunciation. Much of the suggestions are intended for the teacher to synthesize typical trouble spots that learners might have in pronunciation and to evaluate them in relation to their role in the

learners' ability needed to comprehend speech and be comprehended (Celse-murcia and Olshtain, 2000; Jenkins, 2000, 2004). The most abundant approach in pronunciation pedagogy today assumes intelligibility, rather than native-like proficiency, to be the most desirable goal for spoken language development, and to deal with learners' pronunciation (difficulties) as 'a moving target', depending on L1 and other elements of context, and to develop differential and context-sensitive principles as a basic rationale for pedagogical decisions (e.g. content, focus and aim) (Levis, 2005).

Derwing & Munro (2005) call for the decisions about pronunciation teaching to be based on research. This is important, but as they admit, there is not enough research yet to base all decisions on it. "Empirical studies are essential to improving our understanding of the relationship between accent and pronunciation teaching"; However, the authors continue, "the study of pronunciation has been marginalized within the field of applied linguistics" (p.380). The concern for many scholars today is that teachers are often left with no or little direction and hence many are reluctant to teach pronunciation and/or rely on their own intuitions (ibid).

There are indications that the situation in Ethiopia is no exception. Some local research show that English language instruction seems to be left without significant attention to the teaching of the pronunciation component in general in such a way that no adequate coverage is given in the curriculum, no guidance is provided as to what to teach, what to focus on most, and how to teach them (Geremew, 2003; Anegagregn, 2007).

For the moment, there seems to be no comprehensive investigation that has been conducted on Ethiopian learners in general or some learners of specific language group in particular regarding pronunciation difficulties and intelligibility. Not only is there a gap of empirical evidences regarding segmental and prosodic difficulties learners could have in learning and use of English but also there is no clear indications as to which specific aspects are most crucial for the intelligibility of their spoken English and overall communication. Though prosodic aspects remained open, a couple of studies such as Italo (1988) and Taddese (1966) predicted segmental pronunciation difficulties by contrasting English with Afan Oromo and Amharic respectively. The actuality and manifestation of contrastive origin difficulties learners could have at segmental and suprasegmental levels from the perspectives of actual use (interlanguage) and intelligibility still seem to be largely hidden from view. If valid understanding of the learners' pronunciation is sought, not only should potential suprasegmental problem areas be identified

but also both segmental as well as suprasegmental difficulties need to be verified in terms of actual use (interlanguage), and intelligibility.

Lack of adequate information and understanding of pronunciation difficulties and intelligibility tendencies of our learners is regrettable because it is the sort of basic rationale the Ethiopian TEFL appears to be requiring for establishing more directed and supportive pronunciation teaching to Ethiopian learners. The present study follows the importance for context-sensitive empirical understanding for Ethiopian learners' pronunciation difficulties in learning and using English and their effects on communication. Research of this type has much to offer to teachers and students in terms of helping them to set learning goals, identifying appropriate pedagogical priorities for the classroom, and determining systematic and effective approaches to teaching. The study deals with these possibilities within a framework of contrastive analysis, interlanguage and intelligibility in which difficulty areas would be predicted both at segmental and suprasegmental levels, and also verified in actual perception and production of spoken English, with primary considerations of evaluating the difficulties in relation to their impacts to hamper communication, to comprehend and be comprehended.

Because that pronunciation is L1 bound and that Ethiopia is a multilingual country, what should be deemed for an ideal contribution to pronunciation teaching in the country is perhaps to carry on systematic investigation corresponding to each of our learners' native languages. It remains to be crucial, however, to deal with at least some of our major languages. Therefore, the present study attempts to investigate pronunciation difficulties of English for Amharic native learners both at the levels of segmental and suprasegmental in terms of the language of origin (learners' mother tongue), actual production and perception in their interlanguage, and intelligibility of their spoken English.

1.2. Statement of the Problem

Today English is a global lingua franca, and the most noticeable reason for learning English as an L2/FL is being fuelled by a belief in the advantages it provides (McKay, 2003; Jenkins, 2000). "Knowing English is like possessing the fabled Aladdin's lamp, which permits one to open, as it were, the linguistic gates to international business, technology, science and travel; In short English provides linguistic power" (Kachru, 1986 cited in McKay, 2003). There is a variety of evidence that the use and function of English in Ethiopia is no exception. Although English is the third or fourth languages for many Ethiopians, it is taught for practical uses of communication. It serves as the language of instruction in secondary and



higher education and as a necessary link with resources beyond the country's boundaries such as diplomacy and of all international communications; and it is generally the language through which modern styles of life, science and technology are introduced. It is to some extent an official language in some domains such as banking, hotel and tourism, and international travel. In the words of Bender et al. (1976: 12): "English has a negligible number of native speakers in Ethiopia. It has a crucial position in education, commerce, government, and international communication; and from this point of view it can be regarded as a major Ethiopian language".

Indeed, Ethiopia is the home of the African Union (AU), Economic Commission for Africa (ECA), and Intergovernmental Authority on Development (IGAD) etc. Moreover, many African and international bodies (with African section) have their headquarters or regional offices in Addis Ababa. Ethiopia also hosts many international conferences of every kind including political, economic, and religious and others. In addition, the economic policy of Ethiopia encourages international relations to advance science and technology, foreign investment and tourism which create a climate for reliance, among other things, on confident and proficient use of spoken English. Besides, the overflowing Ethiopian emigrants' - mainly to Europe, America, Canada, Australia, etc. for a variety of reasons including education - survival and success would undoubtedly be dependent on their oral English proficiency.

These all suggest that Ethiopians are likely to interact with a variety of English speaking communities with different linguistic backgrounds of native and non-native varieties all over the world. Meanwhile, English is becoming an essential element and playing a crucial role in the country's overall development and hence proficiency in English provides significant advantages and opportunities to Ethiopians (Cohen, 2005). It goes without saying that native-like pronunciation accuracy is not an issue at all for the majority of non-native speakers in general including Ethiopians. In all circumstances, however, Ethiopian learners of English may wish to/should be easily and confidently intelligible in their speech and comprehend others' speech without much difficulty - not only with the limited circles of their compatriots but also well beyond it with any of their interlocutors.

However, many researches express their concern for the difficulties that the majority of Ethiopians have in spoken English. According to Cohen (2005:71), the standard of oral fluency and competence in English is low, and many Ethiopian speakers have 'little confidence in the language for oral purposes'. There has been similar concern among parents and teachers, outspoken in local broadcasts and casual discussions, for the mismatch between the roles which English is expected to play and the competences of learners

in it and that inadequate or low command in English would mean a great disadvantage. Though pronunciation is only a part in such skills of speaking and listening, the production and reception of speech sounds of English and making meaning out them is the central component in spoken communication (Roach, 2001; Gimson, 1980). Undoubtedly, therefore, proficiency problems on the part of speaking and listening of our learners entail, among other things, pronunciation to a greater extent.

Perhaps, anecdotal observations also substantiate the problem that pronunciation for many Ethiopian learners is an important factor in their day to day spoken communication. Just to witness from personal experience, my own interactions, particularly with native speakers, and listening to international media reveals enormous problem to understand easily and efficiently, which is probably related to pronunciation more than anything else. For many times, I was wondering why the news is so difficult for me to understand in foreign media, radio and television, while I had no such problem in the news papers, magazines, etc. As an English language teacher interested in the issues of pronunciation, the present researcher has good account of observation in which learners, teachers, and colleagues fail to follow native English speakers and other non-native speakers in actual interactions, media broadcasts, movies, plasma TV instruction, conferences, etc.

A similar account that could question our non-native speech ease of intelligibility is an observation in many occasions in which natives and others frequently ask for repetition and clarification; or crosscheck by paraphrasing whether or not they catch the right information. Obviously, these strategies are naturally part of communication in any kind of interaction, yet frequent use of them undoubtedly indicates that communication is not smooth for some reasons, and perhaps in our case pronunciation sounding responsible more than grammar or vocabulary. It was sometimes funny but another triggering occasion for the present researcher to focus on the area to see some colleagues, in my employer Wello University, avoiding native English speaker teachers, probably for fear of communication breakdown.

Not to mention other similar occasions, just one example would suffice here for the problems and challenges on oral/aural competencies many might share on the domain of pronunciation. It was a few years ago whereby an English professor from the University of Cambridge was invited to deliver a lecture in a university. Though the speech was delivered to staff and students who were probably familiar to the topic, the professor was laughing alone a number of times in the middle of his speech with no positive response at all from the audience. Indeed, there was no reason for the speaker to laugh alone in a crowded hall, but for the present writer, it may be an indication that the audience did not

follow the speaker at all or did not understand what he said. Likewise, a question raised by one of the audience was not clearly caught by the professor and the chairperson (an Ethiopian professor) had to elaborate the question until the guest professor got it clear. Given that the discussion is entirely academic and probably everyone was familiar with the topic of the speech at hand, communication must have been smooth; yet perhaps due to pronunciation, it was not likely the case.

Similarly, shadowing my students, friends and colleagues in their English speech, I have accessed to notice some typical tendencies and finer occasions of problematic scenarios of English pronunciation. For example, my students of Agaw nationality often said /fizikas/ for 'physics' or /sikas/ for 'six'. They also had trouble in accurately pronouncing the sound /k/ which sounds more like /k'/ in their production, and hence they most often say /ak'uret/ or /k'ar/ for 'accurate' and 'car' respectively. From personal communication with colleagues from Hawasa University, I happen to learn that Welaita speakers would say /lamf/ for 'lamp'; /gruf/ for 'group', or /faif/ for 'pipe'. Similarly, students from Kembata and Hadiya nationality would say /ture/ for 'true' and /gografia/ for 'geography', etc. Meanwhile a linguist studying Saho language has informed me that some consonant sounds which occur in English are absent in it and hence are troublesome for the speakers as in for example saying /japan/ for 'Japan' and /jaj/ for 'jugde'. On the other hand, it is not difficult to hear an Oromo speaker sounding more like /gerl/ for 'girl', or /piles/ for 'place', etc.

Likewise, an Amhara speaker most often says /tink/ or /sink/ for 'think'. A careful observation may reveal so many preferences for the Amhara speaker in speaking English. For instance, 'school' may be pronounced as /ɨschul/; /lokɨd/ for 'locked'; 'sheep' and 'ship' may be pronounced similarly; 'next to HIM' may be rendered as 'NEXT TO HIM', with no phrasal stress each syllable pronounced equally louder etc. All the above examples may represent deviance from English phonetic and phonological norms on the part of Ethiopian speaker's productions. Such pronunciation tendencies may not be problems by their own but might hamper communication unless context or familiarity to a particular speech helps. Besides, it is not difficult to imagine how communication would be loaded if such single deviation forms are compounded with a number of other kinds of segmental and suprasegmental variations in the whole utterance.

From the point of view of the role that native language plays in SL/FL pronunciation, to see these and other pronunciation difficulties in the speeches of Ethiopian learners may not be surprising. Ethiopian languages mainly belong to the language 'super families' of 'Afro-Asiatic' falling within three families of

'Semitic' (such as Tigrigna and Amharic), Cushitic (such as Afan Oromo and Sidama), Omotic (such as Keficho), and also that of Nilo-Saharan (such as Gumuz and Berta) (Bender, et al. 1976:13). On the other hand, English is genetically from 'Indo-European' language family falling within the 'Germanic' branch. It is therefore not difficult to say that the phonology of English might have a greater degree of phonological difference with any of Ethiopian languages, and hence might impose difficulties to Ethiopian learners in their learning and use of English pronunciation.

Ethiopian learners probably do not necessarily have difficulties on all points of difference in the statements of phonology, and that they may have unique manifestations stemming from personal, social and instructional, etc. processes operating in the learners' internalized phonological system (interlanguage). More fundamentally, the difficulties our learners might have may not necessarily interfere in their communication or exert different degree of communication problems.

In this regard, the Ethiopian TEFL and research no longer needs to hesitate to establish clarity on learners' characteristic problems they encounter in learning and use of the target language and to provide systematic and directed pedagogical interventions. Indeed, learners should be supported systematically to cope up with the difficulties imposed by the new sound system and become intelligible in their spoken English, and comfortably and confidently comprehend others' speech for whatever purpose they may need it. In teaching pronunciation, the primary consideration is apparently to identify difficulty areas learners may encounter in learning and use. If we are to identify a sort of 'pronunciation inventory' for Ethiopian learners of English on which pronunciation teaching can rely, we cannot disregard evaluating pronunciation difficulties against the role they have in spoken communication and prioritizing them for pedagogical decisions (Kenworthy, 1987; James, 1980; Jenkins, 2000). The present study therefore finds it crucial to empirically unravel: 1) potential difficulty areas based on contrasting the phonology between English and the learners' native language; 2) actual difficulties experienced by the learners as they use English; and 3) the role pronunciation difficulties might have in actual communication.

The present study is probably the first to attempt a full-scale investigation of pronunciation difficulties a group of learners might have in such prospects of contrastive analysis, actual use (interlanguage) and intelligibility. While there have been a number of researches carried out on the speaking skills of Ethiopian learners, almost all seem to be interested in the oral skill with no consideration of the pronunciation aspect _ which is apparently a major element in speaking and listening as well. Only in

some research has the issue of pronunciation been discussed (Geremew, 2003; Anegagregn, 2007; Tewodros, 2008; Tafere, 2008). Though they have realized in their discussions that Ethiopian learners' characteristic pronunciation difficulties should be identified and treated in the curriculum, they preferred (in their studies) to survey only attitudinal issues (teachers and students on the importance of pronunciation) and the attention and focus given in text books.

Italo (1988) and Taddese (1966) compared segmental phonemes of English with Afan-Oromo and Amharic respectively and predicted pronunciation difficulties for the respective learners. Interestingly, Italo (1988) also verified his contrastive-based predictions on actual speech production and perception for university students speaking Afan-Oromo as NL. However, these studies were only limited to segmental level with no consideration of suprasegmental. Moreover, the issue of intelligibility still remains totally hidden from view in local research. To be true, there has been a wealth of researches around the world on the intelligibility of 'foreign accented' speech for a particular group of learners to native (and non-native) listeners in a particular context. The point is, of course, that in all these studies, ramification of pronunciation difficulties for actual interactions are established and context sensitive practical suggestions for goal setting, content and attention are forwarded. This type of research has not been done in Ethiopia before.

In this study, I want to examine these matters in some detail using a single Ethiopian language background and a small variation of native speakers of English to judge the understandability of the speeches produced by the learners. The study uses contrastive analysis as a frame of reference, and targets pronunciation difficulty not only at productive level but also at perceptual level. Such a detailed study might allow us to pin point potentially problematic pronunciation areas that are not found in the learners' native language, verify the nature and kind of contrastive origin problems in the learners actual use of English separately for listening and for speaking, and from that to understand why intelligibility of the learners is successful or otherwise to the degree that it is.

The study follows the assumption that learners' pronunciation problems can best be described taking their NL phonological background with due consideration. Hence, this study attempts to deal with these prospects on learners speaking Amharic as NL. The study seems worthy of doing because there is probably a gap of empirical information sufficiently unravelling issues of pronunciation mentioned above in the case of our learners in general including Amharic NL learners. Presumably, it provides some practical implications for pedagogical considerations; and initiates further research on other learner

(linguistic) groups in the country; it may also instigate teachers and researchers to challenge the compatibility of the current pronunciation teaching in Ethiopia to the learners' needs.

1.3. Objectives of the Study

The general objective of the present study is to investigate Amharic native learners' oral/aural difficulties with English pronunciation, and their non-native speech intelligibility.

Pertaining to the general objective, the study aims to achieve the following specific objectives.

1. Predicting difficulty areas of English pronunciation for Amharic NL learners at segmental and suprasegmental levels based on phonological contrast between English and Amharic.
2. Verifying and identifying contrastive-origin problems of English pronunciation in actual speech perception of Amharic NL learners.
3. Verifying and identifying contrastive-origin problems of English pronunciation in actual speech production of Amharic NL learners.
4. Examining the intelligibility of the speech produced by Amharic NL learners to native English speakers.

1.4. The Research Questions

Given the above objectives, this study will seek answers to the following research questions.

1. What are the problems Amharic NL learners may encounter from the phonological difference between Amharic and English?
2. To what extent do contrastive-origin problems of English pronunciation militate against Amharic NL learners' speech perceptions in spoken English?
3. To what extent do contrastive-origin problems of English pronunciation militate against learners' speech productions in their spoken English?
4. To what extent is the speech produced by Amharic NL learners intelligible to native English speaker?

1.5. Scope of the Study

It is apparently difficult and complex in a multilingual situation in Ethiopia to understand in one study all the pronunciation difficulties and intelligibility situations of the learners from numerous NL

backgrounds. It has been evident that pronunciation is of its very nature unstable with speakers of different NL backgrounds varying their pronunciations mainly under the influence of their NL phonology (Munro and Derwing, 1999). Scholars have tried to establish hierarchies of importance among all known factors and commonly put the learners' NL as exerting the most important influence (Kenworthy, 1987). In the same vein, it is assumed that English may pose a unique problem to speakers of different languages depending on the degree of differences between English and the learners' NL. In other words, while some problems may be shared across Ethiopian learners, special set of problems may still be posed to learners in terms of their respective linguistic origin which probably belong to different language family and presumably to different sound systems.

So far as this study is concerned, the scope is limited to Amharic first language speakers due to practicality reasons; to consider other language group would be unmanageable given various methodological procedures the study employed Besides, the selection of Amharic has to do with the advantage the researcher would benefit from speaking the target NL under study while describing its influence on English pronunciation for the Amharic speaking subjects; "If you are familiar with the sound system of the learners' native language, you will be better able to diagnose their pronunciation difficulty" (Brown, 1994: 261). It conceivably goes without saying that it is necessary to conduct similar studies and achieve the required knowledge on other individual languages in the country, and provide a minimum set of empirical information at least by working on some of our languages. So far as the present writer is concerned, it probably means a hard work ahead for teachers and researchers to investigate such issues on other groups of learners and to find appropriate ways to deal with them in material design and classroom contexts. This dissertation can only be seen as a preliminary attempt towards understanding Ethiopian learners' pronunciation problems.

Secondly, this study confined itself to undergraduate students in Addis Ababa University who do not specialize in English language and/or literature. The subjects did not have any regular contact with native speakers of English and all attended government-owned primary and secondary schools before they joined the university. Therefore, the study involved young adult learners probably representing intermediate level proficiency of academically trained user of English as a foreign language in Ethiopia. On the other hand, the intelligibility test of the study was limited to native speakers of English willingly participated among the foreign community who were residing in Addis Ababa working for different organizations.

Since the study uses contrastive analysis as a frame of reference for its investigation, it targeted pronunciation features in English which are not found in the learners' NL Amharic. In other words, the scope of the study does not focus on areas of English pronunciation that both Amharic and English share. Accordingly, phonetic and allophonic aspects shared by the two languages but realized differently in each are not the centre of attention in this study.

1.6. Significance of the Study

Like many African countries, Ethiopia is a multilingual country with highly diverse population most of whom speaking Semitic or Cushitic languages. According to Bender et al. (1976: 12), four or five of languages can be called major languages of the country in the sense that they have relatively larger number of native speakers and wider range of use as second languages. These languages include Afan Oromo, Amharic, Tigrigna, English, and possibly Somali (ibid: 12).

As mentioned above, Amharic is one of the major languages of Ethiopia. According to the 2007 Ethiopian National Census, Ethiopians speaking Amharic as NL comprise 26.89% (19,870,651) of the entire population standing the second largest next to Afan-Oromo NL speakers (34.49% or 25,489,024). Presumably, Ethiopians attending schools at different level may be proportional to the population of the respective NL speaker. Therefore, investigating Amharic native learners' pronunciation problems and intelligibility is probably important from the view point of our attempt towards understanding the issue for Ethiopian learners of English in general and those from the major language groups in particular.

Among other things, this work could contribute to some understanding of pronunciation problem and its role in communication, with a glimpse of methods of identifying its sources as well. In this connection, it is hoped that the study may help to provide some understanding and explanations of pronunciation difficulties for Amharic NL learners and to possible sources as well particularly those in relation to linguistic background. Accordingly, it may help to make some pedagogical recommendations as regards teaching English (pronunciation) as a foreign language to Amharic native learners of English. It may provide aspects of pronunciation (problematic areas) inventory that learners may need to be conscious of and that teachers may need to follow to pay more attention to in teaching, assessment and evaluation. In this regard, the study may discern some practical implications on what areas to focus on

most, what to pay attention to, and what to work on most in teaching and learning English pronunciation.

It is also hoped that the study may serve as a preliminary work for further investigation in this area of study in a number of dimensions. One is that, it may initiate other researchers to carry out similar studies on other NL backgrounds of our learners and how we can use and deal with these differences in our multilingual classroom situations. Secondly, it may lead to more enquiries and theoretical and empirical arguments among researchers towards a complete and valid understanding on pronunciation teaching and its underpinning issues in the Ethiopian context. Thirdly, it may initiate reflections and critical evaluations among scholars, researchers and teachers on the compatibility of the present status of pronunciation teaching in Ethiopia with pedagogical needs of the learners in the existing situations in the country and globally at large. It may also bring the issue of intelligibility on stage among Ethiopian researchers to join other studies around the world and to put forward our insights towards more understandings of the matter and its implications to EFL/ESL pedagogy.

1.7. Definition of Terms

For the sake of consistency throughout this report, a list of key terms and their definitions along with acronyms used for the purposes of this study are included below.

1. Pronunciation difficulty

When people learn a foreign language (FL) or a second language (SL/L2), they often substitute sounds or features of the native language (NL/L1) for sounds that are needed in the target language (TL) mainly due to the influence from the NL phonological system on production of TL vowels and consonants, stress, rhythm and intonation (Flege, 2002). As in speaking the same thing happens in listening; when the foreign listener hears the new sounds which are not similar to the sounds in his NL, he hears them as the nearest sounds available in his native stock (O'Connor, 1980). Moreover, researches indicate that pronunciation in an L2/FL is characterized by learner's internalized phonological system of the second language, called 'interlanguage', which is characterized by transferred features of the first language, interacting with learning and communication patterns of the second language (Corder, 1967; Selinker, 1972). Which phonological properties of the L2 input the learner will be sensitive to and, hence, able to acquire is said to be determined by the complex interaction of the NL transfer with interlanguage processes (Jenkins, 2000; Brown, 1997). Thus, this study broadly uses the term 'pronunciation difficulty'

to refer to English segmental and suprasegmental pronunciations that possibly or actually impinge on learners' productions and perceptions of spoken English as a foreign language.

2. Phonological vs. phonetic/phonemic: Linguistic levels of pronunciation

It is not unusual to subdivide the area of pronunciation into the more abstract, representational aspects called **phonology,** versus the more concrete aspects of the implementation of the abstract categories which are subsumed under the heading of **phonetics** (Carr, 2008). Following this broad divisions, foreign or second language pronunciation are often explained **phonologically** - as wrong/missing representations of phonemes in the second language; and **phonetically** - as incorrect phonetic output or realization which is employed to implement a correct phonological representation. Phonetically, non-native pronunciation can further be explained as divergence in speech productions can arise from phonemic, sub phonemic, or suprasegmental differences with the target language phonology. A **phonemic** difference would be the failure to distinguish between two members of a contrast in the target language because there is no such contrast in the learner's mother tongue, e.g. Amharic NL learners of English do not have distinct sound categories for the phonemes /æ/ and /a/. An example of a **sub-phonemic** difference would be the failure to observe certain positional or allophonic variants of a phoneme, such as the use in English of clear /l/ in the 'onset' versus dark /l/ in the 'coda', when the learner's native language does not possess this allophonic difference, as would be the case for Amharic and Afan-Oromo learners of English (Taddese, 1966; Italo, 1988). A suprasegmental difference at the level of **phonetics** would be, for instance, the way Amharic NL learners of English would fail to mark English stressed syllables by greater duration and loudness, as their native language marks stress by pitch only (Alemayehu, 1987). The study uses these categorizations to describe pronunciation difficulties for Amharic native subjects at different levels.

3. Accent

As a distinctive manner of oral expression, the notion of accent has two uses in linguistics. On the one hand accent refers to the way a speaker uses to make a syllable stand out in a word (word stress) or to make a word stand out in a constituent or sentence (sentence stress) so as to mark the syllable or word as communicatively important in the spoken utterance (Roach, 2001). To this effect the speaker may employ a variety of phonetic means, such as more careful pronunciation, greater loudness, longer duration and a relatively sudden change in vocal pitch (ibid). On the other hand, accent may refer to the

way of speaking that is characteristic of a specific group of people from a regional background. What both readings of the term accent have in common is that some entity, be it a syllable, a word, or a speaker, stands out from its background. In this study, both meanings of accent are used, i.e. prosodic prominence and/or characteristic way of pronunciation.

4. Varieties of English pronunciation

People in different regions speak differently even in the same country in the same language. A regional variety of a language differing from the standard language is called a dialect when it is distinguished by differences at several linguistic levels, e.g. in pronunciation, grammar and vocabulary. When there are no differences in grammar and vocabulary but only the pronunciation (including the rhythm and melody) differs, the language variety is called an accent. Specifically, accent refers to a variety of a language which is distinguished from others exclusively in terms of pronunciation (Roach, 2001). Generally, English language has two major accent varieties known as native (the speech of English as a mother tongue) and non-native (the speech of English as a second or foreign language).

5. Standard English pronunciation (StE)

It is the variety of the English language which is normally spoken by educated speakers of the language (Trudgill and Hannah, 1982). It is also the variety of English that students of English as a foreign or second language are taught when receiving formal instruction. Traditionally, schools and universities around the world have taught two main standard variety of English namely Received Pronunciation (RP for short) or now called BBC English and General American (GA for short) (Trudgill and Hannah, 1982).

6. Received Pronunciation (RP)

It is a particular English native accent spoken by a minority of the British population in South-East England and by educated native speakers and traditionally used as a standard for describing British English pronunciation for most of the twentieth century (Roach, 2001; O'Conner, 1980; Jenkins, 2000). According to Roach (2002: 63-64), RP was for many years the accent of British English usually chosen for the purposes of description and teaching; it is also known as the "**public school**" accent, and now as "**BBC pronunciation**" to prevent regrettable associations of RP with class and privilege (ibid).

Modern writers on phonetics now prefer to use the name **BBC** accent for the Standard English pronunciation. It is the form generally used by news readers of the BBC (The British Broadcasting Corporation). According to Roach (2002:9), "BBC is looked up to by many people in Britain and abroad as a custodian of good English; this attitude is normally only in respect of certain broadcasters who

represent the "official" voice of the Corporation, such as newsreaders and announcers, and does not apply to the "unofficial" voices of people such as disc-jockeys and chat-show presenters (who may speak as they please)". It is said to have survived as the model accent for various reasons: "one was its widespread use in "prestige" broadcasting, such as news- reading; secondly, it was claimed to belong to no particular region; and thirdly, it became accepted as a common currency - an accent that everyone in Britain knows and understands" (ibid: 64).

7. General American (GA)

This accent is usually held to be the "standard" accent of American English; it is interesting to note that the standard that was for a long time used in the description of British English pronunciation (**Received Pronunciation**, or **RP**) is only spoken by a tiny minority of the British population, whereas GA is the accent of the majority of Americans. It is traditionally identified as the accent spoken throughout the U.S.A. except in the north-east (roughly the Boston and New England area) and the south-eastern states (Roach, 2002:32-33). It is another native variety apart from RP or BBC which is commonly referred to as a model for foreign language learners (Jenkins, 2000; Dalton and Seidlhofer, 1994).

8. Native Speaker (NS)

A term used in linguistics to refer to someone for whom a particular language is a first language or mother-tongue. As Crystal (2008) describes the traditional implication of the native speaker of a language, 'having been acquired naturally during childhood', a native language is 'the one about which a speaker will have the most reliable intuitions, and whose judgments about the way the language is used can therefore be trusted' (321). It is also often believed that 'in investigating a language, one is wise to try to obtain information from native-speaking informants, rather than from those who may have learned it as a second or foreign language (even if they are highly proficient)' (ibid. 322). In this study, two groups of native speakers are involved: Native Amharic speakers and Native English speakers.

9. Native Amharic Speakers (NAS)

A group of individuals who reported based on personal information questionnaire that the language they speak first in their childhood as a mother tongue is Amharic. While English can be broadly defined as a foreign language to all, it is possible that the individuals belonging to this group might speak one or more other local languages as an L_2. Besides, ethnicity is not necessarily a criterion for the selection of these samples but the language spoken as an NL. In other words, members from this group samples may belong to any other ethnicity other than Amhara. The samples are supposed to indicate common

linguistic (phonological) characteristics when they speak English. Applied linguists call this tendency "transfer" from the native language and hypothesize it as one of the most significant characteristics of learning and use (interlanguage). 60 university undergraduate students in AAU who speak Amharic as NL participated in the present study. They constituted 27 males and 33 females.

10. Native English speakers (NES)

A native English speaker is defined as a person who acquired English as NL early in his/her childhood. This study involved native speakers of English as listeners for the intelligibility section. Operationally, a listener's NL was the language that s/he self-reported by answering the question "what is your native language?" on the personal information questionnaire used. A total of 13 speakers of English involving 5 females and 8 males who lived or stayed in Addis Ababa at the time of the data collection of the study voluntarily participated. Though all speak English as NL, they reported belonging to three different nationalities and/or NL accent variety namely Australian (1), British (7) and American (4).

11. Second Language (SL/L2) and Foreign Language (FL)

The term second can refer to any language that is learnt subsequent to the mother tongue as a second or foreign language (Ellis, 1997). Therefore, English as a second language (ESL) may broadly refer to non-native English varieties either spoken or learnt naturally as a second language (SL/L2) as a result of living in a country where it is spoken, or as a foreign language (FL) learnt in a classroom through instruction (ibid). Accordingly, this study uses the term English as a second language (ESL) or speakers of English as an SL/L2 in its broader sense to refer to all non-native speakers of English both as a second or a foreign language. However, where there is a need to distinguish between the two, second language (SL/L2) and foreign language (FL) may be used separately.

12. English as a Lingua Franca (ELF)

According to Crystal (2008), the term English as a lingua franca is used in sociolinguistics, and often in everyday speech, to refer to the use of English' as an auxiliary language used to enable routine communication to take place between groups of people who speak different native languages; also sometimes called an 'interlingua' (p.282).

13. Intelligibility

Intelligibility may be broadly defined as "the extent to which a speaker's message is actually understood by a listener" (Munro & Derwing 1999, p. 289). This broad definition implies at least two different types

of understanding: successfully identifying words (intelligibility) and understanding a speaker's intended meaning (comprehensibility). This distinction has been adopted by two major researchers in the field, Munro and Derwing (1995, 1997, 1999), who apply it procedurally in their research methodology. Intelligibility is measured by the ability of judges to transcribe the actual words of an utterance, comprehensibility by an overall rating of how easy it is to understand a given speaker.

This study follows the conceptual and operational definitions for intelligibility by Munro and Derwing as the ability of listeners to accurately decode individual words in the stream of speech. This definition assumes the capacity of understanding of a word or words when spoken/read at normal speed in the context of a sentence. The degree of this capacity, i.e. the intelligibility, was measured by constructing dictation or 'listen and write' test of the passage spoken/read by the subjects and asking the listeners to write **'orthographically'** what they heard. The more words the listeners were able to accurately write in, the greater the speaker's intelligibility. This test, however, was not a check on comprehension since comprehension involves more processes than intelligibility; yet, it is realized that the greater the intelligibility, the more likely comprehension will occur at all levels (Jenkins, 2000). **Orthographic Transcription** is the method of representing words and utterances by using conventional orthography or spellings.

14. Phonemic transcription

It is generally defined as the writing down of a spoken utterance using a suitable set of symbols. There are many different types of transcription: the most fundamental division is between **phonemic** and **phonetic** transcription. In the case of the former, the only symbols that may be used are those which represent one of the phonemes of the language, and extra symbols are excluded. In a **phonetic transcription**, transcribers may use the full range of phonetic symbols at different levels. Writers sometimes use the name **broad phonetic transcription** for phonemic transcription whereas **narrow transcription** to refer to that of **phonetic transcription.** The first one gives a more limited amount of phonetic information, while the second one carries a lot of fine details about the precise phonetic quality of sounds (Roach, 2002:9-10). When we write phonetic or phonemic transcription, it is conventional to use brackets at the beginning and end of the item or passage to indicate the nature of the symbols. Generally, slant brackets (or "obliques") are used to indicate phonemic transcription and square brackets for phonetic transcription. For example, for the word 'phonetics', we could write /fənetɪks/ and [fəə̈net^{s}ɪʔks]. In the first transcription, i.e. phonemic, abstract representations of speech

sounds in English are dominantly used; whereas fine-grained phonetic realizations and allophonic variation are used in the second phonetic transcription. In this regard, phonemic transcription fits the purpose of the present study and hence adopted for the transcriptions made in it.

CHAPTER TWO

2. REVIEW OF RELATED LITERATURE

2.1. Pronunciation Defined

Pronunciation can generally be described as one aspect of the verbal communication which makes it different form written language (Underwood, 1989). The concept of pronunciation is often defined in relation to its components. Ur (1996), for example, refers to pronunciation as the sounds of the language (phonology) comprising vowels, consonants, stress, rhythm, and intonation and their combinations. Almost similarly, Richards and Renandya (2002) and Roach (2001) define pronunciation as the role of individual sounds and sound segments occurring in group or connected to each other and their combinations with supra segmental such as tone, stress, rhythm, and intonation, etc.

To illustrate pronunciation and its components, Kenworthy (1987: 9-11) briefly demonstrates what it is we have to deal with when speaking and listening an English sentence *'There isn't any salt on the table'* and possible meanings that can be made out in a context. Basically, there are vowels and consonants in this sentence performing different functions at the level of syllable having them either as 'optional' or 'compulsory' element or, as 'central' or 'surrounding' element. Sounds occur in group and sometimes two or more consonants come together as in the end of the word 'salt' forming 'consonant clusters' or combination of sounds.

In speaking, speakers do not pause between words but move smoothly from one to the next forming 'linkage of sounds' or 'connected speech', like a speaker will move directly from the 't' of 'salt' to the 'o' of 'on', and from the 't' of 'isn't' to the 'a' of 'any'. When a word has more than one syllable (a polysyllabic word), one of these is made to stand out more than the other(s) to form 'word stress'. This is done 'by saying that syllable slightly louder, holding the vowel a little longer, and pronouncing the consonants very clearly'. These features combine to give that syllable 'prominence' or 'stress' as in such words in our example as 'table', 'isn't', and 'any' whereby the first syllables are stressed.

Speech has beats that give its 'rhythm'. Within each group of syllables, there are 'strong' and 'weaker' beats falling across words. "There is a tendency in English for the strong beats to fall on nouns, adjectives, verbs and adverbs (words that carry a lot of meaning) and for the weak beats to fall on

prepositions, articles, and pronouns (words with grammatical function)". If we apply this to our example, we get a rhythm like *'da **Da** da/ da da **Da**/ da da **Da** da/* for *'There **IS**n't/ any **SALT**/ on the **Ta**ble'*.

Words may have special pronunciation in unstressed position because of 'weak form'. The most extreme example of an extreme change in the pronunciation of the sentence occurs on 'n't' which is the unstressed form of 'not' and thus has lost its vowel completely and only the two consonants remain. Putting this sentence further into a kind of discourse or into a conversational context, we will find more features. One is called 'sentence stress'. Speakers often decide that they want to give more or less prominence to a particular word. A word may be given less weight because it has been said already, or it may be given more weight because the speaker wants to highlight it. In such context, extra stress can be given to 'table' to mean 'there may be salt, but I want to point out to you that there isn't any in a particular place – the table'. The other one is 'intonation' in which speakers use 'pitch' to send various messages. For example, if one said the sentence above first and another one repeated the same sentence but with a 'gradually rising pitch', it would have an effect of sending a message such as: 'Are you sure – I'm amazed – I was sure I put the salt on the table'. Alternatively, someone might want to send the message: 'There is salt somewhere, but not on the table', in which case the intonation could be a 'falling then raising' on the word 'table'.

The illustration above could suffice to show pronunciation as a way of speaking or uttering a language in a way that is accepted or generally understood, and making meaning out of it. Thus, the concept of pronunciation, as Dalton and Seidlhofer (1994) elaborate, is more than a matter of mere productions of speech sounds but also a way of achieving communication either by 'acceptable production' of the sound features to put across meaning or by receiving the speech signals and the intended meaning forwarded by a speaker. For this reason, pronunciation is often seen in terms of two perspectives of spoken language (production and perception) each playing essential role in the process of communication (Ibid).

The notion of pronunciation adopted for the present study is as a way of achieving communication in spoken English through productions of sound features meaningfully and reception of the speech signals and making out the meaning forwarded as intended by a speaker (Dalton and Seidlofer, 1994; kenworthy, 1987). In the present study, therefore, we shall consider pronunciation unequivocally both

from articulatory and perceptual points of view with primary consideration of their respective role in communication.

2.2. The Teaching of Pronunciation: Historical Account

Some of the issues related to pronunciation have been a subject of wide debate and argument over time among scholars in second language pedagogy (Celce-Mercia and Goodwin, 1991). Central rational issues often discussed in the literature include whether or not pronunciation should be or can be taught. The history of pronunciation teaching reveals that different language teaching methods and approaches introduced to the field at different times reacted quite differently to the importance of teaching pronunciation and the way it should be taught. The component of pronunciation in language teaching receives historical differences of opinions over its importance and the place it deserves in the curriculum. The mix of reaction that pronunciation receives over time is well-described by Jones (2002: 178) as, "The fortunes of pronunciation have waxed and waned"; to mark series of changes in favour of or against its place and the resultant treatment it received in L2 pedagogy. Levis (2005) describes the history of pronunciation in English language teaching as 'a study in extremes; some approaches to teaching ... elevated pronunciation to a pinnacle of importance, while other approaches ... mostly ignored pronunciation' (p.369).

The period between 1940s and 1960s which was dominated by 'situational' and 'audio-lingual' methods, developed in Britain and the USA respectively, treated pronunciation as an important component in the curriculum and was seen as 'a pre-requisite' for developing speaking skill (Celce-Murcia and Goodwin, 1991: 136). Morley (1991) identifies that such aspects of pronunciation as distinctive phonemes and minimal pairs received central interest and that high priority was given to accurate production. The notion of context and communication was totally not a focus then – but accuracy based production via imitation, memorization, drills and dialogues (Morley, 1991; Dickerson, 1975). As Morley (p.484) notes, "along with correct grammar, accuracy of pronunciation was a high priority goal in both systems".

The following period between 1960s and 1980s offered relatively negative reactions to pronunciation as most methodologists of the time raised doubts and critics on its importance for instructional focus and soon eliminated and reduced it from the curriculum (Morley, 1991). The period marked scholars' change of attitudes and growing dissatisfactions to the previous principles and practice.

Language teaching since the 1980s witnessed new looks supported by theoretical as well as practical perspectives which led the field among other things towards expanding and embracing pronunciation as an essential component (Morley, 1991). With the introduction of the notion of communicative competence and/or communicative language teaching (CLT), the primary focus of teaching language shifted to the achievement of communicative interaction and functional use and thus from aiming at linguistic competence to communicative competence (Hedge, 2000; Richards and Rogers, 2001; Brown, 1994). This development was soon followed by giving considerable attention to all features, even to non verbal aspects, of language which make up real-life communication (ibid). Tench (1981:2) explains convincingly what this development implies is that 'the learners overall aim and the teachers overall tasks in the teaching-learning process should embrace all aspects that impinge up on day to day communication'. Thus, learners should be trained and equipped with skills and knowledge of all levels of language such as grammar, vocabulary, spelling, pronunciation, speaking, writing, listening, etc., if they are to achieve communicative competence. As Tench (ibid) further explains, communication in a new language involves different linguistic factors simultaneously; and 'if any one factor is impaired or wrongly used, then an utterance may well become unintelligible or mean something other than we intend' (p.2).

The current dominant view often advocated in the literature places high importance to the teaching of pronunciation. The importance of teaching pronunciation is often related to the increasing needs of students for fluent speaking abilities, which requires a need to deploy features of pronunciation (Hedge, 2000; Harmer, 2001; Brown, 1992). This is because, as Morley (1991) further discusses, many local and international organizations in the world of work and education nowadays place a high demand on fluent speaking abilities with intelligible pronunciation. Expressing her concern about 'particular groups whose pronunciation difficulties may place them at a professional or social disadvantage', she points out what should be done in response to this need:

> *... ignoring students' pronunciation needs is an abrogation of professional responsibility. ... it is imperative that students' educational, occupational, and personal/social language needs, including reasonably intelligible pronunciation, be served with instruction that will give them communicative empowerment—effective language use that will help them not just to survive, but to succeed.* (Morley, 1991: 489)

Others argue for the importance of teaching pronunciation for the learners of English as a foreign language by discussing other merits that learners can benefit from it. Harmer (2001) for example,

asserts that being familiar with pronunciation features helps learners improve their overall language skills immeasurably. "Being made aware of pronunciation issues will be of immense benefits not only to their own production [i.e. speaking] but also to their own understanding of spoken English [i.e. listening]" (Ibid: 183). In the light of the challenges that learners might face in listening, the teaching of pronunciation has received due consideration to help them become familiar with the individual sounds and other patterns of the spoken English which are unknown or unusual in the sound system of the mother-tongues of the learners (Underwood, 1984; Harmer, 2001).

Pronunciation essentially comprises spoken discourse, and by illustration, 'intonation alone conveys a great deal of pragmatic information' (Brown, 1994:30). In their discussion of the need for helping students to become effective communicators using the target language as it occurs in real life situations, scholars such as Celce-Murcia and Olshtain (2000) call for the importance of teaching some rules and patterns of pronunciation which they indicate as they occur in the normal flow of speaking among participants. In the same token, Brown (1994:30) says: "In your enthusiasm for teaching functional and sociolinguistic aspects of language, do not forget that pronunciation is an important component of both". Above all, learners will be confident and highly motivated to speak English with any English speaker, natives or non-native, if they are made familiar with the target language pronunciation (Dalton and Seidlhofer, 1994; Stern, 1992). As Jenkins (2000) describes, a learner who is made aware on those features who he is likely to have difficulties in his productions as well as perceptions will presumably develop greater confidence and readiness particularly during interactions beyond his fellow countrymen where the interaction becomes highly affected by phonological signals.

It seems, therefore, unreasonable to undermine the importance of teaching pronunciation. So is considering pronunciation as an extra element of language. As Tench (1981:109) says, "Pronunciation is not an optional extra any more than grammar, vocabulary or any other aspects of language is . . . Speech is much more than pronunciation-but it is impossible without it." The debate among scholars over time on the usefulness of teaching pronunciation is not likely to be the case in contemporary L_2/FL teaching (Morley, 1991). Instead, scholars are advocating for the need for professional commitment to the teaching of pronunciation. This is because, as Harmer (2001) and Tench (1981) say, those teachers or schools that do not treat pronunciation with due emphasis are making their students a great disservice. It seems then vital to note here for those who still argue against the importance of teaching pronunciation that their argument is rather 'archaic'.

Historically, therefore, some gave very little attention to, or even neglected the teaching of pronunciation while others took it as an important and essential component of the language teaching program. Even today, the second language pedagogy receives a significant complaint from many writers such as Morley (1991), Tench (1981), Harmer (2001), Richards and Renandya (2002),etc. that the importance of teaching pronunciation is still undermined by many and not equal attention has been offered to it as compared with the teaching of other aspects (Harmer, 2001).

Low level of emphasis to pronunciation is said to have resulted mainly from the assumption that pronunciation is an extra element for the language learner to study. Harmer (2001), for example, notes that teachers feel that they have too much to do already and believe that pronunciation teaching will only make things worse. On the other hand, many teachers are nervous of dealing with sounds and intonation because they lack the basic knowledge to offer their students' basic supports (Dalton, 1997; Harmer, 1991).

Undesirably, pronunciation teaching in Ethiopia seems to be unexceptional. The Ethiopian English teaching seems to have some important flaws in the teaching of the pronunciation component with regard to attitude, focus and coverage. Very few available unpublished researches and writings carried out only recently in AAU (Geremew, 2003; Anegagregn, 2007; Tewodros, 2008, Tafere, 2008) reveal that pronunciation teaching in Ethiopia at all levels is characterized by total neglect and/or very little focus on the area. Even those pronunciation lessons available seem scarce, unsystematic, inconsistent and predominantly phonemic based (segmental), and also presented in isolation without any contexts of wider meaning and communication.

Geremew (2003), for example, found out that the pronunciation component receives 'almost no' provision in primary schools. In his study on secondary schools, Anegagregn (2007) discovered not only the same neglect with very few segmental level lessons offered but also affective and behavioral problems (i.e. negative attitudes and lack of commitment respectively) upon the teachers, towards the teaching of pronunciation. The study also reported the teachers' belief for lacking detailed knowledge of English phonetics and phonology they required for teaching pronunciation sufficiently. The teachers strongly endorsed in their complaints for lack of sufficient training on pronunciation in higher institutions to use it comfortably themselves and to provide any rudimentary support to their learners. This suggests that the role of the teacher, to use Morley's (1991: 507) words, 'to assist the learners as

something like a coach, a speech coach, a pronunciation coach', seems to be limited in some Ethiopian schools.

2.3. Goal Setting in Pronunciation Teaching

What should be the goal of teaching pronunciation is a crucial question to be determined. Making this decision requires to consider the whole issues of psychological and sociological factors predominantly prevailing in the use of L2 pronunciation (Jones, 2002; Harmer, 2001; Broughton et al. 1980; etc.). While these issues will be discussed in great detail in the sections ahead, we will now briefly decide which one of these two options apply to the whole purpose of this study and desirably to the teaching of pronunciation in our country at large: nativeness principle or intelligibility principle.

Traditionally (i.e. in direct method and audio lingual method), the goal of teaching pronunciation was to achieve native-like proficiency (Celce-Murcia and Goodwin, 1991; Morley, 1991). However, as Morely (P.488) notes, the revival of pronunciation teaching in the 1980's came up with a view that pronunciation is crucial element in communication. Concurrently, studies began to indicate pronunciation as an early obstacle to overcome in learning a foreign language and in practical communications as well (Stern, 1992; Gimson, 1975; Jenkins, 2000; Munro and Derwing, 1999). Particularly, in the context of English as an international language, where the interaction is among individuals of different NL background, pronunciation is found to be the most problematic communication area no matter how well speakers control other aspects of the language like grammar and vocabulary (Gumperz and Cook, 1982: Jenkins, 2000).

The current developments in favor of teaching pronunciation have been introduced to the field with a renewed interest in teaching it and a continued development how to approach it. As stern (1992: 108-110) clarifies, mainly as a result of the influence of notions and developments in linguistics, pronunciation has become a central preoccupation in L_2 language pedagogy, yet accompanied with new insights developed for teaching it (Stern, 1992: 108-110). Morley has to say the following for this basic change in the field.

> *With today's renewed professional commitment ....it is clear that there is a persistent groundswell of movement to write pronunciation back into the instructional equation but with a new look and a basic premise: intelligible pronunciation is an essential component of communicative competence.*
>
> Morley (1991:488)

Two basic premises are abundant here. One is that a threshold level of pronunciation is important such that if a speaker's pronunciation falls below this level, he/she will not be able to communicate orally no matter how good his/her control of English grammar and vocabulary might be. The other one is that what is important for a learner is to become intelligible or to achieve comfortable intelligibility in spoken English, but not sounding like native speaker in pronunciation (Kenworthy, 1987:13).

As the primary goal of pronunciation teaching, writers on pronunciation have always given much focus to intelligibility. Kenworthy (1987:13) defines it as understandability i.e. "being understood by a listener at a given time in a given situation." Meanwhile, Tench (1981:17) explains it as, "A level of proficiency which can be understood with little or no conscious effort by a listener". Dalton and Seidlhofer (19:12) conceivably explains it as a paradigm shift in the teaching of pronunciation and suggests that the reverent question to ask is not how to acquire native like proficiency and to follow native norms but rather what is appropriate and necessary to be able to communicate effectively in specific situations. In a similar vein, Brounghton et al. (1980) note that the aim of pronunciation teaching must be to help students produce English speech which is intelligible when they use it.

One might ask what if we aim at native-like pronunciation proficiency. The problem is that native like proficiency is likely to be ideal and unachievable in most cases, and even devastating in some cases (Morley, 1991; Dalton and Seidlhofer, 1994). And hence, some refer to it as 'unrealistic, unnecessary and undesirable' (Morley: 498; Dalton and Seidlhofer: 11). The first problem residing on aiming for native-like proficiency is the limited need of learners to aim beyond intelligibility. Tench (1981:17) puts it clearly as, ". . . most language learners have modest ambitions and are not perfectionists." An Ethiopian student of English, for example, does not need to sound like an American or British as far as the use of the language in the country is concerned. Secondly, the issue of identity is another most important factor. 'Many students of English do not especially want to sound like native speakers,' but, as Harmer (2001:184) puts it, 'as speakers of English as an international language'. What is frequently observed is that learners usually retain their own accent when they speak a foreign language simply to show their identity (Ibid). Thirdly, many writers also refer to psycholinguistic evidences and argue that even if we aim at native-like pronunciation, it is mostly unattainable. This seems to be why the famous phonetician Abercrombie as cited in Tench (1981:17) is often quoted for his words: "I believe that pronunciation teaching should not have a goal which must of necessity be normally an unrealized ideal, but a limited purpose which will be completely fulfilled."

It is worth-noting at this juncture what we can infer from the issue of intelligibility. One is the need for teachers to concentrate on some features of pronunciation, which are crucial for intelligibility; i.e. focusing on those which can impair communication if wrongly used, over others (Harmer, 2001; Broughton et al. 1980). While intelligibility is the most desirable goal, teachers must also be aware that in case some learners wish to achieve native-like proficiency, 'it would be churlish to deny them such an objective' (Harmer, 2001:184). This is because whether we target native like proficiency or a thresholds level (intelligibility) is very much determined by the attitudes and needs of the learner. As Richards and Renandyal (2002:184) point out, "learners' reasons for learning a second language and the use they plan to put the language to can have an effect on how native-like they may want or need to sound."

To sum up, it is worth-noting Dalton and Seidlhofer (1994:6) for their general comment to be followed in language teaching. It is important to identify the difference between 'what is effective as a model and what is presented as a norm'. They point out that the task of pronunciation teaching is to establish models for guidance, not norms for imitation'. More importantly, they further refer to the fact that 'pronunciation is so much a matter of self-image' in that mixed reaction (negative or positive) may be encountered if learners are made to imitate or take a particular accent as their model (ibid:6). Accordingly, learners may prefer to keep their accents or gain the approval of a certain accent-speaking community by resisting or attempting to imitate respectively. This implies that students' attitudes towards a model should be taken into account. Scholars have always suggested that the work on pronunciation needs to be tied in with the 'individual's value set, attitudes and socio-cultural schemata', and hence the targets of pronunciation teaching should be appropriate for the particular sociological context in which the teaching-learning takes place (Richards and Renandya, 2002:184).

2.4. Phonetics and Phonology

The study of pronunciation or any description in it involves two fields of linguistics namely phonetics and phonology. In general terms, the study of pronunciation system of a language is known as phonology, the study of the sounds themselves being called phonetics (Roach, 2002). The phonology of a language includes sounds that are systematically distinguished from one another (its phonemes), syllable structure, stress, rhythm and intonation. Phonetics on the other hand provides a diagnostic understanding of how speech sounds are produced by the speaker (articulatory phonetics), transmitted in the air (acoustic phonetics), and finally received by the listener (auditory phonetics).

Any reading of pronunciation texts and writings on pronunciation make clear reference to these two disciplines. English phonetics and phonology, for example, provides basic inputs for what it is we have to deal with in the learning and teaching of pronunciation as L2/FL: an inventory of English sounds and their arrangements; the required articulatory and auditory mechanisms; and those features that are functionally significant (Stern, 1992; O' Connor, 1980). While the present study is primarily concerned with the pronunciation of English and the problem or difficulty it poses to Amharic native learners, it draws on aspects of phonetics and phonology. As this is also evident in our description of the phonology of English and Amharic languages ahead, any description of the phonology of a particular language often makes reference to phonetics (Roach, 2001:47), and this makes both disciplines interrelated to some extent. At this juncture, however, we find it useful to make some general insights about phonetics and phonology; Pronunciation and its function in the process of speech is a complicated process, and to describe it fully requires the whole scientific subject - 'the science of phonetics and phonology' (Roach, 2001).

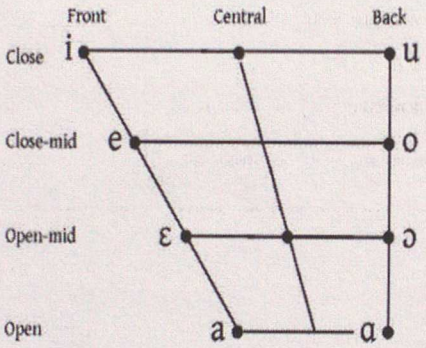
Phonetics is a wide-ranging field which is concerned with a diagnostic understanding of how speech sounds are produced by the speaker, transmitted in the air, and finally received by the listener. As Roach (2001) and Batibo (2000) describe, the discipline of phonetics can be classified into three depending on the aspect of speech sound in consideration: articulatory phonetics, acoustic phonetics, and auditory phonetics. While these disciplines of phonetics can be studied independently of one another, they are also interrelated: "speech organs move to produce sounds, which travel in sound waves, which are received by the ear and transmitted to the brain" (Kelly, 2000:9). Phoneticians describe the sounds that are used in human languages, such as the ones found in English or Amharic, from these three distinct (but related) points of view.

Articulatory phonetics is mainly concerned with the way in which speech sounds are produced. This involves describing the various organs and mechanisms used in producing sounds. This approach has links with other disciplines such as physiology and anatomy to describe the parts of the body involved in speaking (Roach, 2001). Speech sounds can also be studied in terms of their physical properties, that is, their features as disturbances of the air around us. This aspect of phonetics thus deals with the nature of the sound waves that are transmitted from the speaker to the hearer. This approach is known as acoustic phonetics. This kind of study makes use of information from physics to study the sound waves in terms of how loud they are, how long they last and so forth. Acoustic analysis is one approach used by

roundedness (Baye, 2001). First, the height refers to "the position of the tongue relative to either the roof of the mouth or the aperture of the jaw" which places vowels as close vowel and open vowel (Batibo, 2000). Second, the backness refers to the position of the tongue relative to either the front or the back of the mouth which places vowels as front and back. Thirdly, roundedness refers to whether the lips are rounded or not. In most languages, the higher the backness of a vowel is, the more rounded that vowel becomes (ibid). Such descriptions or classifications of vowels based on the movement of the tongue and the shape of the lips is known as 'vowel quality' (O'Connor, 1980; Gimson, 1975).

It is standard practice in phonetics to represent the quality of vowels in a language by placing them in a four-sided figure called 'the primary cardinal vowel quadrilateral' (Roach, 1983). The primary cardinal vowels, as in this chart below, could be used as a landmark from which other specific vowels in particular languages could be described and also as a framework for comparison of vowels in different languages (Roach, 2001).

Figure 1: Primary cardinal vowels chart



The primary cardinal vowels in this chart are the "extremes of vowel quality" (Roach, 2001), that is, they are produced in the utmost positions of the tongue. Among the sounds in this chart, the sound /i/ is pronounced with the tongue position as close and front as possible. On the other hand, /ɑ/ is the most back and open vowel. The /u/ is pronounced with the tongue as far back as possible and the mouth is fully close while the /a/ is fully open and front. The /o/ and /ɔ/ are the utmost back vowels with different tongue height, close-mid and open-mid respectively. /e/ and /ɛ/ are also different in terms of height as close-mid and open-mid respectively though both are front.

As vowels differ to each other in 'quality' (i.e. with the tongue adopting a different position), they may also differ in 'length' which is often referred to as a difference in 'quantity' (Radford, 2009). The vowels

which have extra length as opposed to 'short vowels' (e.g. English /ɪ-i:/ are called 'long vowels'. The IPA symbol for 'long vowels' is : placed after the vowel symbol

The description of vowels mostly assumes that the position of the tongue remains unchanged throughout the process of their production, and that therefore the quality of the vowels remains unchanged. Such vowels are also referred to as pure vowels (ibid). This description, however, is by no means true of the vowels in all languages because in some languages, e.g. in English, some of the vowels are known to have the quality of change during the course of their production. These vowels are generally called diphthongs as opposed to monophthongs or pure vowels (O'Conner, 1980).

Peter Roach describes about diphthongs as "the sounds which consist of a movement or glide from one vowel to another" (2001). As the diphthongs consist of 2 vowels, they are like the long vowels but the first part is much longer and stronger than the second vowel. We can see it in the diphthong /aɪ/ which has the vowel /a/ and /ɪ/ but the latter is recognized with smaller loudness, so it is much shorter and quieter. Besides, though the 'two' vowels are treated as one articulatory unit named as diphthong, they look likely to have two articulatory qualities but, the movement of the tongue from [a] to [ɪ] in the above example is so smooth that it is called a 'glide' (Batibo, 2000).

Meanwhile, some languages have 'triphthongs' which are composed of one of the diphthongs plus a vowel called 'schwa' which is represented phonetically as /ə/. A triphthong could be described as "a glide from one vowel to another and then to a third, all produced rapidly and without interruption" (Roach, 1983, p. 23). For instance, English five triphthongs are composed of diphthongs with /ə/ at the end: /eɪ/ + /ə/ = /eɪə/; /aɪ/ + /ə/ = /aɪə/; /ɔɪ/ + /ə/ = /ɔɪə/; /aʊ/ + /ə/ = /aʊə/; /əʊ/ + /ə/ = /əʊə/ as in the words "layer", "fire", "loyal", "hour", and "mower" respectively.

Diphthongs or triphthongs are known to be lacking or rare in African languages (Batibo, 2000:144) including Amharic (Baye, 2000). According to Jones (1997), it is often difficult for foreign learners to produce and recognize diphthongs because of their absence in most of the learners' NL.

2.4.1.2. Consonants

Phoneticians define consonant as sounds that are articulated with obstructing the flow of air enough to produce friction noise. Consonants of all languages are commonly described as they are produced when the flow of air is obstructed as it passes through the vocal tract. As Batibo (2000:144) describes,

'consonants are normally considered those speech sounds whose production involves stricture at one or several points in the vocal tract'. This means that the production of consonants is a result of the restriction of air between two bodies of articulators.

Traditionally, the description of consonants could be based on 3 basic criteria: vocal cord vibration (voicing), the place of articulation and the manner of articulation. The vocal cords represent a key element in the articulation of speech sounds. If the cords vibrate when we produce a sound, the sound is voiced; on the contrary, if the sound is produced without vocal cord vibration, it is a voiceless sound. Manner of articulation categorizes consonants in terms of how the obstruction is achieved; from this we have plosives, fricatives and affricates, nasals, liquids and glides. Place of articulation takes into account where that obstruction takes place, that is, the name of the organs involved in the articulation; from this we have bilabial, dentals, alveolar, palatal, velar, and glottal.

Following the conventional International Phonetic Alphabet (IPA) chart, phoneticians identify and represent consonants of a language diagrammatically describing the three common qualities of consonants: place and manner of articulation, with voicing as well. For example the respective consonants of English and Amharic languages have similar representations.

2.4.1.3. Syllables

Something else that is important in the description of consonants is the way in which sounds combine. When this happens between consonants, it is called 'consonant cluster' to denote the occurrence of two or more consonants in sequence. As Roach (2001) explains, such occurrence is usually studied in the context of syllable structure. In other words, by describing the forms which syllables may take in a particular language, it is possible to describe the possible combinations of consonant clusters. The study of such pattern of sounds is part of the subject of phonology, and forms a very important part of the study of the sound system of different languages (ibid).

The way sounds combine together in speech varies from language to language. In many of the world's languages, however, every consonant must be followed by a vowel, giving a syllable from that we can label as 'CV' (consonant + vowel), and the only other possible syllable is 'V' (a vowel on its own) (Jenkins, 2000). This syllable pattern is referred to as 'universal' to indicate that it exists in the majority of the world's languages (ibid). Yet phonological studies of different languages show that each language has

weaker than the first one (ibid). In the case of a phrase 'understanding English', however, the noticeable pitch movement shift from the third syllable of 'understanding', to the first syllable of 'English'. In other words, the 'stand' syllable is still prominent but not accented.

Although, 'stress' or 'accent' may be used by some writers interchangeably to refer to such a feature of stress pattern, it can be said that distinction can be made between languages in terms of how loudness/length and pitch are realized in creating the characteristic stress pattern. For this, distinctions are often made as 'pitch accent' or 'stress accent' languages to define the linguistic functions of 'pitch' and 'pitch plus loudness/length' in stress patterns of the world's languages (Roach, 2001; Gimson, 1975).

Languages also vary as to the position of the word which receives the stress. In some languages, the stress always falls on the same position. In Amharic (Alemayehu, 1987), for example, it falls on the penultimate (before the final) syllable, while in French, it is usual for stress to fall on the final syllable of the word (Roach, 2001:32). On the other hand, English has 'free stress pattern' in the sense that some words are accented on the first syllable, some on the second syllable, others on the third, and so on as opposed to 'fixed stress patterns' in many other languages (Jenkins, 2000; Roach, 2001). Most phoneticians agree that if easy intelligibility is to be achieved in English, it is extremely important to give words their correct stress (or accentual patterns) with characteristic rhythm of the utterance (which we will see later) (O'Conner, 1980; Gimson, 1975). It cannot be denied, however, that the learning of accent in English may present a number of difficulties to learners for the reason associated with unpredictable nature of stress patterns in English.

Stress is often referred to as 'distinctive' to denote its function in bringing about meaning and grammatical difference (Roach, 2001:32). For example, in English it has significant grammatical function in that it determines, among other things mentioned below, whether a particular word is noun /adjective or verb (Roach, 2001). It is noted that the noun/adjective distinction is common in English as in the word 'subject' which is nearly always stressed on the first syllable as a noun, while the stress shifts to the second for the verb form. In some languages, variation in word stress is associated with the morphological structure of words (i.e. the way words are constituted from their stems, prefixes, and suffixes). For instance, in English, with the shift of primary stress marked as in democrat, democracy, democratic, (i.e. as stress shifts form the first syllable to the second, the third, or the fourth syllable),

words change their grammatical forms (Kelly, 2000). Word stress also sometimes helps to distinguish certain compound words from related noun phrases (adj + n, n + n) and verb-plus-adverbial collections, as in English words of 'black bird' (compound) and 'black bird' (noun phrase) in which different meaning is conveyed each time referring to color or name of a bird respectively.

In much the same way as word stress, some words in an utterance comprising two or more words always stand out from the rest or get prominence than others. Some writers refer to this pattern of English as the accentual or rhythmic feature of connected speech simply because it is mainly governed by the principles of rhythm in the language (O'Conner, 1980). For instance, not all words in an English utterance receive equal prominence (Gimson, 1975; O'Conner, 1980). Words that are generally accented in word groups of an utterance are those that are more important than others in conveying meaning (ibid). The most important words, from the point of view of meaning, are usually the nouns, main verbs, adjectives, adverbs, demonstrative and interrogative pronouns, and the words 'yes' and 'no'. In other words, it is the 'content or lexical words' that receive the accent, unlike that of 'grammatical words' such as personal pronouns, prepositions, auxiliary verbs, articles, and conjunctions (O'Conner, 1980). By way of illustration, in sentences, for example, *I've found my book; I could not 'see the 'house; 'Have you heard the latest news? Yes, he will; No, thanks*. In the examples above, content words, or the syllables in them received accent or stress which is marked with underlining them.

2.4.2.2. Rhythm

Roach (2001) defines rhythm as periodicity, or a recurrence of certain patterns of color, design, or sound at regular (equal) intervals of space or time. As he illustrates, in music, rhythm is usually produced by making a certain kind of beat in a sequence standing out from others by being louder, longer, or higher at equal intervals of time. Rhythm in language, likewise, refers to the periodic recurrence of certain patterns of sound in utterances (ibid).

It has often been claimed that (Roach, 2001; Dalton and Seidlhofer, 1994; Jenkins, 2000; Batibo, 2000), in some languages of the world, syllables constituting utterances, whether accented or unaccented, tend to occur at equal time intervals. The time taken form one accented or stressed syllable to the next will be in proportion to the number of unaccented syllables between them. Such languages are said to have 'syllable-timed' rhythm. Some other languages of the world, on the other hand, have 'stress-timed' rhythm. In these languages, accented syllables have a tendency to occur at approximately equal

intervals of time, irrespective of the number of unaccented syllables intervening between one accented syllable and the next (ibid). According to this theory, English, for example, belongs to the second category of languages and has stress-timed rhythm (ibid). This would mean that, in English utterances, accented syllables tend to occur at approximately equal intervals of time. On the other hand, "unstressed syllables between the stressed syllables are squeezed into the time available, with the result that they may become very short" (Roach, 2001:36).

To see the performance of rhythm more closely and its relation with accent as well, it is important to examine 'rhythm units' in English (O'Conner (1980:90-100). It is noted that when groups of words spoken continuously, a sort of break or pause occurs after a group, but not during it. Within each word group, there is at least one stressed syllable. These stressed syllables in a group may have one or more unstressed syllables before them, and these unstressed syllables are said very quickly to make them short. Meanwhile, the stressed syllable in a group may be followed by one or more unstressed syllable. However, these unstressed syllables 'are not said especially quickly, rather share the amount of time which a single stressed syllable would have' (ibid: 96). For example, English words "nine", "ninety", "ninetieth" all take about the same time to say "nine"; so do these sentences such as "I am here", "I was here", and "I was in here" in such a way that 'the unstressed syllables are all very short, as short as you can make them.' (ibid: 96).

In his explanation of the fundamental rule of stress-timedness, O'Conner (p. 98) says, 'each stress group within a word group is given the same amount of time (i.e. stressed syllables together with any unstressed syllables which may follow it form a stress group). For example, in a sentence "both of them left early", 'both of them' is one stress group, 'left' is another and 'early' is another; all taking approximately the same amount of time. On the other hand, in cases of unstressed syllables before the stressed ones as in "I am going home", for example, it is noted that there are two stress groups 'going' and 'home'. The first syllable 'I am' does not belong to any stress group since it comes before the stress, and it is said very quickly, quicker than the unstressed syllable in the stress groups (ibid). This pattern contributes to the stress-timedness of English as described by O'Conner (1980:99) as follows: "In this sort of arrangement, any unstressed syllable before the stressed syllable is said very quickly and doesn't affect the length of syllables before it". It is the unit of this kind, with a stressed syllable as its centre followed or preceded by any unstressed syllable, which is called 'rhythm unit' (ibid). For example, in "I

am going home for Christmas", there are three rhythm units: 'I am going', 'home', and 'for Christmas', each having stressed syllables on 'going', 'home', and 'Christmas' respectively (ibid).

One point to note here is that learners of English as a second or foreign language, particularly those from languages of syllable-timed background, are expected to face some difficulty in English rhythm. Phoneticians, therefore, suggest that adequate practice in this area is very important to the learner, and to ignore it would be to neglect a vital aspect of English pronunciation (Kenworthy, 1987; O'Conner, 1980; Dalton and Seidlhofer, 1994; Jenkins, 2000). Almost all writers put forward that not following the rhythmic pattern of English would make one's speech difficult to follow and to understand as well, which may lead to loss of intelligibility.

2.4.2.3. Intonation

Though writers sometimes refer to intonation as the most difficult to define, they describe it as 'the melody of speech', and associate it with 'variations in pitch (tune)' belonging to a word group of an utterance (Roach, 2001; Dalton and Seidlhofer, 1994; O'Conner, 1980). The term intonation often refers to the way the voice goes up and down in pitch when speaking. Intonation, therefore, may be defined as a pitch contour that characterizes an entire utterance. This is often referred to as what makes intonation different from 'tone' (Gimson, 1975; Radford et al. 2009).

Although certain aspects of intonation may be common to many languages, writers in the field note that some of the ways in which intonation is used may be specific to a particular language. As Kelly (2000:87) summarizes, "Scandinavian languages, for example, tend to pronounce unstressed syllables on a higher pitch than stressed ones, where as we usually do the reverse in English". Some languages are known to distinguish up to four levels. English, for example, uses pitch extensively; accented syllable or the most prominent syllable (the nucleus) in an utterance or part of it (in tone group or rhythm unit) is said with such a wide range of changing pitch level as fall, rise, fall-rise, and rise-fall (Gimson, 1975; Radford, et al. 2009). The fall and rise can be subdivided into high-fall and low fall, and high rise and low rise respectively. Some languages distinguish only two levels of tone (Radford, 2009). Regarding the intonation patterns of Ethiopian languages, it can be said that many of Ethiopian languages, as compared to that of English, tend to have a noticeably narrower range of pitch.

Turning to its function in languages, 'the pitch of the voice is very important in language, and all languages make use of it for some purpose' (Radford et al. 2009:43). Phonologists identify that intonation is not a mere melody (or pattern of contour) of pitch variation superadded to an utterance already complete in all respects and ready to yield its full meaning without this addition. To this point, some writers such as Stern (1992) assert that intonation is complementary and hence it does not play a decorative role, but performs a linguistic function. The additional meaning of intonation may be grammatical, expressive, emotional, or emphatic (ibid). For example, intonation is part of English grammar in very much the same way as tense, or mood, or subordinate clauses, and conveys distinctions of meaning in the same way (Porter and Grant, 1981). In this regard, intonation may imply such a variety of grammatical structure of sentences as assertion (declarative), exclamation (interjection), question (interrogative), order (imperative) or summons (vocative), etc. (Batibo,2000:118).

Besides, intonation involves a reference to the speaker; "by changing the 'tone' over the word, the speaker changes the attitude he or she is expressing" (Radford, 2009:44). More recent theories particularly those developed by David Brazil (1985) as cited in Roach (2001) and Kelly (2000) analyze how intonation relates to the surrounding discourse, rather than specifically to grammar or attitude. In this approach, intonation indicates 'shared knowledge' between the speaker and the listener, and also what is 'new information'. Intonation patterns, therefore, are no longer seen isolated but tied to the context in which it occurs. Authorities in the field, for example, O'Conner (1980 :120-125), also emphasizes the variety of functions of intonation in English to support the views held by many other writers such as Brown (1994), Stern (1992), Jenkins (2000) that intonation makes up an important component of the functional, sociolinguistic, pragmatic and discourse aspect of the English language. Understandably, all suggest that communicative interaction would not be complete without intonation which is an essential component of the discourse structure of speech.

It must be noted, however, because intonation pitch contour may relate to a number of variables, writers often point out that it is not an easy task to define it. On this point, Batibo (2000:181) and Gimson (1975:52-53) indicate that the structure of the intonation contour may be influenced by such many other factors apart from grammatical structure as 'the nature of the constituent elements', 'the emphasis placed on some of these elements', 'the style of discourse involved', 'the syllabic quantities of the constituent words', and 'the pattern of tone and stress in respective words'. Other factors are also

related to the individual speaker such as 'the expressive intentions of the speaker', 'the emotional disposition of the speakers', 'the speed with which the speaker is uttering', and 'the idiolectical (individual) peculiarities of the speaker', etc (ibid).

Thus, it is difficult to make a comprehensive or detailed description of intonation because of the many variables involved in it. Perhaps, that is why it is sometimes referred to as the last strong hold for foreign language learners to indicate that it takes a very long time to acquire (Jenkins, 2000). Some even label it as 'unreachable' (Dalton and Seidlhofer, 1994; Jenkins, 2000) though some experimental studies come up with a different result that learners can successfully acquire it (Nagamine, 2002).

2.4.3. Connected Speech

Speech is normally produced in a continuous, connected stream of sounds, except when we pause. Roach (2001) notes that it is very rare in normal speech to find cases where a speaker makes a single segment in isolation with no sound preceding or following it. Thus, the usual situation is 'for segments to fit closely together with each other' (ibid: 53). As we have seen previously, phonetics tends to look on speech as a sequence of segments as discrete and independent of each other and such description is not enough as 'in every language we find that segments have a strong effect on other segments which are close to them' (ibid:53). Such patterns in a language are another part of the study of phonology and part of the phonological processes of a language.

Speakers in a language often use several kinds of connected speech which phonologists refer to as 'assimilation', 'elision', 'linking and intrusion' (i.e. insertion of an extra sound initially in a word: epenthesis), 'juncture' (i.e. phonetic boundary demarcating grammatical units), and 'contraction', etc. Kelly (2000) notes that these features are usually more evident in rapid and everyday speech, while speakers tend to use them less in more careful or formal speech. Certain features may also be more or less related to 'accent varieties' of a language, and even with personal habits and preferences of an individual speaker.

One of this phonological processes by which a segment is modified by its neighbors is called 'assimilation' (Roach, 2001). English speakers, for example, often change the articulation of a word final consonant in anticipation of the first consonant of the following word (Gimson, 1975; O'Conner, 1980; Roach, 2001). The most typical of English consonant assimilation, for example, includes 'bilabialization'

where by 'variation of place of articulation' occurs as in 'ten boys' where a nasal sound /n/ changes into bilabial /b/; 'voicing' as in 'of course' in which voiceless /f/ changes into voiced /v/ or as the plural form of 'cat' pronounced as /z/ in 'cats'; and 'devoicing' whereby a voiced consonant changes into voiceless as in pronouncing /d/ in such words as 'bad talk' and 'walked' (Gimson, 1975:31-32; Roach, 2001:54; O'Conner, 1980). Among others, connected speech, in English for example, include 'elision' (i.e. the omission of sound) as in "can't", and 'addition' (the insertion of a sound) as in "the insertion of /r/ before the following vowel even though there is no <r> in the spelling as in pronouncing 'draw up' as /drɔ:rʌp/" (Trudgill and Hannah, 1982: 14). It is widely believed among scholars that such phonological processes are committed by the speakers to facilitate their articulation, and thus sometimes called 'simplification processes' (Jenkins, 2000).

Just to make a point here, in the learning of new language, the foreign learner may not need to imitate in his pronunciation all the features of connected speech in the target language. However, one should expect to hear them from the speakers of the target language particularly from native speakers. Thus, familiarizing learners with the most common processes, at least for reception purpose, is necessary (Gimson, 1975:32). In the same way that working on sentences stress and intonation can help students to better understand spoken English, so can working on the feature of connected speech. Apparently, the simple awareness of their existence can help enormously in enabling student to better understand the language they hear. Meanwhile, "certain types of assimilation, common in the learners' native languages, which are untypical of English, should be avoided by the learner" (Ibid: 32). Many other writers have made similar suggestions that languages have different patterns of assimilation, and it is common to encounter assimilation pattern transferred from L1 onto the L2, and such transfers can be problematic for communication (Jenkins, 2000).

To recapitulate this section on 'phonetics and phonology', the pronunciation of a language comprises the production and reception of distinctive sounds, the rules governing their realizations, and the phonological processes or features which generally apply to groups of segments. In this regard, the main features of English pronunciation which are absent in the learners' native language (i.e. Amharic) will be the focus of the present study in its attempt to investigate the problems Amharic native learners might have in their learning and use. For this reason, Amharic and English phonology are described and contrasted (chapter four).

2.5. Pronunciation and Current Trends in World Englishes

Only a few centuries ago, English language consisted of a collection of dialects 'spoken mainly by monolinguals and only within the shores of a small island' (Cheshire, 1991:1). Then English began to spread out of England through native speakers' migration, which resulted in 'monolingualism', and finally around the world for purposes of promoting empire, facilitating trade and commercial interests (Mckay 2003; Jenkins, 2000). The primary reason for learning ESL/EFL was for a long period to communicate effectively with native speakers. "In order to achieve their goals, it was considered essential for those non-native speakers to approximate as closely as possible the natives who were considered by all to be *the owners of the language*, *guardians of its standards* and *arbiters of acceptable norm"* (Jenkins, 2000:5)(emphasis added).

As a result of worldwide political, commercial and social developments, however, English now is used not only as a means to communicate with native speakers but also (more significantly) as a language of wider communication among non-natives for a great variety of purposes. Today, a growing number of people around the world use it either as a native language, second language or foreign language. In a much-cited paper, Kachru (1985) presents the sociolinguistic spread of the world's users of English in terms of 'three concentric circles' known as 'inner-circle', 'outer-circle' and 'expanding-circle' (Jenkins, 2000; Bamgbose, 1997; Widdowson, 1997).

Kachru's 'Inner-circle' is made up of English as a native language (ENL) countries and is 'norm-providing'; his 'outer-circle' consisted of English as a second language (ESL) countries and is referred to as 'norm-developing' in the sense that a range of new norm and verities of English are emerging through different processes such as nativization, creolization, etc. His 'expanding-circle', on the other hand, comprises English as foreign language (EFL) countries and is called 'norm-dependent' in that the criteria by which usage is judged as imported from the ENL countries, primarily the UK and USA.

As it has been documented and discussed by applied linguists, for the first time in the history of the English language, non-native speakers of English outnumber those for whom it is the mother tongue, and interaction in English increasingly occurs among non-natives (McKay, 2003; Jenkins, 2000; Broughton et al. 1980). The expansion of the use of English in this direction leads the language to be learnt and spoken most frequently to serve international functions, contributing to its status as a 'lingua franca' (ibid). Unlike the initial spread of English, its current spread is due to not the growth in the

number of native speakers but rather the increase in the number of individuals in the world today who believe it is to their benefit to acquire English as an additional language. As McKay (2003:2) indicates, 'this type of language spread results not in monolingualism but rather in large-scale bilingualism'.

With particular reference to pronunciation, Jenkins (2000:6-7) presents 3 important developments in the use of English around the world as major phases of change which have contributed to the current status of English as an international language (EIL), and changes to the traditional views of teaching and learning pronunciation as well. One is the dismantling of the British Empire in ESL countries like India, followed by the abandoning of NL English norms and the desire to accept a range of local varieties (ibid:6). The other is 'the switching of English from intra-national use to international one' that the role of English in several of these countries such as Malaysia, Pakistan, and the Philippines has become essentially to facilitate trade with countries where English is not spoken as an NL. The third one is the 'metamorphosis process of EFL (i.e. learnt predominantly for communication with native speakers) into EIL in which the most frequent use outside ENL and ESL countries is between speakers neither of whom learnt it as an NL. Thus, as Jenkins suggests, English which is now learnt and used for international functions differs crucially from other foreign language such as Spanish, Russian, Japanese, Arabic, etc. which continue to be learnt for the aim of communicating with the respective native speakers mainly in home country.

In much the same conception, many other writers assert that the spread of English in the world today has meant that change to the language is inevitable. This is the basic premise in Widdowson (1997:14) interpretation of English as a 'virtual language' that is 'variously actualized' as it spreads, resulting in 'adaptation and nonconformity'. Widdowson's premises are appreciated by several writers who notice 'adaptation' to relate to 'appropriation and pluralism', whilst 'nonconformity' implies 'discarding' falling in line with once undisputed NL norms (Rajadurai, 2007). While there appears to be some acceptance of the legitimacy of the ESL varieties, more recently, there have been calls for recognition to be also accorded to the English of EFL, in so far as they contribute towards and constitute a type of international variety of English (EIL) (Jenkins, 2000).

Some however express their concerns that the legitimacy of all verities of English may not be always true in many 'walks of life', in which 'variation' is often associated with some degree of 'unreliability', 'lowering of standards', or 'falling wide of an accepted norm'. Jenkins (2000:25), for example,

remarkably observes 'a strong favour towards conformity, standards, uniformity, and conservatism, and disfavor non-conformity, diversity, and change'. Understandably, she argues that the situation appears to be more persistent in matters of phonology, which is probably more than other things, bound up with human identity and attitudes, where speakers of a certain language community hold views and convictions to favor one accent over another. This may be true as the literature also reports popular attitudes that favor some native accents, like RP or GA, while speakers of certain regional accents are disfavored in job interviews and mass Medias (Gumperz and Cook, 1982; Jenkins, 200:26).

Non-native variations have also been a target of stronger prejudice (Gumperz and Cook, 1982). The majority of NL English speakers, who most likely experience their own variation in their use of the language are sensitive to L2 English variations and are quick to notice it as well (Jenkins, 2000:27). Besides, there is a concern that native speakers may interpret non-native variation as 'monolithic deviation from the right full NL standards and do not appreciate the significance of the variability'. Dalton and Seidlhofer (1994), for example, emphasize that native speakers of English usually offer attitudinal judgments (as rude or impolite) towards non-natives' intonational error rather than relating it to grammatical incorrectness. The tendency of labeling non-native pronunciation as a deviation from the native norms of the language and viewing it as undesirable version have been known to be a major source of disadvantages in work places and social interactions with native speakers (Gumperz and Cook, 1982; Jenkins, 2000; Trudgill, 2006).

Similar assumptions seem to be surfacing to some extent in the field of L2 acquisition and pedagogy. Ellis (1997), for example, is concerned with authorities in the field whereby 'synchronic variation' in language is well understood, in the use of the terms like 'free variation' and 'systematic variation' to denote essential processes in the acquisition of an L2 (pp. 28-29). However, such variability in the learning of an L2 is often viewed and explained by the experts as something to be ultimately 'reduced and, preferably, eradicated' towards total correctness or target-like competence though 'many learners continue to show non-target variability because of fossilization' (Ibid). Accordingly, non-native phonological varieties have been variously described in terms of errors, deviances, distortions and strange pronunciation, and by implication to learners and language pedagogy in general to reduce them (Jenkins, 2000). The traditional paradigm for researches on non-native pronunciation, and its implication for L2 pedagogy, is to evaluate and judge pronunciation using 'native norms' as a frame of reference (Bamgbose, 1998). Clearly, perhaps as a result of all these, not few speakers of English as a second or

foreign language continue to perceive their non-native accent as an unacceptable. Though it requires research on the area, not few Ethiopians, especially youngsters, seem to be of this view as students, teachers, journalists and others are often heard making strenuous effort to sound like native speakers in their English speech in media and other occasions.

Hitherto, non-native phonological variation has been recognized in terms of variation from native norms, and generally considered as lack of correctness (Jenkins, 2000). However, recently, writers have begun to question and challenge some of these dominant trends and suggested for redefinition and reconsideration of the issue. Convincingly, many writers in the field such as Jenkins (2000), Widdowson (1997), Bamgbose (1998), and McKay (2000) strongly argue against rigidly upholding NL or monolingual norms as a reference to judge or to evaluate non-native pronunciation as unreasonable, inappropriate, and unrealistic so far as the current use of English as an international language (EIL) is concerned.

The use of English as an international language has begun to present serious challenges to the traditional views and roles of English with considerable implications to its pedagogy (Jenkins, 2000; McKay, 2003). Particularly, the issue of whether NL speakers of English have the right to dictate standards for L2 use, and if so, to what extent, has become a center for debate among scholars as revealed in some academic journals such as 'World Englishes' , 'Language Learning' and 'International Journal of Applied Linguistics'. Almost all writings on this issue call for the need to re-examine common ELT assumptions and developing a timely and realistic approach towards EIL. Understandably, they give much more emphasis to pronunciation than other aspects asserting that the phonological aspect is where the issue is increasingly becoming significant (Jenkins, 2000).

The bottom line on the matters of pronunciation in the current use of English globally is that there is little reason for us to assume that non-native English pronunciation can only be seen in reference to native norms. One would ask what other options are available instead and this would take our discussion to some practical considerations towards redefined perspective to be considered for studies on non-native pronunciation like the present one and the implication to be drawn for L2 pedagogy.

2.5.1. EIL Phonology: Towards an Appropriate Pedagogy

It is widely felt that the spread of English, which has resulted in new users and owners of the language 'putatively' removed NL speakers as the sole custodians of the language with the right to dictate

standards and prescribe norms (Widdowson, 1997; Jenkins, 2000) . This is especially pertinent when it comes to pronunciation where there has been evidence of increasing divergence, even among native varieties themselves (ibid). These widening gaps in phonology are only compounded when non-native varieties are taken into account. It may be also attributed to a number of factors. Some are like the general idea that Standard English can be spoken in any accent (Trudgill, 2006; Jenkins, 2000); the predominance of cross-linguistic influence in matters of phonology (Corder, 1974; James, 1980; Jenkins, 2000), and the inextricable link between identity and accent (Pennington and Richards, 1986; Morley, 1991). However, as pronunciation differences continue to develop in defiance of NL pronunciation norms, concerns have been voiced about mutual intelligibility; how to ensure that speakers of various Englishes remain intelligible to one another in the context of English as an international language.

The whole issue that is increasingly called into question among scholars in the literature is within between the desires on the one hand, to accept the viability of non- native English varieties, and on the other, to retain intelligibility among speakers of different NL background. The concern is thus on establishing minimum standards of mutual intelligibility or a sort of linguistic standards or pronunciation model against which use is to be measured (McKay, 2003).

A native speaker model approach has traditionally been assumed as a standard reference for non-native use of English (Bmgbose, 1998). However, applying a native speaker model seems to have a variety of problems. Talking specially against the main ideology that L2 pedagogy has hitherto been centered, writers present sound socio-psychological reasons for not pushing learners to attempt to approximate an NL accent too closely (Jenkins,2000:17; Mckay,2003:11). For example, a Standard English pronunciation traditionally known as Received Pronunciation (RP) was used for most of the twentieth century as the one foreign learner should attempt to copy (Roach 2001). However, it is becoming more and more difficult for scholars to define what it is and why it should be treated as such. Among the most widely held issues against RP as a suitable model includes the following: it is spoken by only a small number of speakers; it is by no means the easiest accent for an L2 learner to acquire (as compared to other NL accents); and it has changed overtime (Jenkins 2000:14-15; Roach, 2001). One option that was proposed by the famous British phonetician as long ago as 1956, particularly considered as a resolution for RP's difficult nature for L2 learners to acquire, is that the use of a 'Scottish' or General American (GA) model which are known to have fewer diphthongs and closer orthographic links, and hence easier (to acquire) than RP (Jenkins, 2000).

Other views focus much on the availability of heterogeneous accent varieties in the inner circle (i.e. among native speakers), the unfeasibility of achieving native like competence, the lack of quantity and quality of contact with the model variety etc (McKay 2003). Chief among these is the status of English as an international language today belonging to all its users, and as such, it is 'the users cultural content and their sense of appropriacy', that should be given much emphasis (ibid). In this connection, Jenkins (2000) and Widdowson (1997) call for the need for preserving the identities of its speakers rather than the norms in its origin.

Given that the approach of employing native speaker model appears not to satisfy the various criteria that would render it as appropriate model for EIL, other alternatives such as, the following can be considered. One option most frequently forwarded, particularly for an EFL context, is to focus on a native model that speakers would find more useful in their everyday life in their own country (O'Conner 1980; Gimson, 1975). In relation to an ESL country, on the other hand, is to focus on any L2 regional variety (or used by educated L2 Speakers) that appeals most to the learners (Daniels, 1995). Understandably, however, neither of the above approach seems to be concerned with EIL where the interaction may involve native and non-native speakers of different NL background. Besides, many believe that these alternative accents, particularly those of an L2 accent, are not as most frequently and fully studied, described or codified phonologically to the level that they can be used as 'model' variety as that of RP (Gimson, 1975, O' Conner, 1980).

A further possibility to the problem from an ESL rather than EFL perspective is the one proposed by a scholar called Bhatia (1997) who suggests the recognition of 'nativized norms' for intra-national functions and then to build a norm for international use based on shared features (Bhatia, 1997 cited in Jenkins, 2000). This one is not again without problems for two basic reasons. One is the absence of 'codification', as one criterion for standardization; in the rapidly growing distinctive varieties of English around the world resulting from pidginization, creolization, nativization processes makes developing a common core difficult (Bamgbose, 1998). Second, it does not still give focus to native speakers of English and EFL speakers representing the majority of interactions in EIL.

An interesting possibility that can probably address EIL phonological problem (particularly in EFL countries) is the one suggested by Dalton and Seidlhofer (1994), and subsequently echoed by various writers, which takes us back to the traditional approach of using a standard NL accent (i.e. RP or GA) and

yet with a different premise of using it as a 'model' to be referenced rather than a 'norm' to be followed. Very useful distinction is made by the authors between the two concepts of 'norm' vs. 'model' as their basic rationale against the traditional approach (ibid 2.6 – 2.7).

> *If we treat RP and/or GA as a norm, we connect them strongly with ideas of correctness. The norm is invariable and has to be imitated independently of any considerations of language use. The aim, however unrealistic, is 100 percent attainment of the norm, which is regarded as an end in itself.*

On the other hand:

> *If we treat RP and/or GA as a model, we use them as points of reference and models for guidance. We decide to approximate to them more or less according to the demands of a specific situation or a specific purpose. In other words, a model is always connected to language in use and is therefore variable pronunciation models are pedagogic means to achieve the end of effective communication for specific learners. Ideas of correctness do not really apply – a pronunciation is simply more or less appropriate to a specific use of language.*

In this sense, understandably, RP (or indeed GA) would serve as a model as a line of reference to prevent non-native speakers from diverging too far away from each other, which can safeguard intelligibility in any kind of interaction. With such shift of premise to use a native variety as a model for reference rather than a norm to be followed, authorities seem to be in favour of RP/GA as suitable standards arguing for additional grounds in relation to wider-range of their use among non-native speakers and the phonological and phonetic description and knowledge already available in the literature (O'Conner, 1980; Gimson, 1980; Jenkins, 2000; Roach, 2001).

Most importantly, speakers (or learners), rather than attempting invariably to imitate a native norm, are expected in this approach to adjust their accents further towards either the NL or L2 according to the context of interaction. These aspects of using a native model are particularly significant with respect to attitudinal problems and identity issues in EIL. This approach of adjusting accents when necessary is what Jenkins (2000) refers to as 'the process of accommodation' in her lately forwarded proposal of the 'lingua franca core' – which seems to be closely tying with Dalton and Seidlhofer (1994) but with far greater focus on 'the actual interaction among non-native speakers' as a basis for it. As discussed below, what she adds is an 'intelligibility core' to be identified on the basis of sources of intelligibility loss and to use 'accommodation skills/process' as a central consideration apart from applying a standard RP/GA model for pedagogical reference.

With reasonable modifications of the previous assumptions which focus much on native speaker model, in what follows, Jenkins (2000) examines the issue with predominant reference to the nature of interactions and the way English is pronounced as an international language, and presents thought provoking ideas about standards and teaching priorities. Throughout her book entitled 'The phonology of English as an International Language', Jenkins convincingly maintains that the increasing number of bilingual users of English and the de-linking of English from English as a native language (ENL) countries warrant a new pronunciation model. She believes that applying a native speaker model appears 'backward-looking and inappropriate for an international language' (p.18).

Jenkins (2000) strongly argues that any solution to the phonological problem in the current use of English in the international context must consider carefully the particular nature of interactions among users of EIL. In this regard, Jenkins (2000:10-18) categorizes international users of English into three major groups as native English speakers (NES for short), bilingual English speakers (BES for short), and non-bilingual English speakers (NBES for short). The first group refers NL speakers who interact with non-native speakers in the international context for different purposes; whereas those non-native speakers who have learnt English as a second or foreign language and achieved 'bilingual status as fluent, proficient users of English' are generally referred to as BES. On the other hand, NBES refers to those non-native speakers of English, who have learnt English as a second or foreign language and have limited English proficiency and/or who may have no desire to speak it native-like for identity reasons and whose English is explained 'to the level at which it only serves their particular international communicative purpose' (p.10, 18). In other words, NBES represent those 'who continue to show non-target English variability while still short of target-language competence' (Ellis, 1997:29).

According to Jenkins (2000), NBES represents the major group of English speakers today in EIL context, yet also involves native-like proficient BES and NES as well. This holds true in line with researches on L2 acquisition which have confirmed that the majority of non-native learners do not reach the completion stage in their learning of English towards native-like competence (Ellis, 1997). Logically, therefore, NBES are 'the world's major group of EIL speakers' today and any proposal towards matters of phonology of English in the international context and its pedagogical implication as well must be based on the examination of what these speakers actually do' (p.18). Making important distinction between interactions among NBES from that of BES and NES, who both are characteristically different, Jenkins calls the kind of interactions among NBES as 'Interlanguage Talk(ILT)' from which her proposal is built.

Interlanguage talk (ILT) is the term used by Jenkins (2000:19) to describe the interaction among NBES, applying to the widely cited Selinker's (1974) L2 acquisition theory of 'Interlanguage', which is used subsequently by others, to describe 'the simplified linguistic code' of an L2 speaker. While the notion of interlanguage in the learning of new pronunciation will be discussed in more detail ahead, Jenkins's series of studies of ILT in a classroom of international students refers specially to the speech of EFL speakers from different NL as they engage in interaction. They are described as their 'English has either fossilized at some point along the interlanguage continuum before achieving bilingual status, or is still in the process of moving in that direction'. Meanwhile, ILT does not include in it the speech of ESL or ENL community who speak English as an established ESL or ENL variety respectively' (ibid: 19) though they make up the group as they interact in EIL (ibid: 10).

In her examination of ILT, Jenkins (2000:19-20) provides detailed explanation of its characteristics that in most cases representing the interaction among speakers of EIL today. One is that errors and problems of understanding arise from the imperfect command of the language in general, and in pronunciation in particular mainly arising from NL phonological transfer and developmental processes in the learning/ acquisition of L2 phonology, which is found to be exerting far greater problems. Referring to the theory of interlanguage, Jenkins explains that many segmental variations (i.e. phonetic and phonemic variations observed among speakers) mainly arise from the complex processes embedded in learning new pronunciation such as habit formation in L2 production and interlanguage categorization (categorizing L2 sounds with mother tongue sounds). Besides, in the ILT data, the role of context is found to be very little to facilitate understanding among the interlocutors (ibid). Jenkins reasonably associates this one with lack of/ inability of NBES in making use of contextual cues, which leads them to rely predominantly on acoustic signals and concludes that NBES interlocutors tend to process information receptively in a 'bottom- up' rather than 'top- down' manner.

As a result, she observes that ILT interlocutors spend more time negotiating because of communication breakdowns arising mainly from pronunciation problems. In support of other similar studies, Jenkins's (2000) ILT report have pointed to pronunciation as playing the major role for intelligibility loss and that the problem of mutual intelligibility is especially greater when the gap increases between the interlocutors linguistic (i.e. mother tongue) background (p.19). Her data also proves that almost no intelligibility loss occurred because of other factors like grammar or vocabulary and that pronunciation is the single most problematic communication area.

2.5.2. Intelligibility Core and the Ability of Accommodation

Having examined the nature of interaction and intelligibility problem involving both the production and reception of NBES, Jenkins's (2000:21) proposal for resolving EIL phonological problem is 'to establish some sort of pronunciation core of intelligibility and to find ways to encourage speakers to develop the ability of accommodation process' (i.e. adjusting one's speech according to the context of interaction). For Jenkins, the pronunciation core would be established through identifying precisely which phonological and phonetic features of ILT affect intelligibility and then pedagogic measure would be devised to facilitate accurate productions of those areas.

Regarding the accommodation process, to be used parallel to the former, speakers may adjust their speech either in the direction of or away from their interlocutors according to the context of interaction. These processes are called 'convergence' and 'divergence' respectively (ibid). Jenkins (2000:21) reminds us that such act of speakers is known in the field of linguistics as the 'Communication Accommodation Theory (CAT)', and convincingly addressees that this theory potentially has the greatest contribution to make to ILT pronunciation problems, and, thus, to EIL. Particularly, the convergence process seems to be of much importance in the use of EIL because speakers can adjust their pronunciation when they interact with speakers of different NL background. In this regard, Jenkins emphasizes that speakers can 'adapt and adjust their speech to make it more comprehensible – and, no doubt, acceptable to particular interlocutors in particular settings' (ibid: 21).

Jenkins reasonably sees the importance of CAT above in two ways as both convergence and divergence fit to the original motivations upon the speakers to perform either way when the need arises. For example, one may want to converge because of the desire to be liked by one's interlocutor (at interpersonal level) and the desire for membership of the community represented by an interlocutor (at group level). On the other hand, however, group identity is more commonly associated with the process of divergence in an attempt by non-native speakers to preserve or show their own sense of identity (ibid). Both motivations, however, are central to EIL in that they are mutually inseparable as speakers can act the accommodation conditions according to their desire (ibid).

The other important advantage of accommodation process is that it is helpful not only for speakers but also for listeners. As listeners also take part in the communication process, they have their own to contribute towards mutual intelligibility. "Receivers", therefore, "need to develop a greater tolerance of

deference and the ability to adapt and adjust their expectations according to the interlocutor and setting" (ibid: 21).

By making some suggestions for the context of English in Ethiopia, let us recap this section that reviews current trends in the use of English today as an international language (EIL) and its implications for pronunciation teaching as ESL/EFL. It has been evident that English is a global lingua franca performing international functions for a wider range of purposes among people of different NL background. Unequivocally, the interaction is not only among non-native speakers themselves but also between native speakers and ESL speakers. Meanwhile, new users, new owners, and new variety of English exist around the world. This is particularly significant in the area of pronunciation. Mainly because of the phonetic and phonemic transfer from the respective mother tongue of the speaker, mutual intelligibility among non-native speakers of different NL background, and between native speakers and ESL speakers may be difficult (Jenkins, 2000). Today, scholars would not often argue against a non-native English viability in the international context, and thus only native English is hardly a suitable model for all language users in the current function of the language.

2.5.3. Considerable premises for Ethiopian schools

Among the proposals forwarded to alleviate the EIL phonological problem, Jenkins's (2000) model of the 'pronunciation core of intelligibility', and 'accommodation process' appears to be far more convenient, realistic and beneficial for all users of EIL. The greatest advantage of such an approach is that not only it reconciles the ideological problem among all users of English around the world but also facilitates mutual intelligibility. Meanwhile, it appeals much both to native speakers and non-native speakers to develop a sense of 'plurality and flexibility', which many have advocated before for its contributions towards the goal of effective communication at international contexts (Gumperz and Cook, 1982:14).

What is entrenched in Jenkins's intelligibility core is Dalton and Seidlhofers' (1994) basic premises towards the use of standard native variety as a model rather than a norm (Jenkins, 2000). Jenkins based her Lingua Franca Core on the well-known native-like pronunciation models. Based on RP and GA, the LFC is extracted from interactional speech data: the non-native-like productions of English are compared to native-like RP or GA pronunciations to see which sounds are difficult for learners of English (Jenkins 2000: 131). Additionally, Jenkins looked at the actual responses of the subjects: it was determined where the deviations from the RP or GA norm really caused intelligibility problems (Jenkins 2000: 131).

Logically, applying Jenkins's intelligibility core and accommodation process with Dalton and Seidlhofer basic premises of using a standard native model appears to have much more useful implications for Ethiopian learners of English and the TEFL program in the teaching of pronunciation. In this sense, it is crucial to build awareness on the following aspects, and use it as a basic rationale for devising pronunciation curriculum for Ethiopian learners of English. One is establishing an intelligibility core based on careful investigation of the nature of interactions (over pronunciation) learners have with their interlocutors including native English speakers and non-native speakers of different NL background. This holds essential because the kind of interaction Ethiopians are likely to have in the context of EIL involves both native and non-native speakers. This means identifying the problems and difficulties of intelligibility the learners may have in their interactions with speakers other than their compatriots - with native speakers and non-native speakers of other NL background – would provide essential input for pedagogical decisions, as Jenkins calls it 'intelligibility core'

Meanwhile, to identify an inventory of characteristic pronunciation difficulties Ethiopian learners experience in spoken English with reference to a standard model (RP or GA) appears to be valuable in the sense of using it as a model reference towards learners' improved pronunciation in learning and teaching. Though there is an ongoing ideological debate among scholars on the use of native English standards as a reference to measure and teach English pronunciation, it should be noted that the issue is not only more likely complicated and far more politicized than it should be but also firm conclusions is hardly available on what model to use in teaching like a country in Ethiopia. For EFL contexts like in Ethiopia, scholars such as O'Connor (1980) have long been convinced that standard native language model should be applied for pronunciation teaching. Above all, Daltons and Seidlhofers'(1994) proposal to use RP or GA *as a model, not as a norm*, is far more conceivable in teaching and learning pronunciation for Ethiopian EFL learners. This, however, should not be confused with establishing context-sensitive 'intelligibility core' for our learners based on their actual interactions in their use of English as EFL or ELF so that priorities could be made for what to focus on most in classroom instructions.

Thirdly, and equally important with the above two, is to expose learners to the different accent varieties and to encourage them develop a sense of readiness and develop a skill of plurality and flexibility in the wider context of their communication. Jenkins (2000) elaboration for developing the learners' ability of accommodation, as discussed above, assumes two basic principles which apparently are applicable for

the Ethiopian context: 1) to develop a skill and sensitivity to adjust one's speech according to the context of interaction, 2) to develop familiarity and readiness to recognize and understand English varieties spoken by other speakers.

The bottom line in all of the discussion above can be summarized that to label NL influenced phonological departure of ESL/EFL pronunciation as 'errors' or 'acceptable' is complicated. While it is true that lack of proficiency in general, and that of phonological variation in particular can certainly impede communication in international communications (Jenkins, 2000), it seems no longer appropriate, however, to regard all non-native phonological variation as 'automatically deviant'. Yet the issue is more likely seen logically if changing patterns nowadays in the use of English as an EIL is taken into account. As Jenkins (2000:32) puts, 'it doesn't follow that phonological departures are acceptable (or appropriate) in their *unadulterated form* for international use' (emphasis added). This statement indeed accentuates that so long as phonological transfer or any kind of deviation affects international communication, they can be considered as errors and pedagogy should treat them as such. Hence, phonological adjustments on such features is necessary upon both the ESL and the EFL speakers to render themselves intelligible on international contexts if they wish to be understood by speakers of varieties of English other than their own.

2.6. Difficulties in Learning and Use of ESL/ELF Pronunciation

Below is a review of three distinct (but interrelated) bodies of literature that contributed to the theoretical framework that informs this research. These include theories of Second Language Acquisition, existing researches in L2 phonological acquisition, and intelligibility of non-native speech in the context of English as an international language.

2.6.1. Second Language Acquisition: Introduction

Second language acquisition (SLA for short) is the systematic study of how people acquire a 'second language', a general term used in the field to any language that is learnt subsequent to the mother tongue as a second or foreign language, either naturally as a result of living in a country where it is spoken, or in a classroom through instruction (Ellis, 1997, Richards, 1974). The field of L2 acquisition lays theoretical grounds for any explanation of ESL/EFL pronunciation learning, and/or for any pedagogical

implications drawn (Richards, 1974). So this study makes relevant references to it as it takes account of learning and using English pronunciation for Ethiopian learners.

In the quest of the field to take account of how second languages are learned and what factors contribute, a number of hypothesis have been developed overtime. The earliest systematic development in the field is the notion of 'intersystem interference', as proposed for the first time by a widely cited scholar called Robert Lado (1957), which hypothesizes the native language of the learners as the key challenge learners encounter in learning of an L2 (Richards and Sampson ,1974; Stern, 1992). As a result, identifying contrasts between two language systems became a common practice in applied linguistics, which subsequently led to the rise of a field of research called 'Contrastive Analysis' (Brown, 1987; Richards, 1985).

According to James (1980:3), "CA can be broadly defined as a linguistic enterprise aimed at producing inverted (i.e. contrastive, not comparative) two-valued typologies (i.e. always concerned with a pair of languages". In other words, CA is a systematic comparison between the target language and the mother tongue of the learner. "Yet it is not concerned with classification, and as the term contrastive implies, more interested in differences between languages than in their likeness" (James, 1980:3).

According to contrastive analysis, which still proves prevailing today (Jenkins, 2000, 2004), is that errors that L2 speakers make are largely the results of NL interference. That is, the habits of an NL prevent the learner from learning the habits of an L2 (James, 1980). In the belief that interference, and thereby learning difficulty, can be predicted by identifying those areas of the target language different from that of the learner's NL, comparisons between two languages are carried out using contrastive analysis, and the resulting list of differences are used to make decisions about teaching priorities (Ellis, 1997; Stern, 1992; James, 1980, 1998).

Leading to the development of a new look or paradigm of L2 learning, linguists cautioned contrastive analysis as overly theoretical and merely focusing on linguistic contrast and proposed for closer study on actual performances and various strategies in L2 speech (Richards and Sampson, 1974; Richards, 1985). As a result, rather than mere contrast of two language systems, 'the main way of investigating L2 acquisition became collecting and describing samples of learner errors in actual performances', which gave rise to a field of research called 'error analysis' (Ellis ,1997:15).

Errors are, therefore, of such central focus in the study of L2 acquisition and hence in a description of an L2 speech. Corder (1967), who is one of the originators of error analysis, defines the concept of error and its role in the learning of a new language. In L_2 learning, as Corder observes, errors are indicative of 'the state of the learners' knowledge', 'the strategies one employs to work out the rules of the new language development', and thus the ways in which a second language is learned. The basic assumption is that "It is by reducing the language to a simpler system than it is that the learner reveals his tendency to induce rules", Corder (1967:23). The learner's correct performances, on the other hand, are viewed as not necessarily giving evidence of the rules the learner is using or of the 'hypothesis' he is testing (ibid).

Making use of Chomsky's distinction to distinguish errors in L2 from mistakes (as cited in Radford, 1981), Corder (ibid: 167) defines 'errors' as 'systematic deviancy' associating them with 'failures in competence', and 'mistakes' with 'failures in performance'. Corder (1967:167) upholds the 'competence' versus 'performance' distinction, insisting that mistakes are of no significance to the process of language learning since they 'do not reflect a defect in our knowledge' (are not caused by incompetence) but are manifested in performance failure. For this reason, errors become the central focus of studying L2 language learning and use (Ellis, 1997:15), and collecting and analyzing errors (error analysis) become the obvious methodological approach in the quest of investigating the learning of a new language (Brown, 1987:169).

Research on SLA has sought to show what constitutes the entire linguistic system of the second language and explored as it is influenced by a number of many other factors other than NL transfer and/or errors alone (Richards and Sampson, 1994). A growing number of terminologies such as 'idiosyncratic dialects', 'approximative systems', 'transitional competencies', etc. are used in the literature to address the learner's internalized grammar of an L2 he is learning which is often called 'interlanguage' (Corder, 1967; Selinker, 1972; Richards and Sampson 1974; Richards, 1985; Brown, 1987). A review of writing on interlanguage suggests that several factors may influence and characterize the second language learning and the system a learner develops.

The concept of interlanguage was coined by the American linguist, Larry Selinker (1969, 74), in recognition that L2 learners construct a linguistic system called interlanguage (IL) that draws, in part, on the learners' NL (NL) but is also different from it and also from the target language (TL). Selinker (1974:35) considers the following to be 'processes central to second language learning: *language*

transfer, transfer of training, strategies of second language learning, strategies of second language communication and over generalization of TL linguistic material' (emphasis in original).

He also hypothesizes that learners may stop developing somewhere in the interlanguage continuum before the completion stage of acquiring every grammatical structure of an L2. This is associated with what he calls 'the latent language structure (a structure in the brain as a biological counterpart to what is known as universal grammar (UG)', and that absolute reactivation of this structure is very rare in L2 learning. It is for this reason that we can talk of fossilization to refer that many learners may remain short of target-like competence and/or it is rarely achieved (ibid:34).

The concept of interlanguage involves the following premises about L_2 acquisition and use as Selinker's theory is summarized by Ellis (1997:33-34).

> *1) The learner constructs a system of abstract linguistic rules underlying comprehension and production of the L2. 2) The learners' grammar is permeable, that is open to influences from the outside. 3) The learner's grammar is transitional. 4) The systems learners construct contains variable rules. 5) Learners develop various learning strategies to develop their interlanguage. 6) The learners' grammar is likely to fossilize.*

A field of research in interlanguage discovered a number of factors involved in interlanguage in line with Selinker's central processes we mentioned earlier. These are language transfers, intralingual interference, socio linguistic situations, modality, age, developmental factors, and many others (Richards, 1974; 1985; James, 1998; Brown, 1987). Based on the nature of the factors involved, Ellis (1997) puts forward four approaches of looking at interlanguage namely 'social aspects of interlanguage', 'discourse aspects of interlanguage', 'psycho linguistic aspect of interlanguage' and 'linguistic aspect of interlanguage' (pp 37-71). Some issues of these factors that are of special importance to the purpose of this study are touched up on as follows.

The importance of social factors in the learner's interlanguage are acknowledged by incorporating three different social angles with reference to 'style', 'acculturation' and 'identity' (Ellis, 1997: 36-37). The first views 'interlanguage as consisting of different 'styles' which learners call up on under different conditions of languages use'. The second concerns 'how social factors such as values, attitudes, and motivation towards L2 learning determine the input that learners use to construct their interlanguage'. The third considers how 'the social identities that learners negotiate in their interactions with native speakers shape their opportunities to speak and, thereby, to learn an L2 (ibid: 37).

In the psycho-linguistic aspect of interlanguage, the mental structures and processes involved in the acquisition and use of language are found to be prominent. First language transfer, the role of consciousness, processing operations, and communication strategies are some of the major issues focused in this approach (Ellis, 1997; Richards and Sampson, 1974). Regarding first language transfer, as Ellis (1997:51) explains, it can be revealed in a number of ways such as 'negative transfer' (as a source of errors), 'avoidance and over use' (as a strategy to cope up with the new language). Reviewing what has been established in the field, Ellis sees the transfer of NL as a major source of errors in the L2. However, in some cases, 'the learner's NL can facilitate L2 acquisition' depending on the similarity of the two languages, and 'this type of effect is known as positive transfer' (ibid: 51).

We have seen the major ways of investigating the learning or use of an L2 or the different aspects in it namely contrastive analysis (for predicting NL transfer), error analysis (for tracing actual errors made), and interlanguage (to account for different factors influencing an L2 other than NL interference). These approaches apply to all aspects of language at the level of phonology, syntax, semantics and discourse. Research on L2 acquisition that focused on learning and use of new pronunciation, which is generally referred to as L2 phonological acquisition research, and its implications made for research and pedagogy, illuminate the kinds of views and perspectives that preoccupy this study.

Second language phonological acquisition has been investigated in terms of speech perception and speech production. Interest in L2 speech production and perception began earlier, while L2 intelligibility research grew more recently. Research on L2 speech perception and production has been conducted for the purposes of developing and refining theories of L2 phonological acquisition, which have significant implications for teaching and learning (Brown, 1997). As Ellis (1997) points out, the factors that facilitate L2 speech production are as important to understand as those that interfere with it, so that teaching methods and learning strategies can address areas of both strength and weakness for L2 learners. The factors that affect L2 perception and listening comprehension also yield important clues as to what will facilitate and impede listeners' participation as interlocutors.

Intelligibility studies can shed light on how L2 English speech is perceived by specific types of listeners for particular contexts and purposes (Levis, 2005; Munro and Derwing, 2005). In terms of teaching applications, the literature reflects that intelligibility data have been used to determine the teaching priorities of English pronunciation curricula by establishing error gravity hierarchies. While the majority of intelligibility studies depend on the judgments and comprehension of native listeners, due to the

unprecedented spread of English use worldwide, however, some scholars have used non-native listeners and have recommended reevaluating the basic assumptions of SLA research including intelligibility in order to better reflect the fact that the majority of the world's users of English today are nonnative, rather than native speakers (Jenkins, 2000). The general consensus, however, is that standard of oral proficiency and intelligibility differs according to the needs and requirements of specific listeners and contexts. Accordingly, significant research has been devoted to determining English oral proficiency and intelligibility level for particular speaker groups, and the approach followed is often, and should be, justified with the learners' needs and the context of their interactions (Levis, 2005).

Therefore, below is a review of existing researches on L2 phonological acquisition. The research reviewed, therefore, identifies factors which affect L2 speech production and perception, or an L2 learner's pronunciation in general. These include linguistic factors, such as NL phonetic and phonological properties as well as extra-linguistic factors, such as age of L2 learning, degree of exposure and trainings, motivation and goal setting, etc. This section then culminates in a review of research on intelligibility of non-native pronunciation highlighting the perceptual consequences of 'foreign accented speeches' to listeners at different contexts.

2.6.2. Research in L2 Phonological Acquisition

One such factor that distinguishes L2 acquisition from L1 acquisition is the fact that the second language learner comes to the task of acquisition already knowing a language. Most current theories on L2 acquisition, in fact, assume that the native language of the learner plays a significant role in acquiring a new language. Although researchers generally agree that learner's existing linguistic knowledge exerts the most important influence on the learning of L2 phonology, there is considerable consensus that there are a range of other processes and factors (i.e. what is generally known as interlanguage factors) interacting with the role that the native language plays. Moreover, existing research suggests that the influence of the native grammar is not absolute: some aspects of the NL seem to prevent successful acquisition of particular L2 structures, whereas other properties of the L2 are acquired with little or no interference from the native grammar (Brown, 1997).

This section develops a review of L2 phonology literature, couched within the respective phonological theory and the line of research approach, and accounts for the influence of the NL phonology interacting with interlingual processes in pronunciation learning and the difficulties learners would encounter in

their use of the language. The first branch of research on 'contrastive analysis framework' demonstrates how L2 learners' native phonological structure restricts learners' sensitivity to non-native phonetic and phonological aspects which are lacking in the learners' NL. The second line of phonological theory and 'interlanguage-based' research approach make use of how the continued operation of L2 learners existing phonological structure establishes its own phonological system or 'interlanguage', and constrains acquisition of subtle differences between the NL and the target language. By isolating and characterizing those phonological properties of the NL that impinge upon L2 acquisition, it offers an explanation for why learners face difficulties in perceiving and discriminating L2 sounds which are also shared by the NL and in what ways they are capable of acquiring successfully. Also, by demonstrating how the NL grammar can both facilitate and hinder acquisition, the findings provide an account of why differential success among speakers of different NLs can occur in acquiring a given non-native pronunciation; it also accounts for the differential success that speakers with the same NL have in acquiring various aspects of non-native pronunciation. Thirdly, by forging a link between phonological interference and other interlingual processes, further lines of research demonstrate how learners' individual, social, and psychological factors interact with the complex processes of NL transfer and, thereby impinge L2 phonological acquisition; signifying learning new pronunciation is not just a linguistic matter.

2.6.2.1. Within Contrastive Analysis Framework

Originally developed by Charles Fries (1945), and expanded and clarified by Robert Lado (1957) (cited in Spolsky, 1979), and demonstrated by innumerable researches, contrastive Analysis Hypothesis (CAH) assumes that many of the mistakes made by learners are caused by differences between the native and target languages. Previous researches made on CAH framework attempted to explain L2 learning difficulty only on the basis of differences between the NL and TL claiming that the NL-TL difference is the most important problem in learning the TL.

An increasing number of factors are known to be involved in the learning of new pronunciation. Scholars have tried to establish hierarchies of importance among all known factors and commonly put the learners' NL as exerting the most important influence (Kenworthy, 1987). Mother tongue influence is therefore often regarded as the main source of difficulties, reduced to a formula somewhat like "more differences between the native and target languages = more difficulties in the learning of the target

sounds", or "L2 sounds non-existent in the native language = sounds difficult to produce" (Kenworthy, 1987; O'Connor, 1980; Kelly, 2000).

At its best, contrastive analysis is still a prevailing theory of SLA, widely used by teachers because of the current emphasis in L2 pedagogy on individual learner needs. As Jenkins (2004: 113) claims, "Teachers have always continued to believe in the important influence of the mother tongue on L2 pronunciation acquisition". For Jenkins, 'the interest in contrastive analytical research itself has never disappeared entirely, even though it is nowadays complemented by an equally robust interest in other approaches to interlanguage phonology' (p.113). The continuing use contrastive methodology in contemporary L2 pedagogy has been reviewed and appreciated by Jenkins (2004) for its use, e.g. in many Southeast Asian countries, in determining a range of phonetic and phonological differences between learners' native language and English to provide details for teacher trainings, text books, and practice activities for use in the classroom.

Because of the role that the native language plays, there has been a great deal of research in which the sound systems of English and other languages are compared and the problems and difficulties of learners predicted. Kenworthy (1987) and O'Connor (1980), for example, have compiled results of contrastively predicted difficulty areas of English pronunciation for speakers of Arabic, Cantonese (one variety of Chinese), French, Germany, Greek, Italian, Japanese, Spanish, and Turkish. In their advice to foreign learners of English, they give emphasis to the difference between the NL and English.

While the literature has documented a large body of contrastive studies between English and the learners' native language as a foundation for awareness building and pedagogical readiness in pronunciation teaching, none seem to be the case in Ethiopia. There are, however, a couple of studies exclusively devoted to contrasting the phonology of the NL with the TL and predicting pronunciation difficulties for Ethiopian learners speaking Amharic (Taddese, 1966) and Afan-Oromo (Itallo, 1988) as NL. Because of the particular relevance these studies have to Ethiopian learners, the present dissertation dedicates a wider review to them throughout the report. Based on the degree of similarity and difference between the phonology of the NL and the TL, contrastive studies often classify and rank predicted pronunciation problems into different types as phonemic, allophonic, phonetic and distributional. Following such classifications, Italo (1988) and Taddese (1966) predicted potential segmental problems for Ethiopian learners of Afan Oromo and Amhara speakers respectively.

The earliest systematic approach to the acquisition of L2 phonology and the difficulties learners actually have in the use of the TL was undertaken within the contrastive analysis framework and has often attributed learner difficulties to the differences between English and the learners' L1 phonological systems. Even though most earlier studies on second language phonology learning by ESL learners seem to have focused on speech production, more recent studies have included the extent of mother tongue influence on the perception of L2 speech sounds following the claims documented in the literature that perception informs production (Bradlow et al. 1997; Flege et al. 1995); so learners' perception of the new pronunciation and the extent of mother tongue influence on L2 speech perception are also worth investigating. In addition to pronunciation difficulties of L2 learners on perception and production of vowels and consonants, researches have recently acknowledged the difficulties learners would have and the extent of mother tongue influence with suprasegmental because of the role they have for the learners both to understand English when they hear it and to be understood when they speak it (Morley, 1991; Derwing and Munro, 1997; Jenkins, 2000).

Within the current contrastive analysis tradition, the primary question addressed by researchers have been how the NL influence the acquisition of L2 segmental and suprasegmental, where acquisition is measured by the learner's ability to perceive and produce those aspects which are not found in the NL phonology. As demonstrated below, ESL learners' difficulties of the new pronunciation and the extent of mother tongue influence on the learners' speech perception and production have been approached by predicting potential problems via linguistic contrast and then measuring actual difficulties in terms of learners' errors. The fundamental prediction of these researches arises from the theoretical view that phonological representations in the TL that are different from the corresponding structures in the NL will cause learning difficulty. The central claim of measuring actual learning difficulty in terms of learner errors is that other things being equal, the more errors made on a structure, the more difficult that structure is interpreted to be (Richards, 1974).

Several studies have tried to verify if feature in the TL that are different in the MT will prove to be points of difficulty in learners' actual perception and production (Italo, 1988; Chan, 2007; Moustofa, 1979; Jilg, 1999). Sample researches are reviewed below and almost all have commonly confirmed that areas of differences between the phonology of English and learners' NL cause greater difficulties for the subjects' pronunciation performances. Meanwhile, these studies have also demonstrated that all non-native

phoneme categories do not exert equal amount of difficulties for the learners; nor do novel phonemes represent the entire problems L2 learners encounter.

In one study conducted on Ethiopian learners, Italo (1988), for example, empirically investigated 62 Oromo speakers' discrimination and articulatory abilities of novel English phonemes. Phonological contrast was first made and problem areas predicted by contrasting English segmental with its Afan Oromo counterpart. The resultant lists was presented in minimal pairs for the subjects to discriminate and articulate, and the difficulties Oromo speakers actually have in their perception and production were identified based on the errors the subjects made in each task.

The contrastive analysis Italo conducted at priori of the test presents some English phonemes and syllable structures that are not found in Afan Oromo. One of the predictions made referred to long vowels and diphthongs which are described as absent categories in Afan Oromo and thus Oromo learners would use their relatively small number of vowels to cover the English vowels. Consonants such as interdental fricatives /ð and θ/, voiced labio-dental fricative /f/; short vowels such as the mid central vowel /æ/; syllable structures such as all English consonant cluster and final open syllables were among the list of novel English phonemes and predicted as potentially problematic areas. To verify if they are actually a source of problems for the respective learners, the errors learners made for each of the target phonemes were counted separately and analyzed under the respective category of consonants, vowels, diphthongs, words in closed and open syllables, and consonant clusters.

Forced word discrimination task was used for the perception test in which the subjects were made to choose one from two given possibilities for the word they heard in a tape. The results of the data proved that areas of differences between the phonemic systems of English and Afan Oromo caused actual difficulties for the Oromo subjects to discriminate. For example, pairs of sounds which Italo found causing the greatest perceptual confusion include consonant sounds like /f - v/, /z - ð/, /d - ð /, /t - Θ/, /s - Θ/, /b - p/, /n - ŋ/, /tʃ - dʒ/; vowel sounds like /e - æ/, /æ - ʌ/, /ʌ - a:/, /ɪ - i:/, /e - eɪ/, /ɔ: - aʊ/, /ɪə - eə/ and /aʊ - əʊ/.

While Italo verified his contrastive based prediction for vowels and consonants actually causing perceptual difficulty, the author discovered a different pattern regarding novel syllable structures as the subjects were reported to have no considerable difficulty and even no problem at all in discriminating consonant clusters and closed – open syllable contrasts respectively. The results for consonant clusters

must, however, be seen in caution given that the discrimination stimulus used did not present English consonant clusters to the level of three and four in all positions. Meanwhile, the speech token presented for the subjects for discrimination were from non-native speaker of English (perhaps an Ethiopian one) that might not only share the same problem of the learners but also sound in his/her accent too familiar to the subjects.

More interestingly, Italo revealed non-contrastive-origin problems that were not sorted out in his predictions before. For instance, the study demonstrated variation among Oromo speaker subjects in discrimination performance depending on the linguistic environment where the target features occur. The perception data showed better discrimination performance of the subjects for word initial /f – v/ and /b – p/ contrasts than they did for word final positions.

In the same study, Italo also designed a production test to find out whether or not Oromo subjects could produce novel English segments which they discriminated in his perception experiment. By tape recording the subjects reading aloud sentences containing target minimal pairs and then judging for 'correctly said items' based on phonemic transcription of the rendered speeches, Italo discovered the same pattern of problem as revealed in the perception test showing novel phonemes causing actual production difficulties. Nevertheless, the extent of difficulties exhibited for each test shows that the subjects were far better in discrimination than in production, suggesting that novel sounds may not exert the same amount of difficulty in perception and production.

One of the findings of the production test in Italo that his contrastive prediction lacks refers to the different degree of actual difficulties the subjects encountered from vowels and consonants and across phonemes as well. For instance, vowels presented greater production problems for Oromo speakers than consonants. In relative terms, some vowels such as /e-ei/, / au-əʊ / and /æ-ʌ/ were found to be more confusing for the subjects to produce than others such as /e-æ/, /e-ə/, /ɪ-i:/, /u-u:/, /ɔ:-əʊ/, and /ɪə-ea/. Likewise, consonants like /ð, ŋ, Θ, v, dʒ/ caused different degree of difficulty as shown in their order (i.e. /ð/ as the most difficult one while /dʒ/ the least). On the other hand, words with closed - open syllables and consonant clusters with two sequences (occurring both initially and finally) were reported causing no significant problem for the subjects. Consonant clusters with three or more sequences, however, posed production difficulties indicating that the number of consonants in clusters affected the degree of problems.

On the whole then, it can be said that both the speech perception and production tests conducted by Italo verified that novel phonemes predicted contrastively are actually causes of difficulties for Oromo speakers' production and perception. The study however demonstrated that all non-native phoneme categories do not exert equal amount of difficulties as predicted contrastively. Rather, vowels were found to be the most difficult phonemes for Oromo learners followed by consonants and consonant clusters, while open-close syllable formation posed no difficulty at all. Besides, the study revealed that non-existent phonemes in Afan Oromo caused both perception and production difficulties for the Oromo subjects, yet with different degrees: greater difficulty on production than discrimination. Contrastive area of differences between the phonemes of English and the learners' NL has long been claimed by researchers to be sources of problems for the ESL/EFL learners. However, different degrees of problems in terms of phonemic categories, position of the target sound in the stimuli, and type of speech process were accounted in many other studies to be equally playing a role in L2 pronunciation learning, apart from contrastive – origin problems, (Jenkins, 2000; Pennington and Richards, 1986).

Researchers therefore extended their studies further by investigating the relative problem that each phoneme pauses on perception and production. So the extent of difficulty caused by novel phonemes was compared with that of non-novel ones. In one study, for example, Chan (2007) asked whether mother tongue influence has a greater effect on speech perception or on production, and if learners only face difficulties from the non-existent phonemes. Chan examined the ability of forty advanced Cantonese (Chinese) learners in Hong Kong in producing and perceiving English obstruent (a fricative or plosive) and sonorant (voiced) consonants. Based on a series of speech perception and speech production tasks that compared the extent of difficulty caused by target novel English sounds with the ones shared by the NL and the TL, Chan's study gave confirmatory evidence to the claims of CA that the Cantonese subjects encountered more difficulties with L2 sounds which are non-existent in their native phonological system than those which are shared by both the native and target languages. Yet, additional source of problems were also discovered including those shared by the TL and the NL.

Based on transcribers impressionistic judgments of 'accuracy' (sound productions that were modified in one way or another were counted as non-target productions and those which did not exhibit any modifications were counted as target productions) for read aloud tape recorded speeches, the results of the data led Chan (2007) to conclude, in addition to phonemic inventory gaps between Cantonese and English, voicing contrast and distribution gaps between phonemes, even those shared by the two

languages, to be the main factor contributing to production difficulties for Cantonese Chinese subjects. For example, production of obstruent which are found in both Cantonese and English phonological systems such as /f/ and /s/ was better than their production of English obstruent consonants which are non-existent in Cantonese such as /ϴ/, /v/, / ð/, and /z/. On the other hand, the production of voiced obstruent consonants such as /ð/ and /z/ received much poorer accuracy rate (10 %) than their voiceless counterparts /θ/ and /s/ (over 90%). Chan's findings seems to be consistent with other studies indicating that non-existent features (eg. voicing) in the learners' mother tongue may equally contribute to learners' production difficulties apart from absence of phonemic categories (Brown, 1997). We will review the influence of NL grammar on NL transfer in some details in the next section referring to interlanguage based pronunciation difficulties.

Other instances in chan's study on Chinese participants' production of English sonorant consonants demonstrated that segment distribution gap between English and learners' mother tongue also cause difficulties for the learner's production (in addition to non-existent phonemes). This was manifested as Chinese participants' overall accuracy rate for the production of both English sonorant consonants /r/ and /l/ exceeded 80%, yet exceptionally very low score for word-final /l/ which received an accuracy rate of only 13%. The author reasonably explained that such lower accuracy rates of his subjects for /l/, which is existent in both Cantonese and English phonological systems, was caused by distributional difference between the two languages. It is noted that Cantonese allows only word initial /l/ contrary to its occurrence in both initial and final positions in English.

In the same study, Chan computed incorrect discrimination scores of Chinese participants for target minimal pair stimuli that contrasted target obstruent and sonorant consonants and found out that the learners' perception of English speech sounds may behave in a different manner as compared to the learners' production. One is novel consonant obstruent for Chinese speakers (such as /z/, /ʃ/, /v/, and /ϴ/) were not more poorly perceived (even better perception accuracy rate was observed for some non - existent phonemes) than those such as /s/ and /f/ which are shared by both Cantonese and English phonological systems. Similarly, the participants' performance on sonorant consonants showed similar patterns in that non-existent phoneme /r/ was perceived significantly more accurately than those shared by the two languages (semi-vowel /w/).

Likewise, Chan demonstrates mother tongue influence on learners' pronunciation abilities may not equally impose the same amount of difficulty for production and perception. In the same study, it was discovered that mother tongue influence for advanced Cantonese ESL learners is stronger on their production than on their perception. The different effects of mother tongue influence on learners' perception and production of English sounds is consistent with other studies such as Italo (1988) who demonstrated that Oromo Ethiopian learners were better in perception than in production though the later only examined non-existent vowel and consonant phonemes.

In conclusion, Chan underlines absence of a non-native sound in a learner's native language does not inevitably result in difficulties, and presence of a sound in both the native and target phonemic inventories does not categorically facilitate successful learning. Thus, a learner's mother tongue repertoire does not necessarily form the basis of perceptual and production abilities and inventory gaps may not be the principle source of pronunciation problem. Several other researchers have been providing evidences of non-contrastive origin difficulty areas augmenting CA which can be explained by writers to be arising from other factors embedded at phonemic – phonetic levels: "No longer is NL – L2 similarity simplistically equated with ease of acquisition and differences with difficulty" (Jenkins, 2000: 114). For more evidences of researches for this claim, we will provide a review of 'interlanguage-based' researches conducted to take account of interlanguage factors in pronunciation learning.

Perceptual difficulty in perceiving novel English contrasts has been extensively investigated for speakers of other languages lacking such contrasts. One research by Moustofa (1979) for example demonstrates that contrastive analysis of native and target language phonemes alone predicts some but not all phonemic perception problems with a second language. With a purpose to empirically verify the articulatory based contrastive prediction on reception, Moustofa (1979) tested phonemic perceptual difficulties of Egyptian Arabic speakers with particular focus on contrastively predicted novel English obstruent consonants such as /p, v, Θ, ð, tʃ, dʒ/. Recording of native standard American speech targeting minimally paired syllables contrasting English obstruent consonants at word initial, medial and final positions was presented to 50 Egyptian learners to listen and decide whether or not each set of minimally paired syllables "sounds the same or not." Based on the test results, among many other things, Moustofa confirmed the contrastive-based prediction she conducted at priori in that subjects showed difficulties in discriminating novel English contrasts such as /p-b/, /tʃ-dʒ/, /Θ-s/, /Θ-t/, /ð-z/, and /ð-d/.

Moustofa discovered additional difficulties both at phonemic and phonological level with different degrees and directions of confusions. For example, while /p-b/ confusion was significant for all Egyptian subjects, /tʃ-dʒ/ caused problem at word initial and final positions as opposed to word medial position. Likewise, higher frequency of confusion was observed for /ð-z/ than that of /Θ-s/, /Θ-t/ and /ð-d/. Furthermore, 'redundant' features to English (lax-tense) which are distinctive in Egyptian Arabic in voiced-voiceless contrasts such as /t, k, s, d, g, z/ were reported to have caused intermittent perceptual problems. Based on such results, Moustofa (1979) concluded that contrastive analysis of native and target language phonemes alone predicts some but not all phonemic perception problems with a second language.

Timothy Jilg (1999) wanted to prove the strong version of the CA hypothesis for adult learners of Welsh whose first language is English that features in the learner's L2 that are different (or not even found) in the learner's L1 will persistently prove to be points of difficulty even after intensive training. The experiment was conducted focusing on contrastively predicted (on the basis CA of the consonant systems of Welsh and English) difficulty areas conducted at priori resulting in six consonants in Welsh that are not found in English. The data were collected in three different sessions from recordings made while the subjects reading aloud prepared scripts with elicitations of each item under investigation. Each session was recorded and then transcribed into broad phonetic notation. In conclusion, the study does not state conclusively exactly what aspects of the previous training received by the groups was responsible for their improvement; yet the subjects were found to be producing most target sounds correctly leading the researcher to claim that the more time spent learning a language improves learner's abilities to produce TL forms. The results of the data also proved some of the contrastive origin NL transfer, as predicted by the CAH, in which the subjects' difficulties persists for some segments such as producing 'voiceless liquids' even after the training. Analyzing the substitutions the subjects made, Jilg (1999) also demonstrates widely claimed hypothesis that the "phonemes of L2 which do not exist in NL are substituted by their closest phonological equivalents" (p.122). However, the analysis of learners' errors also revealed several unpredicted strategies in addition to substitution including 'approximation' and 'expansion' during the productions of the target phonemes indicating that CA predicted problems could not represent all phonological processes in the learner's production. Drawing Selinker's interlanguage theory to his explanation, Jilg (1999) attributes his subjects' strategies for their pronunciation errors as constituting 'developmental processes'.

Several contrastive based studies also drew our attention to L2 learners' pronunciations difficulties resulting from L2 sound sequences in which learners may transfer their NL syllable formations into English. By carrying over the distributional patterns of Afan Oromo, Italo reveals that Oromo learners may transfer his/her phonemic sequence habits in to English and avoid English consonant clusters both at the beginning and final positions of words rendering like /isporti/ for 'sport', /tiri:/ for 'tree', /istarti/ for 'start'.

Huang & Radant (2009) hypothesized that certain syllable structures could cause more mispronunciation than segmental sounds for Mandarin-speaking EFL learners and examined the distribution of mistakes made by Taiwanese NL speakers in segmental sounds and those resulting from phonotactic constraints. In light of the difference in phonotactic rules between English and Mandarin, the authors predicted specific syllable-related structures which are likely to cause pronunciation difficulties and compared them to segmental sounds which are also lacking in Mandarin segmental inventory. The authors concluded that the subjects encountered more pronunciation problems with certain syllable structures related to Chinese phonotactic constraints than with segmental sounds. Huang and Radant (2009) concluded that successful pronunciation of segmental sounds did not automatically transfer to the same success at the syllable level and recommended that the influence of the learners' NL phonotactic constraints should not be overlooked. They also noted that the learning of pronunciation at the lexical level may somehow be more complicated than the learning of individual sounds. In the same vein, another research conducted by Andrade (2003) on Japanese learners suggested for a need to revise the learning and instruction of English pronunciation in focusing, apart from segmental sounds, certain phonotactic and prosodic patterns that differ from NL sound sequences.

Based on areas of differences between English and the learners' NLs, contrastive-based L2 pronunciation learning researchers reviewed above have confirmed that English pronunciation features which are lacking in the learners' phonological inventory are likely to present actual difficulties for the respective learners. However, these researches commonly demonstrate that contrastive predictions alone may not fully account for all aspects of the observed pronunciation data in the learners' actual productions and perception. In particular, it was underlined that learners would not have the same degree of difficulty with any and all of English pronunciation not present in the NL inventory, when, in fact, learners' performance on different L2 features differ significantly in both production as well as perception (Italo, 1988; Moustofa, 1979; Andrade, 2003). Besides, CA only predicts potential areas of phonemic difficulties

without accounting for the speakers' strategy how to cope up with them. In her illustration, Moustofa showed the limitations of contrastively-predicted difficulties due to its failure to determine whether an Egyptian speaker will confuse /ϴ/ with /s/ or /t/ and / ð/ with /d/ or /z/. For this reason, empirical investigation of actual productions and perceptions and their results cast conviction among researchers to account for additional manifestations that learners actually experience in using English pronunciation and substantiate linguistic contrastive predictions of potential problems. Moustofa (1979), for example, advocates that contrastive-based empirical perception and production tests can essentially augment CAH in several ways: 1) it tests the accuracy of the analysis upon which the contrast is based; 2) it identifies more areas of difficulty not predictable by contrastive analysis; 3) it indicates the phonemes with which troublesome phonemes may be confused; 4) it reveals the constancy of each problem.

In this regard, the most significant limitation of contrastive-analytical approach, was due not to its comparison of NL and L2 inventories, but rather to the level of phonological representation at which the languages where compared (Brown, 1997). Contrastive-based researches also failed to explain why learners with different NLs would substitute different NL sounds for a given L2 sound (e.g., Oromo speakers substitute /z/ for /ð/ but Egyptian Arabic speakers substitute [d], despite the fact that these NLs contain both /z/ and /d/ (Italo, 1988; Moustofa, 1979). This would more fully be unraveled through accounting 'some more deep structure manifestation in L2 internalized phonological structure' (Moustofa, 1979). The other line of researches on L2 phonology therefore took further steps to consider other factors more than taking the 'difference' to be the relevant unit of analysis.

2.6.2.2. Within Interlanguage Framework

The other line of researches on L2 pronunciation focused their analyses on the differences and similarities in distinctive features between the NL and L2. Cook (1996) describes these researches are influenced by recent developments in phonology which does not concentrate on the phoneme so much as abstract relationships of sounds and structures. According to this line of research, a phoneme is regarded as consisting of a number of features that are common to many phonemes. Any two languages being compared might differ not only in terms of the number of contrastive phonemes they possess but also in how the phonemes they can be said to "share" are realized phonetically, and/or in contextually induced variation (i.e., allophony) (Flege, Bohn and Jang, 1997). The basic difference between contrastive-based and interlanguage-based research approaches can be made clear by distinguishing their focus of investigation: a phoneme vs. a feature. Carr (2008) explains "When phonologists speak of

distinctive features, they mean features which function to signal phonological contrasts, such as the contrast between voiced and voiceless phonemes" (ibid: 54).

Researches of L2 phonological acquisition which account for features beyond NL-L2 phonemic categorical differences have extended contrastive-based researches by addressing other factors embedded in learners' internalized phonology or 'interlanguage'. Brown (1997) refers to this line of research as constituting an advance over the previous contrastive analysis approach for its chief focus on the distinctive feature as the relevant unit for comparing the NL and L2 and providing language-internal evidence for differential substitutions. Moreover, it represents an attempt to address the issue of how the mature phonological system (interlanguage) might affect speech production and perception and how that, in turn, might affect L2 phonological acquisition.

Pronunciation researches on interlanguage framework have therefore provided evidence for L2 learners own system of pronunciation, 'which are not just pale shadows of the target language', to use Cook's terms. It is also noted that though some of the learner's pronunciation rules are related to their first language, 'they nevertheless still make up a unique temporary system-an interlanguage' (Cook, 1996: 42). One of the most prominent illustration in the literature for learners' interlanguage, for example, is that German learners of English who say 'pup' /pʌp/ rather than 'pub' /pʌb/ is not because Germany lacks /b/ in its phonology but rather the learners have devised a rule based on their first language that voicing does not matter in final consonants; so they will also say /gut/ for 'good'/gud/, /pi:s/ for 'peas' /pi:z/, and so on (Cook, 1996; Jenkins, 2000).

The scope of the present study does not allow including interlingual factors in the examination of pronunciation difficulties for Ethiopian learners under consideration. Though the present study does not consider interlingual factors as its major focus, we will review some sample researches conducted under interlanguage framework and the underlying phonological theories for its relevance to establishing better understanding of L2 phonological learning and thus comprehensive explanation of non-native pronunciation difficulties. Some awareness of the origin of other processes and their interaction with NL phonological transfer and its consequence for L2 pronunciation is of particular importance to explain pronunciation difficulties in greater details for Ethiopian learners. If we are to fully understand pronunciation learning and the difficulties and problems learners have in a comprehensive manner and to make full-fledged suggestions for effective pronunciation teaching and learning, future research on the pronunciation of Ethiopian learners should not disregard these natural processes of transfer, but

must take account of them. In the following sections, some important processes that are considered as taking precedence over the learners' interlanguage are reviewed.

I. NL Phonological Properties

Influenced by developments in 'generative phonology', the other wave of research on L2 phoneme acquisition, as Brown (1997) and Cook (1997) reviewed, focused their analyses on the differences and similarities in 'distinctive phonological properties' between the NL and L2 . According to this line of research, difficulty with particular L2 sounds could be explained in terms of 'featural differences' between the NL and L2, (Brown, 1997). Assuming specific phonetic details of native vs. non-native segments as necessarily responsive, researchers have examined not only non-native phones that differ phonetically from the phonologically equivalent native segments but also TL phonological distinctions that are absent in the learners NL (e.g. final voicing in German) (Cook, 1996). Contrastive-based researches assuming the phonemes shared by English and the learners' NL as causing no learning difficulty has long been augmented by researches demonstrating abstract phonological differences between NLs and an L2 for the phoneme shared by the two as a cause for further pronunciation difficulties (Jenkins, 2000).

The literature has much reflection for L2 perception of speech segments by adults is highly constrained by their experience with the phonological properties of their native language. Empirical observations of the performance limitations of these constraints impose on both perception and production of non-native consonants and vowels, as Halle et al. (1999: 282) put it, 'offered an apt metaphor for the presumed source of the difficulties' that:

> *Mature speaker - hearers possess a language - specific 'phonological filter' through which non-native phones must pass. That is to say unfamiliar phones get funneled through the framework of phonological contrasts employed by the native language, causing distinctions that are not employed contrastively in the listener's language to be difficult to discriminate and produce.*

One of the classic examples most often referred by researchers as perceptual constraints imposed by the native system of phonological contrasts comes from investigations of the English /r/-/l/ contrast as heard by Japanese and Korean speakers whose languages lack a contrast between 'rhotic /r/ vs. lateral /l/ (Jenkins, 2000). Japanese listeners tend to discriminate /r/-/l/ poorly, which is explained by the crucial phonological difference between the two languages; whereas English maintains a phonological contrast between /r/ and /l/, Japanese lacks /r/-/l/ contrast because it employs /r/ but no /l/. The

perceptual difficulty for Japanese speakers to categorize both English [l] and [r] as a single sound /r/ is often attributed to abstract phonological rule of the native language (Aoyama et al. 2004).

Similar results have been reported with speakers of other languages such as Korean and Chinese which are lacking the /r/-/l/ contrast (Jenkins, 2000). Halle et al. (1999) provide evidences of previous researches to explain the situation more generally as 'speakers of a wide range of languages have difficulties perceiving non-native distinctions that do not correspond to any native phonological contrast' (p.282).

One possible explanation for L2 learners' problems regarding categorical sound perception goes to 'phonemic equivalence does not necessarily imply allophonic equivalence' (Jenkins, 2000). Due to the transfer of their NL and/or under the influence of the phonemes from their native stock, learners may produce some TL segments in different and contrasting points of articulation as compared to how they are produced in the TL. Researchers have made it clear that these problems commonly arise for learners in two important cases (Jenkins, 2000). One is when two distinct phonemes of English are articulated phonetically very close together, for example /p/ and /b/ in initial positions (the main difference being that the former is aspirated before a vowel sound while the latter is not). The other one is where two or more phonetic realizations of one phoneme are articulated in very different ways, for example clear [l] and dark [ɬ].

A related problem arises with the learning of new uses for old sounds, where sounds which are distinguished only allophonically in NL are phonemically distinct in the L2 (Jenkins, 2000). Researchers have shown that when two L2 sounds are identified as being instances of two different NL categories, learners can usually discriminate the two with relative ease, whereas discrimination may be difficult if two L2 sounds are both identified as being instances of a single NL category (Aoyama et al. 2004; Flege et al. 1997). Differences in the discriminability of L2 speech sounds, in turn, may be related to how those speech sounds are produced.

Learners' difficulty in perceiving and producing English contrasts due to phonetic distinctions that are absent in the learners NL (e.g. voicing or aspiration) has been investigated for speakers of other languages lacking such contrasts. The difficulty such speakers encounter has most often been explained by reference to the abstract functional contrasts of their native phonological systems, which lack target contrasting distinctions or the required phonetic properties on some vowels and consonants (Cook,

1996). In his brief review of researches that have considered articulatory-phonetic settings between English and the learners' NL, Cook (1996) presents results of experiments that divulge fine grained phonetic problems learners may encounter. For instance, Spanish, French, and Arabic speakers might face difficulties with regard to voiced-voiceless contrasts due to what is termed as 'voice-onset-time (VOT)', defined as 'the moment when voicing *starts* as the person produces consonants' (p.43; emphasis in original). However, he argued that "VOT provides a neat demonstration of the complexity of the actual production of speech and the subtle differences between languages" (p.45).

Similarly, phonetic differences between English and learners' NL can cause intermittent perceptual as well as articulatory problems because the learners' NL lacks some subtle features that characterize the segment that the two languages share. Cook illustrates that the feature of 'fortis' (said with energy) versus 'lenis' (said less energetically) separates /b/ (bit) from /p/ (pit), /d/ (den) from /t/ (ten) and the absence or presence of such features in learners' NLs grammar (phonology) restricts or facilitates successful learning. For instance, learners with no 'fortis-lenis' feature learn /b-p/ contrasts only gradually (Ibid). Moustofa (1979), for example, demonstrates Egyptian listeners' difficulties in discriminating English voiced – voiceless contrasts such as /t, k, s, d, g, z/, though the phonemes are distinctive in Egyptian Arabic. This perceptual difficulty Moustofa exhibited was attributed to lack of 'lax-tense' phonetic distinction in the learners' native language. Halle et al. take account of further developments in L2 phonological researches that have brought about additional processes being responsible in the learners' interlanguage phonology.

> *A central premise that has emerged from this research is that perceptual attunement to native speech does not occur solely at the phonological level, i.e., only with respect to abstract contrastive functions and phonological rules. It is necessarily responsive to the specific phonetic details of native vs. non-native segments as well.* Halle et al. (199:282)

In the same vein, Brown (1997) reviews several perceptual studies conducted with native speakers and language learners that provided the necessary experimental evidence that phonemes are indeed generally perceived in terms of the learners' native categories. Therefore, researchers have examined not only non-native distinctions that are absent in the learners' native language as phonological contrasts, but also non-native phones that differ phonetically from the phonologically equivalent native segments. Three models have been proposed to explain how L2 sounds are mapped onto NL sounds (Halle et al. 1999; Brown, 1997; Jenkins, 2000). These models have been used to address the premise that non-native speech perception reflects not only abstract phonological properties but also phonetic

details of the native language. Sample researches and their guiding theoretical model are reviewed as follows.

II. Articulatory-Phonetic Settings

The first model developed to explain the role that a speaker's NL phonological system plays in the perception of non-native sounds is known as the 'Perceptual Assimilation Model (PAM)' which is developed by Best (1993, 1994) cited in Brown (1997). According to this model, non-native sounds are assimilated to a listener's native categories on the basis of their respective articulatory similarities; "More specifically, the spatial proximity of constriction location and active articulators; the degree to which a non-native contrast can be assimilated to native categories determines how well (if at all) a listener will be able to perceive that non-native contrast' (Brown, 1997: 9). The perceptual assimilation model (PAM) posits that listeners' perceptual assimilation of non-native phones to the native phonological system depends not only on which contrasts occur in the native language but also on the phonetic-articulatory similarities (and dissimilarities) between non-native and native sounds. "Perception of unfamiliar non-native speech contrasts is based not only on the abstract functional properties of the native phonological system, but even more fundamentally on phonetic-articulatory relations between the most similar native and non-native phones" (Halle et al. (1999:284).

Further experimental evidence for detailed phonetic-articulatory properties of the native versus the non-native sound categories accounting for learners' perceptual problems has been presented by Halle et al. (1999) who examined French listeners identification and discrimination of English approximants such as /r-l/, /w-r/and /w-j/ contrasts which are described as having different degree of phonetic similarity with their French counterparts. The authors designed minimal pairs such as /rak/-/lak/; /wak/-/yak/; and /wak/-/rak/ that comprised two or three words that differed to each other in only one of the target phonemes. Fifteen French university students representing different French-dialect areas in France (their perceptual data were not noticeably different from each other) participated in the study. Participants completed a two-choice identification test, in which the participants had to circle one of the two choices given for what they heard, followed by an AXB discrimination test of the same series in which the participant heard three words and had to decide whether the second item matched the first item or the third item.

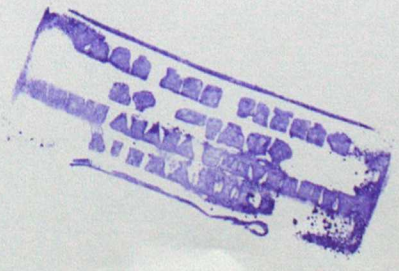
Based on the results of their data, Halle et al. concluded that articulatory phonetic similarity between English and French on approximant consonant categories was responsible for the different level of perceptual patterns the participants exhibited for each contrast. For example, for the /w-j/ continuum, which is known to be matching either the articulatory - phonetic or the abstract phonology of French, French listeners found it easy to categorize and discriminate them as distinctive phonemes. In terms of /w-r/ and /r-l/ contrast, however, which both languages possess but with different articulatory - phonetic characteristics, was substantially more difficult for French listeners than /w-j/. The results led the authors to conclude that the later contrasts (/w-r/ and /r-l/) are not processed by French listeners' interlanguage as distinctive phonemes in the same way as /w-j/ as abstract phonology would predict.

The researchers also discovered discrepancy between /w-r/ and /r-l/ contrasts even though both had different articulatory-phonetic property with that of English; French listeners found /l-r/ not as difficult as /w-r/ to discriminate. The lower discrimination level for /w-r/ than for /r-l/ was interpreted in terms of articulatory - phonetic properties of the contrasts because French /r/ is phonetically closer to /w/ than to /l/ (ibid). Specifically, the French listeners were reported to have found the /w-r/ contrast most difficult to discriminate because of very close phonetic similarity in French between /w/ and /r/ which led the authors to conclude that the English /r/ was most often assimilated as /w/-like in the learners' interlanguage grammar.

Associating French listeners' perceptual difficulty with the phonetic differences between the /r/s of the two languages with other previous works providing similar evidence for speakers of other NL groups, Halle et al. (1999) disclosed that detailed articulatory - phonetic properties of the native versus non-native consonant categories, rather than solely the abstract phonological contrasts of the two languages, partly accounts for, among other things, the difficult perceptual patterns that the majority of non-native speakers have in English.

III. Perceived Phonetic Similarity: Interlingual Identifications

Another model that does address the issue of L2 segment acquisition is called the 'Speech Learning Model (SLM)', developed by Flege (1991, 1992, 1995) cited in Brown (1997). The SLM attempts to explain how speech perception affects phonological acquisition by distinguishing two kinds of sounds: 'new' and 'similar'. New sounds are those that are not identified with any NL sound, while similar sounds are those perceived to be the same as certain NL sounds. Flege et al. (1997) suggests that



although the phonetic systems used in production and perception 'remain adaptive over the life span, a process of equivalence classification hinders or prevents the establishment of new phonetic categories for similar sounds'. As Brown (1997) explains, the speech learning model (SLM) proposes that adult learners of a second language use equivalence classification to relate non-native phones to their own native (NL) phonological categories.

There has been a considerable reinterpretation of the influence of similarity on language transfer; one has been most raveling at perceived phonetic similarity as compared to phonemic ones. Jenkins (2000), for example, has discovered that L2 learners have more problems with sounds that are similar to those in their NL than with new sounds that are completely different. In one study, Flege et al. (1997) revealed further evidence that in addition to articulatory – phonetic settings, perceived phonetic relationship between sounds in learners' NL and sounds in an L2 is closely related to how well the learner discriminates a particular pair of L2 contrastive phonetic sounds

Displaying that English /r/ is perceptually more dissimilar from Japanese /r/ than English /l/ for native Japanese speakers, Ayoama et al. (2004) tested the hypothesis of the 'Speech Learning Model' that the more distant an L2 sound (phonetic segment) is from the closest NL speech sound, the more learnable the L2 sound will be. They tested this hypothesis - whether native Japanese speakers will have more success acquiring English /r/ than /l/ - based on a longitudinal study examining the perception and production of English /l/, /r/, and/w/ by Japanese adults and children who were living in the US. The results suggested that there was greater improvement for English /r/ than English /l/ among NJ children who scored significantly better discrimination and production of /l/-/r/ and /r/-/w/ at the second testing than 1 year earlier. The results are taken as support for a hypothesis of the Speech Learning Model that degree of perceived phonetic dissimilarity influences L2 learners' success in acquiring L2 phonetic segments. Based on their experiment, Aoyama concluded that if two L2 consonants (e.g. [r] and [l]) differed in perceived contrast from the closest consonant in NL inventory, the more dissimilar of the two L2 consonants would manifest the greater amount of learning.

From interlingual perspective, it is often noted that where there is any degree of similarity between NL and L2 sounds, there is a tendency to identify the two, and hence to categorize the new sounds in terms of the old (Jenkins, 2000). Schadech (2010) reports that Brazilian speakers of English frequently use the strategy of replacing the consonant sound /θ/ with /s/, /t/, or /f/, where as the phoneme /ð/ with /d/, and also (but rarely) with /v/ or /z/, which respectively are said to be the most similar sounds for the

learners in their mother tongue Portuguese. Selinker (cited in Jenkins, 2000) considers that the making of such 'interlingual identifications' is 'a basic, if not *the* basic, SLA learning strategy. (1992: 260; emphasis in original). From these perspectives, it seems that in order to master an L2 sounds, 'a learner has to acquire both phonological knowledge regarding its articulation and an understanding of its place in the phonological system to which it belongs' (Jenkins, 2000: 33).

Similarly, researches of cross-language speech perception of L2 speakers from different NL background conceive that the perceived relation between phonetic segments encountered in an L2 play a key role in how those phonetic segments will be discriminated and produced. Comparing French listeners problems with English /r/-/w/ with that of Japanese listeners /r/-/l/, Halle et al. (1999) pointed out that abstract phonological differences between two languages on phonemes shared with English cause different degrees and manifestation of categorical confusions across learners of different language backgrounds. For example, Japanese listeners heard both /r/ and /l/ as equally poor exemplars of Japanese /r/; whereas French listeners discriminated /r/ and /l/ as distinct phonemes, yet confused /r/ and /w/ as poor exemplars of either French /r/ or /w/. This study demonstrates perceived phonological representations and the difference or similarity languages have with English can be compounded with articulatory phonetic differences as shown in the case of French listeners.

To examine the role of cross – language differences in the learning of L2 phonology, Flege et al. (1997) examined if subjects from four different NLs – German, Spanish, Mandarin, and Korean - might learn English vowels at different rates, or to different extents due to differences between subjects on 'perceived similarity' of vowels in their NL. Consistent with the result of Halle et al. (1999) on Japanese and French speakers for /l-r/ and /r-w/ contrasts respectively, both German and Spanish subjects in Flege at al. (1997) were found to be far less successful in producing and perceiving a distinction between English /ɜ/ - /æ/. However, depending on the perceived similarity of the sounds in the respective NL, significantly different realizations of the two phonemes was reported for each language groups. The German subjects realized English /ɜ/ and /æ/ as instance of a single NL vowel (German /ɜ/ or /ɜ:/); whereas the Spanish subjects identified the same English vowels as instances of two different NL vowels (Spanish /e/ and /a/).

Fledge et al. (1997) revealed the German subjects whose NL possesses the contrast produced English /i/ and /I/ more accurately (Germans - 100%) than subjects from the other NLs (Spanish - 60%, Mandarin - 84%, Korean - 72%) whose NLs do not possess a contrast between /i/ and /I/. The later subjects showed

bi-directional confusions pronouncing /i/s as /I/ (and vice versa). The authors suggest that the absence of a vowel from the NL phonemic inventory may represent, in itself, a source of learning difficulty, as claimed by the Contrastive Analysis Hypothesis (Lado, 1957).

On the other hand, the Koreans and German subjects' /æ/s whose NL possess the vowel but with different phonetic realization were correctly identified but significantly less often than /i/- /I/ contrasts which are absent in Korean phonology though present in German. Non-contrastive origin explanation was given to both cases. Korean subjects faced more difficulties on /ɜ/-/æ/, phonemes which are shared by the NL and L2 languages (but with different abstract phonetic settings) than those which are totally novel (/i/-/ɪ/). Similarly, less difficulty of the Germans on equivalent English vowels /i/-/ɪ/ than on phonetically different English vowels /ɜ/- /æ/ suggests that categorical presence between NL and L2 (e.g. /ɜ/- /æ/ in Korea and Germany) does not necessarily guarantee successful learning because of abstract phonetic differences the two languages possess, where as perceived similarity between the two both on phonemic and phonetic properties will facilitate learning.

In the same study, Flege et al. have provided more evidences advocating the SLM. One is that the native speakers of Spanish whose productions of /ɜ/ (allophonic in Spanish) were correctly identified significantly more often than were their productions of English /i/ (a vowel found in Spanish) and /I/ (a vowel not found in Spanish). Similarly, the native Mandarin subjects' /I/s were identified significantly more often than their /ɜ/s (Neither vowel is phonemic in Mandarin). Instead of contrastive analysis explanation, perceptual relationship or similarity between English and Spanish vowels /ɜ/, for example, was assumed to be the source for such variations. Reviewing similar previous studies on the area, Flege et al. (1997) underline successful acquisition of an L2 vowels is determined by far by the difference of the NL and the L2 in terms of not only in the number of contrastive vowels they possess but also in how the vowels they can be said to "share" are realized phonetically, and/or in contextually induced variation (i.e., allophony).

Based on the findings, Flege et al. (1997) concluded about the effect of cross language grammar differences on learners' interlanguage demonstrating that the nature of the NL vowel inventory and its perceived relation to vowels in an L2 influence the extent to which L2 vowel production and perception will improve as non-natives gain experience in their L2. Flege et al. (1997) recommend that understanding empirical data such as these will probably require detailed knowledge of the perceived relation of vowels in the NL and L2, and perhaps also knowledge of the acoustic properties (e.g.,

duration, formant movement, etc) used to contrast vowels in the NL. The following paragraph on the relation of L1 and L2 vowels reflects how perceived similarity governs the learner's interlanguage (Flege et al. (1999: 440).

> *Any two languages being compared might differ in terms of the number of contrastive vowels they possess, in how the vowels they can be said to 'share' are realized phonetically, and/or in contextually induced variation (i.e., allophony). Adult beginners typically interpret L2 vowels as instances of the closest NL vowel, and produce them accordingly. Knowing how, or if, NL and L2 vowels are related perceptually to one another thus provides an important determinant of how inexperienced adults learners will produce L2 vowels.*

The authors also emphasize that the learners' abstract phonological grammar is open for improvement through systematic learning and exposure. However, 'if speech perception processes remain malleable or if L2 learners establish new phonetic categories for certain L2 vowels, then the perceived relation between NL and L2 vowels may change during L2 acquisition'. It is also noted that perception may influence production, "... such changes in perception may, in turn, engender changes in vowel production" (ibid).

IV. Featural Differences

The one that is referred to as the most extensive model for phonological acquisition is called 'Feature Competition Model (FCM)' which is proposed by Hancin-Bhatt (1994) (cited in Brown, 1997). This model is known to have expanded on earlier works and assumed that the features utilized in the learner's grammar differ with respect to their 'prominence' (Brown, 1997:10). "Features (and feature patterns) used more frequently in the language's phonology will be more prominent than less frequently used features". The FCM model posits that those features that are more prominent in the NL system will tend to have a greater influence on learners' acquisition of new L2 sounds; that is, 'the feature prominences in the NL will guide how L2 sounds are mapped onto existing NL categories' (ibid).

Like the PAM and SLM, the FCM assumes that L2 sounds are assimilated to NL categories, yet this model goes one step further 'by providing an algorithm for determining feature prominence and, thereby, generating testable predictions for differential perception and substitution across learners with different NLs' (Brown, 1997:10). Furthermore, it is also noted that it is the first comprehensive model to investigate both the relationship between the mature phonological system and speech perception and the relationship between speech perception and the acquisition of L2 phonemic representations (Ibid).

In addition to articulatory and allophonic systems, other research casts strong convictions on whether the relevant feature is present or absent in the NL phonological system influences in the direction of either blocking perception or facilitating successful learning of L2 phonemes. The particular interest in this line of research is "The difference between the acquisition of a non-native contrast when the L2 learner's native grammar does NOT and DOES contain the feature that distinguishes the segments" (Brown, 1997: 26; emphasis in original).

According to FCM, learners' interlanguage (phonological knowledge) consists of both phonemic representations and the features that comprise those representations, and as Brown (1997) concurs, either of these levels of knowledge (i.e., featural or segmental) could potentially impinge upon the L2 acquisition process. However, the bottom line of the argument is that it is the features contained in the learner's native grammar, not the phonological representations themselves, which constrain perception. In other words, if a speaker's grammar lacks the feature that differentiates a given phonological contrast, then he or she will be unable to accurately perceive that contrast; conversely, the presence of the contrasting feature in the native grammar will facilitate perception of that non-native contrast, regardless of whether the particular segment is part of the inventory.

> *" ... despite a lack of acoustic, phonetic or phonemic experience with a particular non-native contrast, a speaker's experience perceiving native phonemic contrasts along an acoustic dimension defined by a given underlying feature (for example, voicing) permits him or her to accurately discriminate any non-native contrast that differs along that same dimension. Thus perception of certain non-native contrasts is possible by virtue of the fact that the phonological feature that underlies that particular acoustic dimension exists independently in the learner's native grammar"* Brown (1997: 20).

To test her proposed model of phonological interference advocating 'learner's native grammar constrains which non-native contrasts he or she will accurately perceive and, therefore, limits which nonnative contrasts that learner will successfully acquire', Brown (1997) examined how the respective internalized grammars of Japanese speakers, Korean speakers and Mandarin Chinese speakers impinge on their perception of some selected English contrasts vis-a-vis the presence or absence of the target contrasting feature in the respective NL grammar. The study focused on five non-native contrasts /l-r/, /b-v/, /p-f/, /f-v/ and /s-Θ/ constituting different features. For example, the /l-r/ contrast is distinguished by the feature [coronal], the /b-v/ and /p-f/ contrasts by the feature [continuant], while the /f-v/ and /s- Θ/ contrasts are distinguished by the features [voice] and [distributed], respectively.

Brown (1997) examined the phonological properties of Japanese, Korean, and Mandarin Chinese consonant phoneme inventories and distinguished whether the relevant features are contained in the mental grammar (interlanguage) of the respective speakers. Regarding the difficulty and success of the respective language group, the researcher hypothesized at priori that L2 learner's successful perceptions for each of the target contrasts would depend entirely on the presence or absence of the contrasting feature in his or her native grammar.

First, according to the phonological analysis, Brown substantiates that the features called [continuant] that distinguishes /b-v/ and /p-f/, and [voice] which distinguishes the /f-v/ contrast, exist in the grammar of the three languages for independent reasons. For example, the feature [continuant] is required in the Japanese grammar to differentiate native stop-continuant contrasts, such as /t-s/ and /d-z/, while the feature [voice] to distinguish native voicing contrasts, such as /t-d/ or /s-z/. Based on FCM hypothesis, because the features [continuant] and [voice] are present in the grammar of all of the three languages, consonant phonemes such as /b/, /v/, /f/ and /p/ are thus assumed to be easily perceived by all language groups no matter the particular phoneme is present or not in the respective NL.

Second, the feature called [coronal] that distinguishes the /l-r/ contrast is present only in the Chinese grammar (yet to distinguish the native alveolar /s/ and the retroflex /b/); whereas neither Japanese nor Korean possess this particular feature because there are no consonants in either language that are distinguished from each other by this feature. The assumption is that though the phonemes /l/ and /r/ are absent in the Chinese phonemic inventory, the presence of [coronal] contrasting other consonants in its grammar will facilitate successful learning of /l-r/ contrasts. Conversely, the absence of this feature in Korean and Japanese grammar will block the learning of this contrast.

Third, one feature that was identified by Brown as lacking in all the three target languages is called [distributed] which distinguishes the /s-θ/ contrast. Because it is not utilized in any of the three grammars, the prediction for the acquisition of English /s-θ/ states sever difficulty for all the subjects in discriminating any contrasts distinguished by this feature.

In addition to whether each language contains the relevant feature for a particular nonnative contrast (and the resulting prediction for perception and acquisition), the predictions for the acquisition of the English contrasts by Japanese, Korean, and Chinese learners also contains information regarding the segments themselves. That is to say whether both members of the English contrast correspond to

distinct segments in the NL system (and could thus potentially be discriminated by the learner on the basis of those NL categories) is included. This information enables Brown to directly compare the predictions made by the 'feature hypothesis' she advocates in the study and the alternative 'phoneme hypotheses' in which accurate perception and acquisition of non-native contrasts are thought to derive from the status of the segments themselves. In this regard, the most informative cases (i.e., the cases where the two hypotheses make opposite predictions) are the English /f-v/ contrast for all three language groups (i.e. feature [voicing] present but segments absent); the /l-r/ contrast for the Chinese speakers versus the Japanese and Korean speakers (i.e. segments absent in all but the feature [coronal] present only in Chinese), the /p-f/ contrast for the Korean speakers versus the Japanese and Chinese speakers (i.e. feature [continuant] present in all languages but the segments absent in Korean); and the /b-v/ contrast versus the /l-r/ contrast for the Japanese and Korean speakers (i.e. feature present but segments absent for /b-v/ while both feature and segment absent for /l-r/).

Brown (1997) conducted her experiment at different levels: first phonological features were accounted for variation in the acquisition of different contrasts by learners with the same NL, and second variation across language groups was examined. The first experiment by Brown (1997) assessed the ability of 15 Japanese undergraduate and graduate students to acoustically discriminate (i.e., perceive) the English contrasts /l-r/, /b-v/ and /f-v/ in forced word discrimination (of tokens of minimal pairs spoken by standard American English accent) and picture selection tasks. Based on the prediction, Japanese speakers should accurately perceive /b-v/, /p-f/ and /f-v/ contrasts as distinct segments because the feature [continuant] and [voicing] that distinguishes these pairs are present in Japanese grammar and hence operates in the mental grammar of Japanese speakers. On the other hand, since perception of a non-native contrast is blocked by the absence of the relevant feature from the learner's grammar, Japanese speakers should be in difficulty to accurately perceive contrasts /l-r/ and /s-θ/ because of absence of the features [coronal] and [distributed] respectively in the phonological system of the Japanese speaker's grammar.

Brown (1997) found the results of the data on both tasks consistent with the predictions made at priori that the Japanese subjects' scored near perfect performance on the native /p-f/ pairs and the non-native /b-v/ and /f-v/ pairs where the relevant feature [voice] and [continuant] are present in Japanese grammar; while their performance on the non-native /l-r/ contrast where the relevant feature [coronal] is absent in Japanese grammar is significantly worse than their performance on the other three

contrasts. It was interpreted that the subjects were accurate at discriminating each of /b/, /v/, and /f/ as distinct speech sounds though the Japanese phonological inventory does not have /v/ and /f/, while they were unable to discriminate /l/ from /r/, perceiving them, instead, as a single category /r/. Brown (1997) used the Japanese speakers' inability to perceive /l/ and /r/ as distinct phonemes, and their accurate performance in the discrimination of /b/, /v/ and /f/ as evidence for a direct consequence of the influence of the native grammar on the operation of the subjects' internalized phonological system and thus to prove her hypothesis that perception of non-native contrasts is constrained by the phonological features manipulated in the native grammar of the learner. She concluded that L2 learners of English can accurately perceive non-native contrasts differentiated by features already present in the NL grammar, but that accurate perception of contrast would be blocked if the relevant feature is absent from the learners' NL grammar.

In the second experiment of the same study, Brown examined if cross-language differences is caused by phonological feature in the acquisition of English contrasts by speakers of Japanese, Korean and Chinese. The results showed that Japanese, Korean, and Chinese subjects differed in their ability to acquire particular non-native contrasts depending on the phonological features manipulated by the respective language of the learner. To take one example, Chinese speakers accurately perceived /l-r/ contrast and, therefore, said to have successfully acquired it while Japanese and Korean speakers were reported to have been facing difficulties to discriminate /l/ and /r/ as different segments. This cross-language difference was attributed to the presence of the relevant feature [coronal] in Chinese as opposed to its absence in the grammars of Japanese and Korean. In other words, speakers of Japanese and Korean, on the one hand, and Chinese, on the other, differed in their ability to acquire the /l-r/ contrast, which relies on the feature [coronal].

Previous interlanguage-based studies reported above have commonly demonstrated that not all non-native segments are created equal for all L2 learners in two important ways. One is that learners with the same NL would have more difficulty perceiving and acquiring some non-native segments or contrasts than they do others. Secondly, certain non-native segments or contrasts are easily perceived and acquired by speakers of some languages, while those same segments or contrasts would not be perceived or acquired by speakers of other languages. These differences, both between contrasts and between speakers of different languages, were used as experimental evidence for researchers to account for the learners' internalized systems or interlanguage directly influenced by the learners' NL

phonological grammar, though claims about how the native grammar influence interlanguage varies from model to model. From the three models reviewed above, the last one seems to have attempted to formally articulate the NL-L2 perceptual mapping in interlanguage, which in turn engenders L2 phonological acquisition. As Brown (1997) verifies in her perceptual studies, the status of the relevant distinctive feature in the learner's NL grammar seems to account for one's internalized phonological processes in an L2:

> *Presence of the contrastive features in the grammar serves to sort the acoustic signal along that particular dimension, mapping the signals for two segments onto distinct phonological categories, whereas absence of the contrastive feature entails that the acoustic signals for the phonemes be mapped onto a single phonological category.* p.49

2.6.2.3. Difficulty in Learning and Using English Prosody

Recent developments in researches of L2 phonological acquisition and pronunciation teaching have been characterized by focusing increasingly on suprasegmental features along with segmental (Jenkins, 2004). It has now become evident that speech perception and production research has shown an increased interest in the learning and use of L2 prosody, which comprises 'a combination of tonal, temporal, and dynamic features associated with such suprasegmental aspects of phonology as stress, rhythm, and intonation' (Trofimovich and Baker, 2006: 2). Following research results that show suprasegmentals influencing listener judgments of comprehensibility and accentedness of L2 speech (Munro & Derwing, 1995, 1999), several studies have systematically examined how L2 suprasegmentals are learned or what factors influence their learning.

In addition to segmental aspects, pronunciation studies therefore have drawn our attention to L2 learners' pronunciation difficulties resulting from L2 suprasegmental that violate the rules of the NL prosodic rules, and summon up its integration with other sources of problems resulting from segmental phonemes such as vowels and consonants. The results of such studies, however, are not similar as to which aspect is causing more difficulty for their respective subjects; the difference being attributed to the NL phonology in consideration and other factors contributing to the learners' interlanguage such as instruction and exposure (Munro and Derwing, 1997).

The learners' success and difficulty in learning the prosody of English has been explained in terms of whether or not the learners' native language can be classified as either tone languages or intonation languages. In general, if learners speak an intonation language as their first language, it is assumed that

they will learn the intonation of English more easily than will someone who speaks a tone language as L1, or vice versa (Celce-Murcia and Olshtain, 2000). However, just because two languages happen to be intonational languages does not mean that their utterance-level pitch patterns will be the same. Most of the learners' languages do not have all of the four pitch levels in English and hence speakers may have a somewhat flat intonation in English, which may signal 'disinterest' or 'boredom' to English listeners (Kelly, 2000). For example, even though Japanese uses rising and falling intonation on prominent syllables in declarative utterances as English does, pitch contours in Japanese does not distinguish stressed and unstressed syllables. As Ohata (2007) shows, prominence in Japanese does not involve stress, pitch and syllable length the way it does in English.

Learners' prosodic difficulty has also been investigated in relation to the notion of stress accent and pitch accent language. The existence of reduced or weakening of vowels in unstressed syllables greatly contributes to creating stress-timed rhythm of English which is often found to be problematic pattern for those learners from syllable timed languages (O'Conner, 1980; Gimson, 1980). In general, the review of literature on pronunciation reveals non-native speakers mostly find the rhythm and stress patterns of English challenging. Many have investigated non-natives' production of English rhythm and concluded that transfer from the native language interfered with learners' ability to appropriately produce English-like stress alternations across a phrase. Such studies documenting prosodic difficulties of non-native learners, including Jenkins (2000), Hahn (2004), Dalton and Seidlhofer (1994), Pennington and Richards (1986), noticeably discovered that many non proficient non-native learners from many linguistic backgrounds have difficulty mastering the primary stress system in English. They exhibit two major problems: misplacing primary stress (often stressing given information instead of new) and stressing all words in an utterance more or less equally, without one prominent stress. In both cases, these learners violate the characteristic stress and rhythmic pattern of English: They fail to stress new information by increasing pitch, length and loudness and to destress old information by reducing pitch and volume, and saying the vowel shorter and faster. Pennington and Richards (1986) report similar research results showing the transfer of Danish learners of English from their mother tongue intonation patterns.

> *1. A tendency to pitch the unstressed syllables higher than the preceding stressed ones following the pattern in Danish, creating a weaving or lilting impression; 2. Instead of full [intonational] glides (falls, rises, fall-rises), flattening them out (as is the case in Danish) and consequently making them less clearly marked.* Pennington and Richards (1986: 213)

In one study, Andrade (2003) examined the perceptual ability of Japanese learners and the extent of difficulty they have because of the difference of Japanese phonology on English syllabification, word stress, sentence focus, and thought groups. Holding to the prepositions of CAH, the author describes that the phonology of Japanese differs greatly from that of English in these matters and predicts that the major perception problems for the Japanese learners would be the task of recognizing syllabification patterns to identify stress marking in words; recognizing which words receive stress, especially the primary stress, and comprehending the intended meaning and function of the utterance; and segmenting the stream of speech into meaningful subunits, a process known as segmentation and thought grouping (Andrade, 2003).

Andrade (2003) administered a diagnostic test of identification and distinguishing meaning to 40 college level Japanese EFL major students. For each area under study, the researcher designed separate tasks with tape recorded native speech tokens that subjects listened and responded. The researcher found variation of performance and concluded that some prosodic features were more or less difficult for the Japanese subjects than the others. The results showed Japanese subjects' difficulty to correctly identify the number of syllables in common words, stress associated with attitude, contrast, and discourse, and marking thought groups. In contrast, the group was moderately good at distinguishing meaning between paired sentences with shifts in primary stress and was good at identifying the primary stress in common words that had been divided into syllables to facilitate marking. The researcher attributes the learners' relative success in the later aspects to their previous experience with this kind of task and their background knowledge of basic English vocabulary. Based on the findings, it was recommended that much focus need to be given in the classroom in exposing learners to English prosodic features and their meanings. Andrade highlights the need to make learners particularly aware about the prosodic distinctions that exist between the NL and English and help them get familiar with the flow of natural speech and cope up with characteristic trouble spots.

Some researchers have particularly focused in describing prosodic systems in the learners' native languages and explaining their influence in L2 acquisition. In the learning of English stress, for instance, Jenkins (2000: 39) accounts for learners' problems in acquiring highly rule-governed English stress, and indicates as it arises particularly where the rules of the NL are both different and less complex, which she called it 'less marked'. Others have focused on the transfer of NL acoustic features or phonological signals in realizing L2 stress (e.g. stress placement and weakening). From an interlingual perspective,

learners' difficulty with English suprasegmental arises from the differing NL cues with which it is signaled cross-linguistically. For instance, many writers have underlined the difference between English and many of the learners' NL on how stress is realized and cause difficulty for L2 learners though both languages use stress in their phonology (O'Connor, 1980; Gimson, 1980; Kenworthy, 1989). Under interlingual premises, Jenkins (2000:40) explains convincingly how an L2 learner could face difficulties in stress patterns even though the NL possesses stress in its phonology.

> *English tends to make rather greater use of vowel duration than do the majority of NLs, which tend to rely more on pitch change and loudness. The English stress system also involves far more weakening of unstressed syllables than most other NLs, with most NLs making only a small distinction here between stressed and unstressed syllables. Thus, although learners may place word stress correctly, it may not be perceived as such , especially by an NL receiver, who will be accustomed to and therefore expect the acoustic cues of length and weakness in addition to that of pitch change.*

With an overall goal of examining whether perceived acoustic cue differences between English and the learners' NL could cause difficulties, Nguyen and Ingram (2005) studied the influence of tonal acoustic correlates in Vietnamese on the learners' production of English word stress. Specifically, the researchers examined acoustic features that native English speakers and Vietnamese learners of English use to differentiate stressed from unstressed syllables in noun - verb pairs (e.g., as in the words 'REcord vs. reCORD). Before proceeding to the experiment, Nguyen and Ingram contrasted the prosody between English and Vietnamese and displayed that even though both languages employ F0 as perceptual cues (to tone in Vietnamese and stress in English), the two languages differ in terms of how acoustic cues are manipulated. In English, stressed syllables are longer than unstressed syllables (i.e., duration is an active correlate in producing word stress), and unstressed vowels tend to be reduced. In contrast, in Vietnamese (described as a syllable-timed language) no systematic difference in duration or vowel quality among syllables has been reported. Comparing the acoustic features used in the two languages, the author further predicted potential prosodic transfer effects in the ways that Vietnamese learners may produce English word stress patterns. One is that the active role of F0 as a tonal cue in Vietnamese is assumed to facilitate the production of F0 (and intensity) contrasts between lexically stressed and unstressed syllables in L2 English. The other is that because duration and vowel reduction do not function in Vietnamese as active cues for tonal contrasts, Vietnamese learners will have difficulties producing the necessary vowel duration and quality contrasts for English word stress.

For their experiment, Nguyen and Ingram involved three groups of subjects (beginning- level Vietnamese learners of English, advanced-level Vietnamese speakers of English, and a control group of native speakers of Australian English) who were tape recorded reading aloud sentences containing target minimal pairs of nouns and verbs (such as PREsent (noun) and preSENT (verb)) from which acoustic measurements was taken on fundamental frequency (F0), vowel and syllable duration, and intensity of the accent-bearing elements (the first or the second syllable in a two-syllable word; the first and the third syllable in the three-syllable words).

The result of the experiment has generally been consistent with Jenkins (2000) above in that native speaker and nonnative speakers of English employ acoustic cues in different ways that are optimally suited to their respective NL phonologies. Both groups of beginning-level and advanced-level Vietnamese speakers differentiated stressed from unstressed syllables in terms of F0 and intensity as accurately as native English speakers. The suggestion made by Nguyen and Ingram following this finding was that the active role of F0 (and intensity) as tonal cues in Vietnamese facilitated the production of F0 (and intensity) contrast between lexically stressed and unstressed syllables in L2 English.

Nguyen and Ingram (2005), on the other hand, revealed systematic differences in Vietnamese learners' interlanguage between beginning-level and advanced-level speakers on their use of other English stress cue (vowel duration) that was not found to be active in Vietnamese. Advanced speakers could produce native-like duration patterns between stressed and unstressed syllables while beginners failed to differentiate English stressed and unstressed syllables in terms of duration. The later finding that Vietnamese beginning English learners failed to encode this cue in their L2 production was attributed to negative transfer effect from the NL for duration does not function as an active cue in Vietnamese tonal distinctions. It is also noted that advanced speakers' ability to produce contrasting duration between stressed and unstressed syllables indicates that subtle acoustic cues such as vowel duration can be successfully learnt over time. As evidence, Nguyen and Ingram (2005) demonstrated that advanced Vietnamese learners of English produced native-like word stress patterns using both pitch and duration cues. In contrast, beginning-level Vietnamese learners production of word stress that accommodated L2 pitch and intensity targets but not timing parameters such as duration and vowel reduction was interpreted by the authors as phonetic features that are not active in the learners' NL causing difficulties. However, better performance by advanced learners implies that L2 learners do have the ability to perceive or to encode duration contrast overtime.

Based on their findings, Nguyen and Ingram underline for a need to explicit instruction and exposure at the initial stage as a prerequisite for successful encoding of such necessary cues. In recommendation, the researcher notes explicitly teaching learners about these features will help them master the features faster than letting them pick up the features through exposure to the language, particularly in a foreign language context. "Therefore, it is necessary for ESL teachers to draw learners' awareness to these features and to provide them with explicit training, particularly the vowel reduction and syllable duration contrast in the acquisition of English word stress" (ibid: 316).

Although there seems to be none for Ethiopian learners, many researches intended for SL/FL learners have given considerable attention to suprasegmental features. Many writers and text book writers for SL/FL learners of English have consistently given extensive attention to suprasegmental features with regard to both perception and production in light of theories of phonological interference assuming prosodic areas of English differs greatly from most of the learners' NL and lack of understanding of these differences can cause problems not only of what is being said but also of what message is intended (Morley, 1994; Kenworthy, 1987; O'Connor, 1980; Gimson, 1975; Jenkins, 2000). In addition to the perception and production problems of vowels and consonants, research on the pronunciation difficulties of SL/FL learners of English has also focused on the difficulties learners have with suprasegmental and concede that learners are also required to have a good grasp of English prosody both to understand English when they hear it and to be understood when they speak it. For instance, a speaker's accent, especially those features associated with stress, pitch, and rhythm, can greatly affect the intelligibility of what is being said (Munro and Derwing, 1997). Writers, therefore, commonly echo the importance for teachers and researchers to pay particular attention to suprasegmentals of English (Jenkins, 2000; Kenworthy, 1987; O'Connor, 1980).

2.6.2.4. Other Processes in Learners' Interlanguage Phonology

As Jenkins (2004: 113) points out, 'recent research has continued to add to the body of work already existing by embracing more sophisticated approaches to interlanguage phonology', taking social, instructional, universal, developmental, and other processes into account as well as NL transfer on the learning and use of L2 pronunciation. However, the interest in contrastive analytical research itself has never disappeared entirely; rather, as Jenkins (2004:113) puts it, 'it is nowadays complemented by an equally robust interest in other approaches to interlanguage phonology', and as is evidenced by the range of researches which have systematically examined the complex nature of learning new

pronunciation or have identified what other factors influence their learning other than NL phonology. Some of the major factors influencing pronunciation learning apart from NL phonology are presented below.

i) Hyper-training and Exposure

A long-standing interest in previous pronunciation researches under interlanguage framework is whether certain conditions such as hyper training or exposure to the L2 input can facilitate successful acquisition of novel phonetic and phonological categories by L2 learners. Many writers argue that foreign accents persist even for highly proficient speakers, and that non-native speakers' difficulty with both the perception and production of certain phonetic and phonological features are unchangeable or unreachable (Jenkins, 2000; Cook, 1996). To verify such claims, some researchers have investigated if improvement occurs on speech perception and production as a result of hyper-pronunciation training and exposure or experience to an L2 environment.

In one study, for example, Bradlow et al. (1997) reviewed previous studies that questioned the possibility of learning frequently mentioned English phonetic contrasts of /r/-/l/ for Japanese adult speakers. In their experiment, Bradlow et al. replicated earlier findings regarding the effectiveness of 'high-variability perceptual training program' for the acquisition of the English /r/-/l/ contrast by Japanese adults. A direct comparison of the subjects' performance before and after participating in an extended period of /r/-/l/ identification training showed significant improvement in their scores for two-alternative forced word identification task for a set of audio tokens of American native speaker that contrasted /r/-/l/ in different phonetic environments. Based on their data, Bradlow et al. (1997) claimed the consistency of their experiments with other previous studies which approved perceptual learning of phonetic contrasts is likely to occur as a result of explicit training program.

In the same study, Bradlow et al. also tested if successful learning in perception transfers equally in production. Japanese subjects were also recorded producing English /r/-/l/ contrasts before and after the perceptual training to investigate if perceptual learning has an effect on production. A direct comparison of Native American listeners' perceived ratings of the Japanese subjects' production showed improvements in production as well. Bradlow et al. concluded that the transfer of perceptual learning to improvement in production occurred in the absence of any explicit instruction in /r/-/l/ production.

Bent et al. (2008), on the other hand, investigated the production and perception of temporal patterns in Chinese speakers who have been exposed to Native English speaking community for a long period of time and found out that not all phonetic features are successfully learnt even after considerable amount of exposure to the target L2 input. The study demonstrated certain 'fine-grained temporal patterns' (e.g., tense versus lax vowel duration contrast) may be quite easily acquired by non-native speakers in contrast to other temporal patterns which are apparently less easily acquired in a second language (e.g. relative vowel lengthening preceding voiced versus voiceless consonants).

Brown (1997), focusing on featural similarity and differences between English and learners NL, conducted an experiment on whether beginner Japanese learners of English differ in their phonological competence from more advanced Japanese learners of English to perceive the /b-v/ (with the feature [voicing] shared by English and Japanese) and /l-r/ contrast (with the feature [coronal] only found in English). Based on the results of the data on word discrimination and picture selection tasks, Brown (1997) found out that advanced learners scored higher than beginner subjects in their perception scores to discriminate /b-v/ contrasts where the relevant feature is present in the learners' native grammar while both groups shared same difficulty in discriminating the /l-r/ contrast where the relevant feature is absent. Yet, advanced learners were found to be significantly better in discriminating the non-native contrasts as compared to less proficient speaker subjects. The conclusions drawn is that 'the influence of the native grammar simply changes over time, constraining perception more tightly in the early stages of acquisition but gradually weakening as the learner's interlanguage grammar develops through training or exposure'.

With much focus on the difference and similarity of perceived relationship between NL and L2 vowels and the learning of non-native phonetic contrasts overtime, Flege et al. (1997) found results supporting the view that adults who learn an L2 become able to produce and perceive certain L2 vowels more accurately as they gain experience in an L2. However, the study also showed 'non-natives' degree of accuracy in producing and perceiving the English vowels, as well as the extent to which their performance improved with experience in English, varied as a function of NL background'. This variation was attributed to cross-language differences in 'the perceived relation between vowels found in the NL and English' (p.467). Flege et al. (1997) claim 'speech learning abilities remain intact across the life span' though 'phonetic learning was not obtained *in all possible instances*' (p.467 emphasis in original). In their findings, they revealed, for example, 1) experienced Korean and Spanish speakers were no more

accurate in producing some English contrasts (e.g. between English /i/-/I/) than were less experienced subjects from the same NL background, and 2) the nature of the NL vowel inventory and its perceived relation to vowels in an L2 influence the extent to which L2 vowel production and perception will improve as non-natives gain experience in their L2.

Trofimovich and Baker (2006) were interested in the effect of L2 experience on prosody and fluency characteristics of L2 speech and examined effects of short, medium, and extended second language experience (3 months, 3 years, and 10 years of United States residence, respectively) on 30 adult Korean speakers' production of five suprasegmentals (stress timing, peak alignment, speech rate, pause frequency, and pause duration) in six English declarative sentences. Acoustic analyses and listener judgments were used to determine how accurately the suprasegmentals were produced and to what extent they contributed to foreign accent. Results revealed that amount of experience influenced the production of one suprasegmental (stress timing), whereas adult learners' age at the time of first extensive exposure to the L2 (indexed as age of arrival in the United States) influenced the production of others (speech rate, pause frequency, pause duration). Moreover, it was found that suprasegmentals contributed to foreign accent at all levels of experience and that some suprasegmentals (pause duration, speech rate) were more likely to do so than others (stress timing, peak alignment).

Flege et al. (1997) emphasize their findings that showed the performance of the relatively "experienced" non-native subjects was seldom completely native-like. Based on their findings, the authors' claim is that certain phonetic properties cannot be learnt at all or it takes a very long period of time using English regularly in a predominantly L2-speaking environment before a native-like level of performance is attained. Other interacting factors were postulated for why one can't attain native-like proficiency.

> *Adult L2 learners' performance may be constrained by a variety of psychosocial factors, or by phonetic factors that continue to operate even when the L2 has been spoken for many years. Still another possibility is that hearing English spoken with a foreign accent by other non-natives may have influenced our subjects' performance. On the other hand, it may be that adults' ability to learn aspects of the L2 sound system is limited in an absolute sense.*
> Flege et al. (1997: 467)

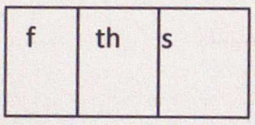
ii) Transfer Plus Habit Formation and Automaticity

On the other hand, it is widely agreed that habit formation and automaticity play a major role in the production of L2 sounds with muscular habits that have always operated to produce the sounds of the NL being automatically activated in L2 production. In the case of the former, Jenkins (2000) addresses

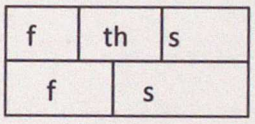
sounds that are phonetically very different from those in the NL are 'initially likely to prove most difficult to produce, since the articulators must be activated in new ways' (p.33). It is also elaborated that 'the influence of NL phonological habits in L2 acquisition is due largely to the nature of the speech process itself (p.112).

The learning of new pronunciation is to a large extent 'physiological' and 'neuro-muscular' as a result of the speech process itself and the role of NL speech habit (Jenkins, 2000; Stern, 1992; O'Conner, 1980). The speech process starts at the central nervous system in which the 'lexico-grammatical' aspect of the speech is determined. Motor commands are sent through the nervous system to the muscles in the speech organs which in turn act up on the air filled in the vocal tract to generate sound waves. To this extent, the production of speech sound is the development of highly automatized motor skills and, consequently overtime, the formation of NL speech habit (Jenkins, 2000).

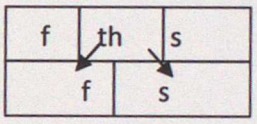
The role of NL speech habit on pronunciation learning can be described in relation to the NL phonological transfer in the production and reception performances of SL/FL learner as demonstrated by O' Connor (1980:2).



Sound units in English



Sound arrangements b/n English and learner's L1



The role L1 habit in speaking and receiving L2 sounds

In the above demonstration, the author tries to explain that every language has its own sound arrangements that make it different from the other in that some features of sounds in a language may not be available in the other one. In SL/FL speech, those strange features presented by the new sound system are produced and received in relation to the nearest sound unit/feature available in the speakers' mother tongue (ibid:2-3).

The learning of new pronunciation, therefore, requires relearning movements of the vocal tract, or building a new set of habits by breaking the ones so strongly built by NL (Stern, 1992; Jenkins, 2000). Referring to his demonstration of boxes for sound arrangements, O'Connor emphasizes the difficulty for learners caused by habit formation and automaticity in their NL.

The main problem of English pronunciation is to build a new set of boxes corresponding to the sounds of English, and to break down the arrangements of boxes which the habits of our native language have so strongly built up. We do this by establishing new ways of hearing, new ways of using our speech organs, new speech habits. O'Connor (1980: 3)

iii) Transfer Plus Developmental and Universal Processes

Among L2 acquisition processes often referred by writers and researchers, some are similar to those found in first language phonological development and may be interpreted as a 'reactivation of first language development strategies' while other processes demonstrate the universal influence on phonological acquisition of 'the linguistic constraints imposed by the nature of human language and human articulatory and perceptual systems' (Jenkins, 2000:100). For example, children in their native language acquire voiceless consonants before voiced consonants and the same order of acquisition has been observed in second language phonological development (Pennington and Richards, 1986). Terminal devoicing is also known to be universally occurring in interlanguage of learners of English because of developmental process (Jenkins, 2000) while it may be neither a native language nor the target language characteristics (Cook, 1996). This means that non-native learners may face problems at some stage of their learning in producing some pronunciation features such as voiced consonants at word final positions even when the learner's native language possesses voiced final consonants (ibid).

Similarly, non-native learners' problems with interdental fricatives /θ/ and /ð/ may derive in part from the same kinds of developmental sources that also affect native children acquisition of these sounds. In this connection, interlingual studies concerned with interdental fricatives have disclosed 'why L2 learners from virtually all NL backgrounds have problems with these two sounds' are due to lack of sufficient motor control because 'they are also the sounds mastered last and substituted most frequently by English native children' (Jenkins, 2000: 106). In one widely cited research, for example, Schmidt (1987) studied production problems with interdental fricatives /θ/ and /ð/ in his subjects speaking Egyptian Arabic as NL. Schmidt considers the possibility of developmental processes contributing for the subjects' problems pointing to the same kind of evidence in NL acquisition researches demonstrating native English children also face problems with these sounds due to lack of 'sufficient motor control: an inability to maintain the articulators in a finely adjusted position as is required' (Ibid.: 367). In this connection, Jenkins (2000) explains the most common problem of L2 learners towards interdental fricatives arise from transfer processes which are compounded by the developmental difficulty and argues, among other things, that "features of L2 English which do not occur

in an L2 learners' NL, and are late (or even never) acquired by its NL speakers, are unteachable for that learner (in the sense that no amount of teaching will result in automatic production)" (p.106).

Besides, according to 'Eckman's Markedness Differential Hypothesis' (1977, as cited in Jenkins, 2000), there is additional reason for the difficulty learners encounter on interdental fricatives. Both sounds are more difficult for ESL learners to acquire, for that they are 'marked' phonemes, meaning that they are not very frequent sounds in the world's languages. Still according to Eckman's Hypothesis, the /ð/ sound is more difficult for ESL learners to acquire than the /θ/ sound, since voiced phonemes are assumed to be more difficult to be learned than voiceless ones.

The parallels in acquisition among learners from different NL turns our attention to the most commonly occurring problem of non-native learners which is often referred to as residing in the universal process of languages: cluster simplification. Interlanguage processes such as 'schwa parogage' (i.e. the addition of schwa to word final obstruent (i.e. plosives, fricatives, and affricates) and the tendency to avoid clusters (consonants occurring consecutively) by either consonant deletion or vowel insertion have been traced to a universal preference for the consonant-vowel (CV) syllable, which is probably 'a universal articulatory and perceptual unit such that articulators tend to operate in basic CV program in all languages (Jenkins, 200:101). Interlanguage phonology has duly revealed that 'open syllable' or 'syllable simplification by inserting vowels' may be a universal process of speech production and perception (Jenkins, 2000, Pennington and Richards, 1986: 214). In her interlingual identification research, Tarone asserts that the CV speech performance unit is a crucial unit of interlingual identification for the second language learner and should be dealt with as such by TEFL teachers.

> *...in second language learning a crucial process influencing the shape of interlanguage phonology is a linguistic insecurity which causes language units and speech units to interfere with one another, producing a disorganized type of speech rhythm which has often been observed by TEFL teachers of pronunciation.* Tarone (1972: 325)

It is noted that different languages involve simplification process in various ways adding different combinations of allowable initials and/or final consonants (ibid). The problem suggested in this regard is that learner's NL based specific realization for universal preference in CV syllables may result in an L2 simplification which conform not the rules of English elision but to the rules of their own NL. Tarone warns that 'because L1s differ widely in their permissible syllable structure and thus in their speakers' routes to cluster simplifications, international English intelligibility is likely to be jeopardized" (p. 101).

iv) Transfer Plus Variation and Contextual Factors

Other features of second language acquisition are similar to processes found in the context of language change and variation. It has been noted that as in the case of first language phonological change, a new item or rule in second language learning is not acquired firmly. That is to say learners do not immediately begin to use a new phonological rule or feature in all its contexts or in all its appropriate phonetic variants. Rather, learners acquire variants of target language features and gradually improve the range of contexts in which the variants are used. As noted by Pennington and Richards (1986: 215), learners 'add new features to their collection, which at an earlier time they may have avoided altogether. In this connection, Dickerson (1975) demonstrates that Japanese learners of English, acquiring the phoneme /z/, produce a higher percentage of target variants for the phonemes in initial than in medial or final positions. As learning proceeds, Dickerson notes, learners gradually produce more target variants in medial and final positions; which he used to summon up teachers not to rush for correction because some of the problems are temporary.

There has been a consensus among investigators that the linguistic environment exerts a very profound and often quite permanent effect on an individual's ability to produce, identify and discriminate speech sounds. In this case, many underline that linguistic contexts also interact with NL transfer in interlanguage phonology. According to Tarone (1980), for example, phonological variation can be shown to vary in form depending on those linguistic forms immediately adjacent. Some environments seem to have a facilitating effect while correlating highly with an increased number of target-like variants; other environments seem to be debilitating, correlating with an increased number of non-target like variants.

On the other hand, Pennington and Richards (1986) describe the process of acquiring new environments for target language rules as 'wave mechanism' to refer that rules which are learned in specific contexts may then spread throughout the learner's interlanguage. Through this wave mechanism, phonological features learned in the context of specific lexical items, phrases, or grammatical constructions may be applied by analogy to additional items, phrases, and constructions. Taken together, it has been suggested that much of non-natives' phonological variation my result from the process of overgeneralization, the range of target language model the learner is exposed to, degree of formality they are in, and also due to the linguistic context (Tarone,1972; Major, 1992; Dickerson, 1979; Pennington and Richards, 1986).

v) Psychosocial Traits

Drawing on sociolinguistic variation theory, Jenkins (2000) discusses that much of the phonological variations among non-native speakers may result from the range of target language model they are exposed to, including school teachers. This psychosocial variation among learners may also be explained as to why some deviations do not improve over the course of time or teaching; no amount of teaching can affect the pronunciation of the speaker because it is already internalized in the learners' interlanguage grammar as an acceptable and correct pronunciation model for the speaker.

With the same token, Pennington and Richards (1986: 216) emphasize the fact that pronunciation is intimately associated with a person's identity which may also explain why considerable individual variation is found in 'rates and ultimate levels of achievement in phonology'. Kenworthy (1987) has made it clear what it is we have to know about the role of a person's 'sense of identity' and feelings of 'group affiliation' in determining the acquisition of 'accurate' pronunciation. She notes that individual variation arising from social and psychological contexts affect one's readiness to modify pronunciation, showing positive or friendly feelings towards switching a particular pronunciation; "In many studies of attitude and motivation ..., it has been shown that those learners who show positive feelings towards the speakers of the new language tend to develop more accurate, native-like accents" (Kenworthy, 1987: 8). Kenworthy also discloses that positive feelings have been related to 'integrative motivation' and if a leaner is willing to be integrated into the new speech community and is genuinely interested both in the speakers and in their culture, learning rate and success increase.

Researchers also draw our attention further to other affecting factors for pronunciation learning. Personality variables such as introversion, extroversion, or sociability, individual language aptitude (e.g., the ability to mimic sounds) have also been suggested to explain differences among individuals in phonological attainment and cited as contributing interlingual factors in pronunciation learning (Kenworthy, 1987).

Among many researchers and writers, age seems the indispensable topic for pronunciation. Most of the researches have been used as evidence to support the Critical Period Hypothesis which claims that 'there is a sensitive period for language learning, and that biological changes takes place in the brain after certain age (usually said to be between 10 and 13 years)' (Kenworthy, 1987:6). The general consensus seems that 'people actually lose certain abilities after this age and that the younger a person

is, the better he or she will be at accurate perception of the sounds of new languages' (p.6). However, consistent findings still show that age in pronunciation learning extremely interacts with other factors such as, for example, attitude, motivation, opportunity to hear and speak the target language, the length and time of exposure to the TL, etc. and that, as Kenworthy reminds (1987), 'we do not yet have evidence for a simple and straightforward link between age and the ability to pronounce a new language' (p.6).

2.6.3. Intelligibility Researches on Non-native Speech

The concern for intelligibility rather than native-like pronunciation of nonnative speech existed long before the issue of interlanguage and world Englishes arose. Abercrombie (1949), who is one of the popular and widely cited authorities in the literature (e.g. Jenkins, 2000; Field, 2005; Morley, 1991) for his recommendation in the teaching of pronunciation to foreigners or immigrants, maintained that the acquisition of native-like pronunciation for adult learners is very difficult, if not impossible, and thus, teachers should not expect "perfection". He sustained that teachers should rather select specific phonemic features to teach and those features should be selected based on "empirical and research-based intelligibility" decisions as which pronunciation features most seriously hinder intelligibility.

Intelligibility is widely agreed to be the most important goal for spoken language development, for both listening and speaking for both kinds of settings (both where NNSs will interact with NSs and where they interact primarily with other NNSs) (Jenkins, 2004). Researchers have also shown that intelligibility is a moving target, depending on the interlocutors, situation, register, and other elements of context and thus, context-sensitive principles are needed to make decisions (Levis, 2005). For this and other reasons, intelligibility researches have drawn substantial attention among L2 acquisition and communication researchers, for mainly pedagogical reasons, and have long aimed towards improving learners' intelligibility (Munro and Derwing, 1997). Teaching for intelligibility/comprehensibility implies a principle of differential importance that some pronunciation errors are more likely to affect understanding than others and some pronunciation teaching topics should be emphasized while others should not (Jenkins, 2000; Levis, 2005).

Intelligibility assumes that native-like pronunciation is not an important goal; rather, it's important to be understandable even if accented. Why not a native accent? It doesn't seem to be possible for most learners and it's not necessary (unless you're a spy) (Levis, 2005; Kenworthy, 1987). Language

proficiency does not depend upon having a native-like accent because everyone, even native speakers, has an accent. More recently, aiming at intelligibility is becoming an issue of concern in English language teaching in view of English as an international language to assure mutual intelligibility among speakers of different NL background and of different varieties of the language (Jenkins, 2000). In this regard, assessing learners' intelligibility and establishing clarity with their actual intelligibility estimates accordingly bears a substantial recognition in L2 pronunciation pedagogy and research in the quest of determining pedagogical priorities (Derwing and Munro, 2005:385; Kenworthy, 1987:25; Jenkins, 2000:11); "If we are to provide appropriate pedagogic proposals for EIL pronunciation, then these must be linked directly to relevant descriptions of NNS speech in terms of what constitutes optimum productive competence and what learners need to be able to comprehend" (Jenkins, 2002: 84).

2.6.3.1. The Construct of intelligibility

The terms "intelligibility" and "comprehensibility" have been alternatively utilized in linguistics research studies (Jenkins, 2000). The dictionary definitions of these words, as provided in Cambridge Advanced Learner's English dictionary (3rd edition) follow, 'intelligible: clear enough to be understood', and 'comprehensible: able to be understood'. Similarly, "intelligibility" and "comprehensibility" are treated by many as synonyms. In order to avoid confusion, more explicated definitions by Smith (1992) as cited in (Jenkins, 2000) are adopted in many of intelligibility researches. According to Smith (1992), language understanding consists of three phases: (1) intelligibility: to recognize words/utterances; (2) comprehensibility: to seize the meaning of words/utterances (locutionary force); and (3) interpretability: to reason the meaning behind word/utterance (illocutionary force). Following this categorization, Munro and Derwing (1999: 289) provided more direct definition of intelligibility as 'the extent to which a speakers' message is actually understood by a listener'. This definition is most commonly adopted in many intelligibility researches, so is in this study. In the same vein, Kenworthy (1987) clarifies the concept more specifically through explaining what is meant by unintelligibility: "the foreign speech is unintelligible when a listener hears a different sound, word or phrase from the one the speaker was aiming to say" (p.13).

The investigation of intelligibility and the approach followed in it often have much association with the definition given to the concept of intelligibility. Jenkins (2000) presents three categorical views above in terms of degrees of understanding on a continuum, with intelligibility being the lowest and interpretability the highest. Jenkins (2000) accepts Smith and Nelson's definition and categorization in

general, while rejecting the hierarchy assuming the least role for intelligibility in communication as compared to comprehensibility and interpretability. As far as interaction among learners of English is concerned, she regards intelligibility as a prerequisite (though not a guarantee) of successful communication at the 'locutionary' and 'illocutionary' levels. Jenkins's argument becomes evident in her study of non-natives interaction where the interlocutors' overall understandings were highly dependent on actual word and utterance recognition, more than other contextual cues, as facilitating or debilitating factor for negotiation of meaning.

According to the categorization by Smith (1992) as cited in Jenkins (2000), a number of researches have been conducted on non-natives speech intelligibility. Intelligibility, more specifically defined as the ability of listeners to accurately decode individual words in the stream of speech, or, the ability of a speaker to say words in such a way that listeners can decode them, some studies such as Munro and Derwing (1995), Derwing and Munro (1997), Smith and Rafiqzad (1987) investigated the level of actual recognitions of non-native speeches by listeners. Whole or partial sentence transcription was adopted as the measurement of intelligibility. In these studies, the most common measure is the number of words correctly transcribed by listeners, which is understood as an index of speaker intelligibility.

Comprehensibility, on the other hand, is often defined as the accuracy with which a speaker's intended meaning is perceived and used as a way to measure comprehension (Hahn, 2004). In other words, comprehensibility - the perception of how easy it is to understand a speaker - implies a more global view of comprehension that trusts listeners' intuitions (Derwing and Munro; Munro & Derwing (series of works (1995, 1997, and 1999). Researchers investigated comprehensibility of nonnative speech either in conjunction with intelligibility or treating on its own. Listeners in these studies were required either to answer multiple-type content questions based on what they heard (Hahn, 2004) or to simply describe the perceived comprehensibility of the speech they heard on a scale (Munro and Derwing); i.e. listeners evaluate how difficult an utterance is to understand, and how strongly accented it is as well.

On interpretability, fewer research studies have been conducted, with some examples from Ingram and Nguyen (2008). In these studies, the listeners were asked to paraphrase, in their own words, what they heard. In reality, however, it is difficult to clearly divide interpretability from the other two phases of intelligibility and comprehensibility. Some challenge studies on interpretability in view of the commonly accepted psycholinguistic perspective that comprehension is not a linear process moving from decoding (i.e., intelligibility) to meaning-making (i.e., interpretability) (Jenkins, 2000). It is also noted that other

factors involve in ones making of meaning (Brown's, 1994) 'interactive model' cited in Jenkins (2000) that old information (schemata: already obtained world knowledge) and new information (intake through sensory organs) interact in a person's mind to make meaning from an input.

However, most studies have commonly investigated intelligibility in conjunction with two variables: 'comprehensibility'- listeners' perception of a speaker's intelligibility, and 'accentedness'- the degree of foreign accent (series of studies by Munro and Derwing in 1995, 97, 99). These three variables are also measured in respect to their correlation to each other. Munro and Derwings' studies, for example, found correlative relationship among intelligibility, perceived comprehensibility and accentedness, and suggested a hierarchy of importance: intelligibility, followed by comprehensibility, with accentedness assuming the least important consideration. The researchers concluded that non-native speech may be intelligible even if the speaker has a strong foreign accent. This does not imply that L2 speech is always perfectly intelligible; but equating accentedness with lack of intelligibility is a false comparison. It is widely agreed by researchers that pronunciation deviations do not necessarily impair the ability to decode. One evidence, for example, that can be provided from Jenkins (2000), is that in the context of English as a Lingua Franca (between non-native speakers) where the speech was characterized by foreign accent, speaker's pronunciation did not entirely block communication.

Munro and Derwing (1999) examined linguistically trained native speakers' (whose majors were either linguistics or TESOL) perception of non-native speech produced by advanced NL Mandarin speakers. All the speech samples turned out to be highly intelligible, and the comprehensibility ratings were also high. However, the perceived accentedness ratings varied more widely. The researchers concluded that even though perceived accentedness is related to intelligibility and perceived comprehensibility, they are not the same. That is, it is very possible that speech with a heavy accent is intelligible and comprehensible.

In 1997, Derwing and Munro chose intermediate ESL students from four different NL backgrounds (Cantonese, Japanese, Polish, and Spanish) as speakers and linguistically untrained native English speaker college students as listeners. The listeners were to transcribe each speaker's extracted short phrases word-for-word, rate them both on comprehensibility and accentedness, and identify the speaker's NL. The main findings were: 1) intelligibility test scores and comprehension ratings were highly related; 2) accentedness ratings were neither related to intelligibility nor to comprehensibility; and 3) the accuracy of identifying the speakers' NL depended on the listeners' familiarity with the variety of L2 English.

Interestingly enough, to investigate the learners' pronunciation on these three dimensions (i.e. intelligibility, perceived comprehensibility, and degree of foreign accent) and their correlation would provide comprehensive information not only about the actual easiness of an utterance to be understood by others but also about the listeners' subjective perception of its intelligibility and accentedness. However, writers suggest that caution should be taken on the role of accentedness on intelligibility from the generally accepted view that accent is a natural characteristic of L2 speech, and accent-reduction or elimination should not be focused. Therefore, as suggested by Munro and Derwing (1999:305), the consideration of accent for pedagogical implication should be made according to the goals of the instruction. "If the goal is intelligibility, then the degree of accent should be of minor concern while it can be considered if the goal aims at acquiring a particular accent variety."

2.6.3.2. Variables Investigated

A brief review in the field of intelligibility reveals that previous research has shown to some extent lack of consistency towards variables investigated. For example, functional load, listeners' experience, rate of speaking, and shared NLs on ratings assigned to intelligibility are involved in some studies (Munro and Derwing, 1995, 97, 99). Some others have attempted to identify the 'cost' of having a foreign accent in terms of processing time, the degree of irritation expressed by listeners, listeners' subjective evaluation of the personality of the speakers, etc.(Ingram and Neguyen, 2008;Puerto et al. 2008).

i) Functional Load and Frequency of Errors

Being defined as "a measure of the work two phonemes do in keeping utterances apart" (Munro & Derwing 2006 cited in Levis, *on line* file), functional load is measured partly by the number of initial and/or final minimal pairs two sounds have and the likelihood that the distinction is enforced in all varieties of English. In their widely-cited research, as discussed by Levis (ibid), Munro and Derwing (2006) tested NS subjects' listening to sentences with high and low functional load errors involving high functional load errors such as /l/-/n/ (light-night), /s/-/ʃ/(sell-shell), /d/-/z/ (ride-rise) and low functional load errors such as /ð/-/d/ (then-den), /ɵ/-/f/ (three-free). Native listeners' subjects rated accentedness and comprehensibility of the sentences on a scale (a scale of 1-9) prepared separately for each. The conclusion drawn from the study is that errors in phonemes that carry a high functional load are more likely to affect listeners' ability to understand than are errors with sounds that carry a low functional load.

The impact of frequency of errors on intelligibility has also been recognized by many researchers in that speech that contains more phonetic and phonemic errors will be less understandable than speech that contains fewer. In this view, Jenkins (2000) disclosed that unintelligibility is the cumulative effect of many little departures from the phonetic norms of the language. A great many of these may be phonemic; many others are not. Other forwarded that "under certain circumstances, any abnormality of speech can contribute to unintelligibility" (Prator & Robinett, 1985, xxii). There is some evidence for and against this concept, again from the previous study cited by Levis (on line) on functional load by Munro and Derwing (2006). 1) "there was no evidence of a cumulative effect of low FL errors on accentedness", 2) "a cumulative effect of high FL errors was seen", 3) "It may be...that numbers of segmental errors alone do not account fully for variability in accentedness or comprehensibility. Rather, the nature of the errors may affect their performance".

ii) Processing Time

Some other studies showed that even highly intelligible foreign-accented speech is processed more slowly than unaccented (native) speech (Munro & Derwing, 1995). Munro & Derwing (1995) examined sentences produced by native English and Mandarin adults based on native listeners' speed of true/false response and transcription accuracy. The sentences were either True (e.g., *Elephants are big animals*) or False (e.g., *Most people wear hats on their feet*). The sentences were transcribed correctly (100% intelligible). The task of responding 'True' or 'False' as rapidly as possible and the time needed to respond only correctly shows that significantly faster responses were given to unaccented than accented sentences. In other words, foreign-accented utterances (even highly intelligible ones) took significantly longer for listeners to process than native (i.e. unaccented) utterances (Munro & Derwing, 1995). Flege (2002) explains that slower/longer processing occurs due to mismatch between vowels and consonants in foreign accented speech (FA) and native listeners' long-term memory representations.

Munro and Derwing (1995) were also interested in the effect of speech rate on intelligibility. When compared with a NS, their Mandarin-accented speakers were judged less intelligible when they read the given material at a faster rate. This tendency was stronger with a heavily accented speaker than a mildly accented one. In their study, however, instead of asking listeners to judge intelligibility, the actual processing time was measured. The Canadian NS listeners needed more processing time when they had to verify Mandarin-accented statements than they did when verifying Canadian-and American-accented speech. The researchers concluded that foreign accents require longer processing time. The general

implication of this study is that NNSs, especially with strong accents, should speak more slowly to be understood.

iii) Listeners Experience and Familiarity

Others theorize that foreign-accented speech intelligibility is determined, at least in part, by the degree to which talkers' and listeners' phonetic systems are similar to each other, rather than merely the degree to which the foreign-accented speech approximates native talker norms (Bent, Bradlow and Smith, 2008). Key findings from previous research reviewed by Bent et al. in support of this hypothesis show that relatively high speech recognition accuracy for foreign-accented speech when presented to non-native listeners with both matching and mismatching NLs, and that native listener adaptation to foreign-accented speech. "General findings suggest that intelligibility of foreign-accented speech also depends on talker-listener relationship, and is partially independent of the degree to which the talker's speech differs from abstractly defined native talker norms" (Bent et al. 2008: 132).

Additionally, based on their own experiment that involved non-native listeners such as Koreans, Taiwanese, and Germany, Bent et al. (2008) reported better perception performance scores of non-native listeners than Native American listener counter parts for speech stimuli taken from Chinese speakers whose speech was significantly characterized by lack of vowel lengthening. The researchers reasonably concluded that speech intelligibility depends on shared phonetic knowledge between talkers and listeners rather than only on accuracy relative to idealized production norms.

Gass and Varonis (1984) as cited in Munro and Derwing (1997) tried to determine the effect of listeners' familiarity with the topic of the utterances presented and the variety of English spoken by the speaker with the listeners' scores on a dictation test. The results indicated that all kinds of familiarity investigated affected intelligibility scores of American university students, while familiarity with the topic was the most powerful factor.

It would appear that intelligibility is affected by listener factors such as familiarity. There are other supporting substantial evidences that familiarity with a particular group of speakers has a facilitating effect on the result (Munro and Derwing, 1997, 99). For this reason, speakers of other varieties of English are, therefore, often used for intelligibility researches rather than fellow country speakers least large effect of familiarity and shared linguistic and cultural backgrounds among fellow citizens would intervene.

Listeners' familiarity to an L2 speech (defined as extent of previous exposure to non-native speech) and semantic context (defined as degree and type of semantic information available) were also investigated by Kennedy and Trofimovich (2007) to see how listeners' experience influence measures of intelligibility, comprehensibility, and accentedness. 24 native English-speaking listeners, half experienced and half inexperienced with L2 speech transcribed and rated 90 English utterances spoken by six English and six Mandarin speakers. The utterances used varied along two dimensions: real-world expectations (true vs. false utterances) and semantic meaningfulness (meaningful vs. meaningless utterances). Listeners with more experience understood more speech than listeners with less experience but did not rate it differently in comprehensibility and accentedness. All listeners understood and rated the utterances from L2 speakers based on the semantic context available: true–false utterances were understood and rated best, meaningless utterances least. The researchers recommended that these findings have implications for evaluating learner pronunciation and for training learners.

2.6.3.3. Hierarchy of Errors on Intelligibility

Studies have attempted to establish hierarchies of non-native pronunciation features in determining intelligibility. For example, Gimson (1980) and O'Connor (1980) have argued that accurate production of consonants is more essential to comprehension in English than that of the production of vowels, whereas both authors mentioned others who came to exactly the opposite conclusion. While several researches like Munro and Derwing (1995) found evidence that prosodic errors are more series than segmental errors, others argue that segmental errors have the more detrimental effects on comprehension. It is also reported that intelligibility loss was found to be more serious in cases where segmental errors occur in combination with suprasegmentals (Jenkins, 2000).

In Munro and Derwing (1997), it is reported that prosodic features showed significant role on the speakers' non-native accents than that of segmental and hence the native listeners' comprehension was hindered more severely by prosodic than by segmental features. With artificially filtered speech that is completely unintelligible, the authors mentioned that they found the same result in their previous study (1995) which revealed that native listeners still could detect foreign accents based only on non-segmental factors (i.e., stress, intonation, rhythm, speech rate, and voice quality). In a word, prosody, or non-segmental speech features, seems to play a significant role in listeners' perceptions on both the comprehensibility and accentedness of heard speech.

Field (2005) studied listeners' ability to understand 2-syllable word stress errors with and without changes in vowel quality. The researcher found that there is "a significant decrement in intelligibility when stress is shifted to an unstressed syllable without an accompanying change in vowel quality. When the stress shift was accompanied by a change in vowel quality (from weak to full), the loss of intelligibility was considerably less marked." (p. 414-415)

Bent et al. (2008) designed speech perception experiment in which native and non-native speaker listened to and identified words that were produced by both Native American and Chinese speakers who differed in voicing of the final consonant. Based on the patterns observed in the experiment, Bent et al. reported that both native and non-native listeners, as groups, were sensitive to the vowel length difference between non-native talkers and were more accurate at identifying the productions of the non-native talker with a relatively large amount of vowel length difference than the non-native talker with a relatively small amount of vowel length difference. From these instances, Bent et al. concluded that word-recognition accuracy by both the native and non-native listener subjects was highly determined by vowel duration in the speech production.

In another study, Schadech (2010) focused whether NNS-NS intelligibility is affected by specific phonemic errors. Referring to series of studies conducted on Brazilian learners of English, Schadech (2010) discloses that Brazilian learners tend to replace the consonant sound /θ/ with /s/, /t/, or /f/, and replace /ð/ with /z/, /d/, or /v/. Whether or not the non-target pronunciation of /θ/ and /ð/ by Brazilian speakers of Portuguese hinder English native speakers' comprehension was the interest of Schadech research. The researcher concluded that the non-standard pronunciation of the interdental fricative sounds by Brazilians does hinder English native speakers comprehensibility, even when the native speakers are said to be already familiar with the accent. The researcher recommends for teaching and practicing these sounds is important for improved intelligibility.

In another study, Jenkins (2000) examined what pronunciation aspect affected intelligibility in the use of English as a lingua franca (ELF), i.e. between NNS-NNS. Even though phonetic problems appears to be less of an issue than phonemic problems for her lingua franca core, Jenkins (2000) reports some instances of phonetic approximation that caused intelligibility and comprehension difficulties in her ILT (interlanguage talk) data and suggests phonetic deviation should not be ignored totally particularly for learners who have not yet reached at bilingual status.

This is because the latter [bilingual English speakers, BES] have a wider band of phonetic tolerance and range of awareness of the available options than do the former [non-bilingual English speakers, NBES], and are, therefore, better able to categorize different phonetic realizations as belonging to the same English phoneme. By contrast, NBESs tend to hear phonetic differences as categorical, i.e. phonemic. Jenkins (2000: 36-37)

Recent researches are characterized by their reports that suprasegmentals are more likely to promote comprehensibility; though others argue that segmental are obviously more important. Others see the debate not useful because both aspects are highly interrelated. There is no clear indication as to which specific aspects of pronunciation are most crucial for intelligibility. The apparent contradictions and lack of universal conclusions in the results of many studies may be explained by the differences in the target languages under study, as well as the differences in methodology (Munro and Derwing 1999).

2.6.3.4. Studies on Intelligibility to Nonnative Listeners (ELF)

Obviously intelligibility studies of non-native English presuppose participants and methodological procedures. Yet previous studies apparently vary regarding the participants involved as listeners and the type of speech material used as well. The evaluators or judges of nonnative speech have customarily been native speakers. As was mentioned previously, reasons why only NS judgments were used in the evaluation of nonnative speech are understandable. First of all, the belief that only NSs possess the ability (and the right) to distinguish what is comprehensible from what is not has been prevalent in Second Language Acquisition (SLA) research (Crystal, 2008; Ellis, 1994). The assumption and practice for long was that the benchmark of intelligibility should be a decision by native Englishmen and not a secondary assumption or guess work by a nonnative (Bamgbose, 1998). This tradition was hardly questioned until the concept of World Englishes entered the field. The absolute authority of NSs is now challenged by authorities in the field such as Widdowson (1997:144) who claims for 'there is no need of native speaker custodians' arguing that 'natives have no say in the matter, no right to intervene or pass judgments' (Widdowson, 1994:85).

Secondly, as Jenkins (2000) pointed out, two common beliefs were persistent in SLA and nonnative English researches: (1) If a listener understands a native variety, then s/he would easily understand nonnative varieties as well, and (2) if a speaker is understandable to native-listeners, then s/he would also be understandable to nonnative listeners. These assumptions are, however, clearly negated by the majority today (Jenkins, 2000; Bamgbose, 1998; Widdowson, 1994).

Thirdly, in terms of a research design, including nonnative listeners as well as native-listeners in a study would increase the number of independent variables. Having two different groups (NSs and NNSs) also requires a larger sample size, which is a burden to many researchers. Nonnative listeners are also likely to be more heterogeneous (in their NLs naturally, and in numerous related attributes) than native listeners. Especially in research on pronunciation, individual differences have been reported to be large even among comparatively homogeneous native listeners. Controlling extraneous variables across native and nonnative listeners would conceivably be more challenging.

Puerto et al. (2008) examined the intelligibility of extemporaneously taken speech samples of 28 Basque-Spanish speakers to both groups of five native speakers of British English and five native speakers of Spanish. Their results confirmed previous findings by Munro and Derwing (1995) in that lower degree of foreign accentedness is associated with higher intelligibility and in that accentedness judgments are harsher than intelligibility measures. Their data showed no significant statistical difference between native and non-native judges. Consequently, they believed that their results would support those studies that have concluded that non-native judges are capable as native judges in detecting non-natives' intelligibility and accentedness.

By taking an international perspective of English today, Jenkins (2000) studied the pronunciation challenges of international students of Mandarin Chinese, Japanese, Korean, European Spanish, Brazilian Portuguese, German, Swiss-German and Swiss-Italian, Indian, Nigerian, and Thai. Jenkins's concern is mutual intelligibility between speakers of English where they cannot rely on shared cultural or first language backgrounds to support comprehensibility. As do many, Jenkins attacks the concept of any standard native speaker as pronunciation model or intelligibility judges. She also rejects the argument that suprasegmental are the greatest problem for comprehensibility, though she does not ignore this area. She infers that much of the attention given to suprasegmental is because they can be the most "offensive" pronunciation error for learners as intonation often conveys "social niceties".

Jenkins's (2000) ILT data confirmed that a unique deviation source may cause intelligibility problems when they occur within a single word or among consecutive words. Many pronunciation writers have often made similar claims that unintelligibility is more of the result of the cumulative effect of many little segmental and suprasegmental deviations in the L2 (Gimson, 1975; Kenworthy, 1987). Meanwhile, some suprasegmental errors hold a similar potential. Those deviations of suprasegmental that studies discovered as having the greatest impact on intelligibility are deviations in word stress, rhythm, and

intonation (Jenkins, 2000). Regarding errors in stress pattern, for example, the majority of occasions found to be leading to intelligibility loss, in Jenkins's ILT data occurred at the level of sounds. These include vowels (length), syllable structure, nuclear placement or various combinations of these. However, understandably, Jenkins acknowledges that other errors of stress patterns may cause intelligibility for NL listeners, different from non-native listeners.

On the other hand, the majority of L2 speakers, mainly because of the transfer of the speakers' 'syllable-timed' NL pattern onto the 'stress -timed English' (Jenkins' 2000:43), find the English system of rhythm and intonation very difficult to learn, and thus, often make deviations in them. Jenkins asserts that such transfer errors are potentially causing unintelligibility in her ILT data. It is also reported that the problem was found to be more serious in cases where segmental errors occur in combination with their prosodic counterparts (ibid).

Obviously, all pronunciation errors do not equally impede communication and hence some can be said harmless and some critical according to their effect in actual interactions. On the basis of extensive data collected in multilingual EFL classes, Jenkins indentifies a list features of English pronunciation considered crucial for mutual intelligibility among non-natives. She calls these features the 'Lingua Franca Core (LFC)'. The LFC identifies 7 areas in which it is essential to eliminate error in pronunciation: 1) vowel quantity, 2) consonant conflation (i.e. confusing two consonants into one), 3) phonetic realizations, 4) consonant cluster simplification, 5) prominence and weak forms, 6) tone groups, and 7) nuclear/contrastive stress.

As Jenkins derives her findings by analyzing nonnative speaker conversations (and not from native speaker intuition), her recommendations probably deviate from current practices. She argues, for instance, that most substitutes for /θ/ (like /t/) are permissible as they do not hinder communication. Jenkins explains: 'there is really no justification for doggedly persisting in referring to an item as 'an error' if the vast majority of the world's L2 English speakers produce and understand it" (p.160).

While Jenkins's LFC represents the majority of interactions these days in the use of English as an international language (i.e. among non-native speakers), it appears that it needs to be substantiated by adding in it other features which can affect communication during native and non-native interactions. This is because natives also take part in the current interactions. Particularly in a situation like Ethiopia, where the interaction is both with native and non-native speakers, the overall pronunciation tendencies

of a particular group of learners, therefore, need to be sorted out in relation with their significance to the learners' actual overall interaction and intelligibility, not only to a particular group of their interlocutors (Jenkins, 2000; Brown, 1987). In this connection, Kenworthy (1987:20) has made it clear that the most useful and relevant participants for intelligibility assessment are both those native and non-native speakers of English 'whom the target speakers may use the language to communicate predominantly, or at least some of the time, or in the future'.

By taking an international perspective on pronunciation teaching and learning, Jenkins work is considered by scholars in the field such as Roach (2001) as an important contribution to rectify the current situation. It will also be of considerable value in a variety of non-native settings, including the Ethiopian context. While the model can be taken as a new approach and a more realistic framework towards assuring mutual intelligibility among non-natives, the role of native speakers in the international interactions is pervasive and hence requires due considerations.

2.7. Summary

In the previous sections of this chapter, the central role of mother tongue and the difficulties it poses among non-native learners was accentuated. It was noted, however, that the extent and area of pronunciation difficulties vary with speakers of different first languages varying their pronunciation under the influence of their NL phonology. However, L2 learners have lots of other problems with pronunciation because of a wide range of factors that interact with the complex process of NL phonological transfer. It was conversed that learners' difficulties in L2 pronunciation may include more than just phonetic symbols and rules, the articulation of individual sounds and their distinctive features like voice and aspiration, stress, intonation, and rhythm.

The notion of interlanguage in second language acquisition research has confirmed that many other processes interact with language transfer in shaping the L2 phonological system implying that the learning and use of pronunciation is not exclusively a linguistic matter and we should take some factors into account. A great of researchers under interlanguage framework have attempted to establish that the complex process of phonological transfer derives from its interactions with a number of other processes and a range of other factors and suggested that the development of L2 phonology can be viewed as a dynamic process involving cognitive, psychomotor, linguistic, social, psychological and interactive factors (Jenkins, 2000; Pennington and Richards, 1986).

The interlanguage hypothesis, therefore, claims that the utterances produced by a learner do not necessarily belong to those found in the NL or in the TL and are accordingly independent with their own rules, or grammar, based on the learners' exposure to the TL. This independent system, and the errors made by learners, may be shown to be rule-governed, stemming from other processes operating during the acquisition of an L2 (Ellis, 1997). Central issues are the influence of the first language, the acquisition processes operative in L2 phonology, psychosocial and individual factors, and the role of instruction.

Innumerable factors are said to involve in learning pronunciation. Based on reviewing previous research and theories about L2 pronunciation, affecting factors of pronunciation learning can be broadly categorized into two major areas, namely internal and external factors. Internal factor focuses on learner's native language and the learners themselves, and involves biological factors (i.e., age, ear perception, and aptitude) and individual differences (such as innate phonetic ability, identity and language ego, motivation, and concern for good pronunciation, personality, attitude, and goal setting) (Kenworthy, 1987). External factor involves L2 learners' learning environment, and relates to length of residence in the target language country, frequency of using the TL, amount of exposure, and educational factors.

Due to the influence of the NL phonetic/phonological system on production of L2 vowels and consonants, stress, rhythm and intonation, speech produced by SL/FL learners differs in 'partially systematic ways' from the speech characteristics of native speakers (Munro and Derwing, 2005). Foreign accents are often associated with low intelligibility and negative personal evaluation of non-native speakers (Flege, 1988, 2002). However, it must be noted here that previous researches dealing with as to what aspect of FA affects communication is apparently have not come up with a universal conclusion and it is often explained in relation to the NL considered, type and frequency of pronunciation errors, context of interactions, and many other factors.

It seems of a general commentary in the literature that not all errors of pronunciation lead to communication breakdowns. As Cook (1996:45) underlines, for example, some phonetic approximations are not only 'subtle that do not even matter to native speakers' but also 'unteachable'. In a similar vein, writers emphasizes that some instances of phonetic approximation seem to lead to foreign accent alone rather than to unintelligibility and can therefore be ignored unless the learner wishes to acquire native like pronunciation (Jenkins, 2000; O'Connor, 1980; Kenworthy, 1980). In fact, this reinforces the point

we should never forget "not to expect L2 learners to be like natives but like people who can use another language efficiently in their own right" (Cook, 1996:43).

2.8. Key Theme: Rationale for the Current Study

In sum, a few points in the review of phonetics and phonology, world Englishes and L2 acquisition realities of pronunciation seem evident for teaching English as a foreign language (TEFL) in Ethiopia. The NL of the learner is known to be the most important influential factor in the learning of English pronunciation as EFL/ESL. NL phonological transfer, however, may not be the only source of difficulty and errors in the learners' actual use of the language (Jenkins, 2000; Stern, 1992). Following theories of interlanguage in SLA, studies on L2 pronunciation show that many of transfer errors are accompanied by other sources, which are generally referred to as phonological interlanguage. Jenkins (2000:99-101), for example, discovers that interlanguage phonology is likely to be characterized by a substantial amount of NL phonological transfer interacting with a number of other factors such as universal processes, developmental processes, stylistic and contextual factors, cognitive factors, etc.

Thus, clarity and subsequent teaching must be established not only on the difficulty areas presented by the new sound system but also common errors and problems characterizing the learners' actual use. These crucial data in the teaching of pronunciation can be provided through the combination of contrasting the phonology of the target language with the learners' native language (contrastive analysis) and collecting, classifying and analyzing phonological errors and problems in their interlanguage (error analysis) (Brown, 1987; Jenkins, 2000; Kenworthy, 1987).

The theoretical ground behind such practices in SL/FL pronunciation teaching arises mainly from the insights of SL/FL acquisition in applied linguistics as discussed above. Borrowing Selinker's (1974) terminologies in his interlanguage theory and the implications drawn for FL/SL teaching and learning situation, James (1997) reminds us that there are three 'codes' that need to be described in the process: the learner's mother tongue phonology (MTP), the L2 or FL phonology being learnt or target language phonology (TLP), and the learner's version of the target language phonology widely known as interlanguage phonology (TLP).

It is evident that IL phonology is compounded on the reception side in which the learners face a series of problems of understanding novel pronunciation features, which are also linked to lack of exposure and

familiarity to the target language input. The major proficiency goals to be aimed at in the teaching of pronunciation, therefore, is urged to keep the balance on the receptive and productive skills to help learners recognize and discriminate the new sound features and to produce intelligible sounds (Stern 1992; Kenworthy, 1987, O'Conner, 1980). As noted by Dalton and Seidlhofer (1994:70-71), the focus of attention in a program should primarily be to be clear with: "where the students are coming from and where they are going to". More specifically, this refers to 'possible first language interference, those aspects which are likely to present difficulties given the learners linguistic background, and target language behaviors which are functionally significant in actual language use'.

An important question to raise here is on whether it is necessary, or even possible, to break our NL speech habit and build new ones in the learning of L2/FL pronunciation, or to avoid all kinds of errors of pronunciation in the learners' interlanguage. This question takes us to the socio-and psycho-linguistic views of pronunciation that bear important influences on re-defining pronunciation-teaching objectives.

As theories of interlanguage in SLA reveals, highly automatized motor skills in NL speech habits are not easily de-automatized in L2, and NL phonological transfer may become fossilized and therefore difficult to eradicate in the L2 (Jenkins, 2000; Stern, 1992). As a result, non-natives' speech is highly marked by NL phonological features (ibid). Accent being a natural characteristic of L2/FL speech, accent-reduction or elimination is far to be attained or achieved in SL or FL learning as some features of pronunciation in the learners' interlanguage cannot be learnt or fossilize (Jenkins, 2000; Ellis,1997). Secondly, not only it is unrealistic, it is often undesirable as one's accent is intertwined with one's social and individual identity (Dalton and Seidlhofer, 1994). Researchers frequently assert that the desire to maintain and safeguard the local identity precludes adopting a native accent and hence most learners may need no more than comfortable intelligibility. On the other hand, as indicated in the sociolinguistic view of pronunciation earlier, acceding to native norms by avoiding non-native accent is unreasonable because it fails to reflect the current use of English in the world today.

Given the inevitable process of phonological transfer (and its tendency to fossilize), and other issues of identity and current use of English as well, the most desirable goal of teaching and learning SL or FL pronunciation is therefore not to make 'strenuous effort' to strive for a native-like command but rather to achieve intelligibility retaining the learners' non-native speech (Stern, 1992; Jenkins, 2000). However, because some phonetic and phonemic errors may lead to intelligibility loss, it makes far more sense for

pedagogy to build awareness and plan the instruction overtly on such features and thus to help learners develop more control over it.

The most propounded conception in L2 pronunciation pedagogy and research is that pronunciation is a vital element for learners' effective communication, and hence to train learners with the premise of intelligibility as the most important goal. To this end, a programme must be based on specific and detailed information on the learners' difficulty and problematic areas of the target pronunciation and their intelligibility. All the data to be gained through phonological contrast, actual performance analysis and intelligibility study should be sorted out based on the reality of English as an international language (EIL). This would help to establish more manageable and realistic set of pronunciation goals as to where to concentrate efforts on, as to which features need to be focused, or which features are in most need of improvement for learners of a particular NL background.

In this regard, the critical question for pronunciation teaching is, as Jenkins (2000) and James (1998) suggest, that which phonological and phonetic areas of the NL phonological transfer and phonological interlanguage militate against intelligibility, and then to respond to it accordingly. That is what Jenkins (2000) calls it building 'intelligibility core' as a framework for devising pronunciation curriculum.

Following L2 phonological acquisition theories, the present study adopts a conceptual framework that follows contrastive-based approach towards the learners actual productions and perceptions (interlanguage) of spoken English, by adding to it 'intelligibility' to be used as a reference to filter down the most critical features which could precipitate most intelligibility loss (ibid). As can be seen in the diagram below, in support of the realities of SL/FL pronunciation learning and use, this approach seems crucial and far more important and potentially beneficial consideration because it responds to the learners' pronunciation transfer and interlanguage difficulties selectively, as they interacts with intelligibility than attempts to 'rid' of them (Jenkins, 2000:104).

The critical question to be followed for the current study is *'which phonological items are sources of problems or errors for Amharic Native Learners and also which of these areas militate against their intelligibility?'* Accordingly, there are three 'codes' that need to be described and compared in order to mark out potential and actual problems and overall intelligibility status.

1. Amharic phonology vs. English phonology: phonological contrast.
2. IL phonology (actual productions and perceptions) vs. English phonology: phonological error analysis

3. IL phonology (speech produced by the subjects) vs. perceptual consequences to native English speakers: Intelligibility assessment

Figure 2: Points of comparisons for the present study



The study strongly follows in principle the need for tracing the phonological transfer, interlanguage problems and intelligibility status of Ethiopian learners through contrastive analysis, error analysis and intelligibility assessment respectively. In light of this, phonological contrasts between Amharic and English with possible transfer problem areas will be predicted to unravel potential problematic areas. However, the resultant lists of pronunciation problems to be predicted, while they constitute central focal points for the present investigation, will not be ends by themselves but complementary inputs to be filtered against actual problems revealed in the learners' interlanguage and intelligibility to interlocutors they are likely to interact - the major premise in a goal setting of pronunciation teaching (Morley, 1991). The major concern of the present dissertation, therefore, lies on the importance of assessing the learners' interlanguage phonological problems and levels of intelligibility to view the global effects of transfer problems on their actual performances and communication, so that priorities of pronunciation aspects will be suggested for teaching (Brown, 1987; Kenworthy, 1987).

CHAPTER THREE

3. METHODOLOGY

In this chapter of the report, the procedures and methods used for data collection and analysis are discussed in some details. An account of the pilot study is presented first in a form of a summary to highlight the major modifications that were made in the main study as a result of the pilot test.

3.1. Summary of the Pilot Test

A period of one year, from October 2009 to October 2010, was dedicated to the pilot study to establish the content validity of the instruments and to improve the quality of the overall research (Creswell, 2009-150, Gall et al. 1996:64). The pilot test was conducted on three instruments with their respective analysis: 1) speech perception test, 2) pronunciation measures (production test), and 3) intelligibility test. A total of nine voluntary participants were involved comprising five university students speaking Amharic as L1 and four native speakers of English. In light of what the pilot test revealed, some procedures and the analysis used were revised before they became fully operational in the main study.

3.1.1. Speech Perception Test of the Pilot

To assess the subjects' recognition and comprehension difficulties for selected phonemic and phonological aspects of English pronunciation, a group of five Amharic native speakers who were first year students in Addis Ababa University listened to native speaker recordings designed as a dictation material. All target pronunciation items included in the audio stimulus were contrastive based which are lacking in the subjects' native language Amharic. Under phonemic aspects, dental fricative consonants /Θ/ and /ð/; mid central pure vowels /æ/ and /ə/; all long vowels and all diphthongs were incorporated in words and phrases. On the other hand, the audio material also contained consonant clusters and weakening of vowels in sentences. An additional set longer extract of a speech was presented to test the samples' recognition and comprehension of prominence conveyed through nuclear placement and intonation. All the samples were required to listen to each item of the dictation and then to write down what they heard word for word or to answer some point identification questions. The speech perception test was administered in a form of dictation, in which the subjects were required to listen to each item

and then to write down what they heard word for word or to answer some point identification questions, and performance was measured based on correct transcription or point identification.

The composite of scores of the subjects' correct recognition and comprehension of words and sentences with pre-defined phonemic and phonological aspects of pronunciation provided an account of the subjects' receptive ability or difficulty with strange pronunciation items in the native language phonological system. However, the listen and write technique of the dictation tests used seemed less satisfactory approach to exemplify the samples' receptive problems for a particular pronunciation item because it did not assure if performance was not linked to other factors such as spelling, word knowledge, or phonetic and phonological properties of the whole word or sentence.

To improve the validity of the speech perception test, additional tasks were required for the main study to present the distinctive phonetic or phonological item in minimal pairs so that the two items would be heard similar except their difference on the target item. One of the major lessons learnt for the main study was to include forced recognition and comprehension tasks, rather than mere reliance on dictation, in which subjects would choose one item from options in minimal pairs for what they heard.

3.1.2. Pronunciation Measures of the Pilot

Under this procedure of the pilot study, sample extracts were taken from speech productions of the Amharic native samples collected through read aloud speech elicitation techniques. The entire use of read aloud technique for speech elicitation was to lessen the involvement of additional factors like grammatical and lexical incorrectness for all speakers are supposed to read a pre-designed text. This is because inappropriate lexical and grammatical use in sample speeches, and various discourse factors as well would undoubtedly make the assessment too complicated to control if such non-target factors affect the data collected and the result drawn. Speech samples derived in this way were analyzed for phonemic and prosodic errors subjectively as perceived by the researcher and objectively as acoustically analyzed using computer assisted speech analyzer software called PRAAT.

For segmental level assessment, each speech utterance was phonemically transcribed by the researcher and compared with the original phonemic transcription and error scores were given for phonemic mismatches on target sounds. On the other hand, prosodic errors were examined by comparing the acoustic measures of sample speeches of Amharic native speakers with that of native English speakers.

Acoustic measures of fundamental frequency (FO) ranges, actual peaks and pitch contours and comparison made between English native speakers used as reference and Amharic native speakers provided basic prosodic tendencies in the speeches produced by the two groups for stress, intonation and rhythm.

It can be said that the instrument and the measures used for phonemic and prosodic assessment on read aloud speech samples used in the pilot exemplified the most occurring production tendencies of pronunciation on target aspects. In the main study, therefore, read aloud of a text containing target phonemes and prosodic features exemplifying the occurrence of target features will be recorded involving more subjects so that the characteristic phonemic and prosodic errors and difficulties of Amharic native speakers of English would be drawn and examined from the perspective of production.

One major lesson learnt during piloting the pronunciation measures for the subjects' spoken English was that the phonemic transcriptions and the audio analysis were highly demanding and time-consuming. Besides, the required assistance from the department of linguistics at AAU for employing the software PRAAT was not encouraging for free. It appears necessary to consider in the main study a balancing act on sample size, the amount of speech samples to be analyzed, or the need for dropping the acoustic test. In this regard, because larger number of samples will participate in the main study, to limit the pronunciation measures at segmental level only, without the acoustic test on suprasegmental level, can be justified as a reasonable compromise.

3.1.3. Intelligibility Test of the Pilot

A group of four Canadian native English speakers listened and transcribed a set of speech samples elicited from both read aloud and spontaneous techniques from four Amharic native first year university students. Exact word match transcription score was used to measure intelligibility. The overall result predominantly revealed the listeners' failure to recognize the words correctly as intended by the speakers. The result, however, was taken with caution for it did not consider if listeners' level of familiarity to the particular non-native speech they heard had any effect on their transcription performances. Given that the three Canadian listeners (from the total four) involved in the pilot had a very limited experience of Ethiopian speech and only stayed an average of one month in Ethiopia, it could be argued that the study should take account if listeners' familiarity affected the overall result. Therefore, for the main study, it became necessary to involve more listeners preferably of different

native varieties and experience than those used in the present pilot. Besides, variability measures that could arise from both speaker and listener characteristics should be dealt.

One additional challenge in the pilot was that there was no way to control if grammar, composition, and fluency, etc. of the speeches derived from extemporaneous stimuli intervened in the result. Because of the difficulty for the researcher to control such extraneous factors, the implication for the main study, therefore, is to employ only read aloud technique for the intelligibility test and draw the conclusions entirely from it rather than using the composite data from both techniques of different nature. Particularly for the present study which drives speech samples from learners of approximately intermediate proficiency level, and who revealed in the pilot enormous errors in grammar, vocabulary, organization, etc. including fluency problems in their speech which is also full of frustration, read aloud seems more reliable than extemporaneous speech. Therefore, the intelligibility data for the main study will entirely be drawn from read aloud stimuli only.

3.2. Design of the Study

The purpose of the study is to identify difficulties of English pronunciation that Amharic NL learners might be experiencing from the influence of their native language and to expose the impact of these difficulties in the learners' global communication. To this end, the study, using quantitative descriptive methods, diagnosed a range of possible problems that the learners might have with regard to English phonetic and phonological forms which are lacking in Amharic, and identified specific characteristic difficulties the learners actually experienced in spoken English.

Descriptive research method, as Ellis (1997) defines, is a study designed to provide 'descriptive information' (i.e. dealing with naturally occurring phenomena) about the subjects of enquiry deductively with pre-defined focus of investigation using quantitative (i.e. numeric) measures of data. Following this definition, the research design of the present study mainly lies under quantitative descriptive type for the following characteristics. It examined Amharic speaker learners' existing difficulties towards English pronunciation as they normally used English at the time of the test without any attempt to manipulate variables or train the subjects. The study particularly targeted pronunciation difficulties stemming from areas of English pronunciation which are foreign to the learners' native language. Besides, it answered the research questions which had been pre-set at the outset, collected its data through employing pre-defined procedures and tools, measured and analyzed data numerically based on the frequency that fall

under pre-defined phonetic and phonological features of English pronunciation. In some cases, however, along with descriptive methods of the quantitative data, qualitative method of analysis was also made on the data which were textual in nature or incidental in type depicting a particular occurrence or event. It proved helpful in order to clarify and elaborate the numeric data and identify further information as well on the behavior under investigation.

3.3. Participants

In this study, two groups of participants were involved: undergraduate university students who speak Amharic as their first language and native English speakers who were living in Ethiopia at the time of data collection. Information on both groups will be presented in this section, along with specific explanations of the purpose and the procedures implemented for their involvement.

3.3.1. Native Amharic Speaking Learners

Sixty undergraduate students at Addis Ababa University (27 males and 33 females) with mean age of 19 years participated in the study. They were all first year undergraduate students in the regular program of the university enrolled in the departments of social work (12), engineering (18), mathematics (13) and pharmacy (17) attending English Language courses at the time of data collection. The departments were selected conveniently due to the researchers' personal acquaintance with the respective sophomore instructors who arranged and convinced the students to actively and voluntarily participate in the data collection process. All of them came to AAU from different regions of the country including Addis Ababa, having fulfilled the requirements of the Ministry of Education to pursue undergraduate degrees.

The selection of the students was made based on the information they provided on personal information questionnaire prepared for this purpose (Appendix A.1). All the participants were selected purposely from their respective groups because their native language is Amharic. The main criterion for the selection of the participants was that their first language should not be other than Amharic. The reason for this is the detailed information that the study planned to gather is about pronunciation problems of Amharic NL learners that arise from their NL transfer. Thus, learners who are from the same linguistic background, Amharic in this case, would reflect on their NL-driven phonological tendencies in their English pronunciation which should be analyzed in relation to their native language phonology.

One additional criterion was also used to select these 60 students from their respective groups: attending pre-university schooling only in government schools. The kind of school the learners had previously attended was important for this study lest there might be a different situation (in teaching, learners' exposure and experience) in private and other schools, and that can affect the result of the study. Based on the information they provided for the item in the questionnaire used (Appendix A.1), none of them had reported any prior experience of education in private or missionary schools.

The subjects of the study therefore are first year university students speaking Amharic as NL and learnt English only in government schools. It is assumed that the subjects of the study are homogenous in terms of NL interference, level of education and perhaps language proficiency. As first year university students, they probably represent English speakers at intermediate-level proficiency.

3.3.2. Native English Speakers

A total of 13 native speakers of English, 5 females and 8 males, willingly participated as listeners for the intelligibility test of this study. They were all recruited from the foreign community who were residing in Addis Ababa at the time of the test working for different organizations at national, regional and international levels. They comprised three nationalities: 1 Australian, 8 British and 4 Americans.

Native speakers were involved in this study because an intelligibility test presumes listeners as a central methodological procedure. Nevertheless, in their preferences of involving either native speakers of English (NS), non-native speakers of English (NNS), or a combination of the two groups, previous studies apparently differ as to who should be involved as listeners, often justified in relation to the particular context of the use of English. Native speakers of English have traditionally been entitled as point of reference in a context where English is used as a foreign language (EFL) as opposed to English as a second language (ESL) where an ESL speaker group of a particular accent variety may be used (O'Connor, 1980; Stern, 1992; Gimson, 1975; Jenkins, 2000).

More recently, however, as a result of the changing patterns in the use and function of English as a lingua franca (ELF), which assumes communication between non-native speakers who do not share common NL, there is a recognition that what matters is striving for mutual intelligibility among non-native speakers that led many to reflect much uneasiness and dissatisfaction towards the use of native speakers as standard for use (McKay, 2003; Widdowson, 1994; Bamgbose, 1998; Jenkins, 2000). As a

third approach, some argue in favor of native Standard English (StE) to be used as 'a model rather than a norm to follow', and to develop pluralistic sensitivity towards 'intercultural communication' by embracing the context of English as a lingua franca (LFE) as well (Dalton and Seidlhofer, 1994; Jenkins, 2000; smith and Rafigzad, 1987).

In Ethiopia, English is learnt and used as a foreign language (EFL) and thus it seems that using StE as a model may conceivably apply. This study, therefore, approached native English speakers as a standard reference to measure intelligibility of the subjects. Nevertheless, with more recently increasing function of English as a lingua franca for international communication, bringing non-native English varieties into the table is also important to develop awareness on the intercultural communication skills of Ethiopian speakers. From pragmatic points of view, the study decided to limit the scope only to native speakers with due caution of the challenge to control additional extraneous variables related to non-native English proficiency, accent variety and native language transfer which probably affect their overall use of English. Thus, involving non-native speaker varieties along with native English speakers in one study may sound too complex to deal with any judgment discrepancies that may arise between the two groups, and to determine the subjects' intelligibility status from two extremely different data sources. It seems plausible then to rely on one group of speaker rather than involving both who are typically different in many ways including target language competence, cultural and social background, and experience, which might affect intelligibility judgments. For this, this study will derive the intelligibility data of Amharic native learners from native English speakers only.

Non-probability sampling technique called 'snow balling' (Dornyea, 2007) was applied for the selection of volunteer native speakers who participated in the study. This involved a chain reaction whereby the researcher first visited organizations, colleagues and friends to deliver a written consent request (Appendix B.1) to native English speakers whom the researcher would not otherwise have easily accessed them. This technique is useful when access to suitable sample or group member is difficult for some reasons (ibid). Based on informed consent collected from friends and organizations, thirteen native speakers of English voluntarily took part in the study. A questionnaire was used to collect more personal information about each individual participant (Appendix B.3).

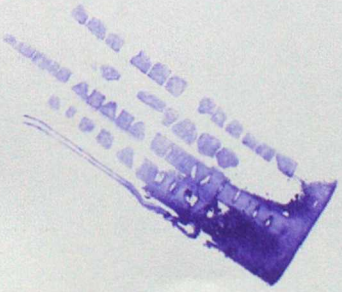


Table 1: Demographic information of native speaker listener (NLS) participants

NLS ID	sex	Age(years	nationality	Length of residence in Ethiopia
NLS 01	F	31-40	Australian	1-2 years
NLS 02	M	51-60	British	1-2 years
NLS 03	M	51-60	British	1-2 years
NLS 04	M	51-60	American	1-2 years
NLS 05	M	20-30	British	five years
NLS 06	F	41-50	British	Less than a year
NLS 07	F	51-60	British	Less than a year
NLS 08	M	41-50	American	4-5 years
NLS 09	F	41-50	British	Less than a year
NLS 010	F	31-40	British	3-4 years
NLS 011	M	31-40	British	5 years
NLS 012	M	20-30	American	Less than a year
NLS 013	M	31-40	American	Less than a year
Total	13			

3.4. Instruments

The general objective of the present study is to closely examine Amharic native learners' oral/aural difficulties and problems with English pronunciation, and the intelligibility of their spoken English to native English speakers. The study approached its investigation in three interrelated dimensions: 1) contrastive analysis in highlighting the possible stumbling blocks that learners are likely to face because of their linguistic background; 2) identifying specific areas of English pronunciation that caused difficulty in listening and speaking and hence verifying the type and extent of contrastively predicted problems in actual use; and 3) measuring the intelligibility of the subjects to bring to light the role of characteristic pronunciation features for native listeners to understand speeches produced by the subjects.

Mixed approaches comprising phonological contrastive analysis, pronunciation error analysis and intelligibility assessments were conducted. Phonological contrast between English and Amharic being the preliminary step, the study conducted a diagnostic speech perception test, and pronunciation and intelligibility assessments from speech elicited from the subjects. In this section, the instruments used and procedures followed during each data collection phase will be described with specific focus on how the instruments were designed, administered, and also the conditions under which the data was gathered and analyzed.

3.4.1. Phonological Contrastive Analysis

The first thing to do in the methodological procedure was to contrast the phonology of English with its Amharic counterpart in order to predict potential problematic areas of English pronunciation for Amharic native learners. For the description of the phonological inventories of each target language and the contrast made between them, writings on the grammar and phonology of Amharic such as Alemayehu (1987), Baye (2000), Bender et al. (1976) were used, where as Roach (1993, 2001, 2002), Gimson (1975, 1980); O'Connor (1980) were used as major references for English. Taddese's (1966) segmental level contrast between English and Amharic was extended to suprasegmental level by conducting a new contrast on the stress, rhythm and intonation before an inventory of pronunciation difficulties were predicted both at segmental and suprasegmental levels. The resultant lists of predicted problems at both levels of segmental and suprasegmental were used as preliminary focal points of investigation throughout the current study and thereby for the design of data collection instruments and analysis for error analysis (interlanguage) and intelligibility assessments. In other words, the speech perception, production and intelligibility tests designed and the analysis of the data collected mainly focused on those features of English pronunciation which are totally lacking in Amharic phonology and hence are assumed to be high priority for the learners (HP for short) (Kenworthy, 1987; O'Connor, 1980).

As a baseline step in the present study, contrastive-origin difficulty areas of English pronunciation for the learners were predicted. However, what still lacks in the result is whether and to what extent contrastive origin problem areas continue to be a source of difficulty in the learners' actual use of the target language. It is clear that a comprehensive representation of pronunciation difficulties that learners could have must integrate not only problems from productive point of view, but also from perceptual point of view (Brown, 1977; Brown, 1997). Thus, it is not enough to ask only how the existing contrastive-origin phonological problems affects the learners' articulation; it is indispensable to consider its effect in perception and in making meaning out of the spoken English they hear.

Therefore, in order that pronunciation difficulties in the learners' actual use (interlanguage) could be accounted for, separate diagnostic tests that focused on contrastive-origin problem areas were designed on the perception and production of the subjects.

3.4.2. Speech Perception Test

As Brown (1997) elaborates, successful acquisition of the new phonological representations requires accurate perception of distinctive phonemes and their contrasts in TL input. In L2 phonological acquisition theory, acquisition of the relevant phonological structure is triggered by the learner's detection that a sound is used distinctively or contrastively with another one in the language (Ibid). For example, if the learner is to acquire the phonological structure required to differentiate /l/ and /r/ in his or her grammar, then he or she must notice that minimal pairs, such as *right* and *light*, are distinct words (ibid). Thus, to gain a better appreciation for the successful learning of L2 phonology, one requirement is to consider the ability to discriminate utterances of one word type from those of another word type (e.g., bat from pat) (Jusczyk, 2008:229). Adopting procedures used by previous speech perception tests, the study designed a test that asked the subjects to discriminate and recognize pairs of words and sentences that minimally contrast target phonemic and phonological features. Appendices A.2 and C present the entire content of the students' test sheet and the script of the audio stimuli designed respectively.

3.4.2.1. Target Features in the Speech Perception Test

As a phonological difference between English and Amharic, the English and Amharic sound systems are very dissimilar and the two languages do not have many phonological features in common. However, there are many segmental (e.g. /b/, /d/, /g/) and suprasegmental (e.g. grammatical function of intonation) which are found in both languages, and some are only found in the target language (e.g. interdental fricative consonants (segmental) and weak forms of vowels in unstressed syllables (suprasegmental)). Given this variation, only features lacking in Amharic were included as the perceptual targets in this study: short vowels (æ, ʌ, ə, ɒ); long vowels (/i:/, /a:/, /ɔ:/, /u:/ and /ɜ:/); diphthongs (/ei/, /ai/, /ɔi/, /au/, /əu/, /ia/, /ea/ and /ua/); consonants (/θ, ð/); consonant clusters (initial and final more than two); sentence stress patterns (weak forms, tonic/nuclear stress) and intonational patterns (rising and falling).

3.4.2.2. Stimuli Preparation

Many researches on speech perception prepared the stimuli making their own recordings of native speakers or proficient non-natives reading or speaking speech materials containing target pronunciation features under investigation (Italo, 1988; Moustofa, 1979). Because those native and non-native

speakers would bring their own accent variety to the stage and that they would not be readily available for such demanding recording, the present study adopted native speakers' recordings already available in pronunciation text books. The recordings represent pronunciation of Standard English and are of an excellent sound quality. Therefore, the stimuli used for the speech perception test was made using original audio materials and their scripts taken from popular pronunciation text books such as O'Connor (1980), Roach (1993) and Kelly (2000).

The stimuli was designed under two phases. For each target pronunciation feature under investigation, the text versions of the speech extracts were first selected in the source books. They comprised sets of non-contextualized minimal pairs and grammatically complete and meaningful sentences that contain target features contrasting them with other features (e.g. interdental fricative /θ/ with dental fricative /s/; or falling intonation with rising intonation). After wards, using computer aided sound editing software, relevant speech extracts at word and sentence level particularly exhibiting target pronunciation features were digitally selected from the original audio materials and saved as a separate file for further preparation of the test.

Then selected speech extract for each item of the test was further arranged and organized in the required order and sequence and saved separately under different tracks for the final audio stimuli. An introductory number for their order and a 500 m/s silence was inserted at the beginning of each item while the whole audio file was optimized for normal audio level in order to obtain equivalent overall amplitude level. Then the final audio files were copied to cassette tapes ready for administration. A written answer sheets with directions for the subjects how to proceed with the tasks was prepared. The work sheet also contained the required scripts corresponding to the audio stimuli so that the students would read while listening.

3.4.2.3. Speech Perception Tasks

There were five sections on the speech perception test as described below. It included a series of tasks which investigated the learners' perception of English pronunciation in the target areas of English pronunciation mentioned earlier. All of them were administered in a single session which took approximately one hour, with a short break between tasks.

Task 1: Forced Word Discrimination /Identification Task/

This task, adopted from previous speech perception researches such as Brown (1997), Vaughan-Rees (2002) and Halle et al. (1999), is intended to assess the ability of the subjects to discriminate or identify words from a pair of words differing or contrasting in only one phoneme. The assumption behind this kind of tasks is that accurate perception of a phonemic contrast is necessary for successful acquisition of non-native sounds (Brown, 1997). If the learner detects that two segments are used contrastively in the words, he/she has successfully acquired the new phonological representations. On the other hand, if a contrast between two foreign sounds is not perceived, the learner would identify either the wrong word, both words, or become unable to decide and thus the learner does not yet distinguish those segments in his or her interlanguage grammar.

The forced word discrimination task presented 42 minimal pair items divided into two sections (Appendices A.2 and C). The first section which comprised 22 items required participants to listen to minimal pairs and decide which one they heard. Subjects were presented with a speech of one of the words (e.g. 'pat') and two words to read (lexical representation) (eg. pat/pot) from which only one word corresponds to what they heard. The subjects' task is to indicate which of the words given match the one they heard. A response sheet with the words representing what they heard (e.g. pat) and the corresponding words differing in only one phoneme (e.g. pot) was given to the subjects to read and choose one. In other words, for each word that the subjects had heard (e.g. pat), they had to circle the right word from the corresponding minimal pair (eg. pat, pot) in the response sheet.

In the second section of the 'forced word identification' task, another 22 minimal pairs were used. The subjects were given (in the response sheet) one of the words (e.g. thin) for which they decided the correct match from minimal pairs (eg. thin/sin) in the tape comprising the words given in the response sheet and the corresponding words differing in only one phoneme. In other words, subjects would read a word on the response sheet and then hear minimal pairs (e.g. 1-thin, 2-sin), with few seconds interval. For each word the participants had read, they had to circle one of the two numbers (e.g. the number "1" or the number "2") on the answer sheet to indicate whether the given word matched the first or the second trial.

In order to successfully complete this task, the subject listeners must refer to his or her internal phonological representations of the words he/she heard and determine which lexical representation

corresponds to the verbal stimulus. If the correct option from the minimal pairs is chosen for the representations of the target words, it indicates that they have the necessary phonological perceptual representations of the target sounds (e.g. /θ/ and /s/). If the subjects selected the wrong word, or selected both of the options, or unable to decide one, an error score was given and thus interpreted as he or she does not yet have the necessary phonological representation and thus unable to determine to which word the verbal cue corresponds.

Task 2: Listen and Write Task (Transcription)

This section particularly assessed the ability of the subjects to recognize words in sentences when pronounced with weak forms in unstressed syllables of sentences. In other words, this task aims to collect the learners' perceptions of unstressed word pronunciations and analyze the probabilities of the subjects' misrecognitions or modifications of the target words because of inaccurate perceptions of target English prosody (weak forms). This task comprised a set of ten non-contextualized sentences which are grammatical and meaningful (Appendices A.2 and C). For the first five items, the subjects heard the sentences in the tape and filled in the missing words in the response sheet which presented the written script of sentences but with missing words at different positions. For the next five items, the subjects heard each sentence and wrote down what they heard in the response sheet. Each of the participants' responses was analyzed for correct transcriptions of words in weak forms.

Task 3: Sentence stress identification and comprehension tasks

a) Stress (identification)

The stress (identify) task is designed to assess the ability of the students to distinguish words which received prominence (being pronounced louder, longer and with higher pitch) in an utterance as opposed to those which did not. A total of eight sentences were designed for this purpose (Appendices A.2 and C). In each item the subjects heard in this section, the learners' perceptual ability to spot perceived differences among words in an utterance that are caused by nuclear stress was examined. On the test sheet, there were two sets of sentences comprising three and five sentences each that were phonemically the same except for the shifting of tonic syllables varying across words each time. Following each set of sentences was a question that required the student to distinguish the word they heard receiving special prominence by the speaker. After listening to each sentence, the students underlined the words which received special prominence as opposed to the other words in it.

As illustrated in the following item, for instance, the subjects were presented with three sentences of the same structure with mere difference of words in each case which received prominence or nuclear stress. After listening to each utterance, students underlined the word they thought was the focus of the sentence.

1. I'll walk with you to the station.
2. I'll walk with you to the station.
3. I'll walk with you to the station.

Question: for each sentence you hear, underline the word the speaker gives particular emphasis against the rest of the words.

In order to successfully complete this task, the learner must refer to his or her internal phonological representations of stress pattern and determine which lexical representation corresponds to the most prominent primary stress in the verbal stimulus. If they do not have the necessary phonological structure to contrast the stressed one from other words which are not, then he or she will be unable to determine to which word the nuclear stress corresponds.

b) Stress (Comprehension)

This section assessed the ability of the subjects to distinguish differences in meaning when the focus of a sentence changes as sentence stress shifts. A total of 11 sentences were designed for this purpose (Appendices A.2.2. and C.3).

In the students' work sheet, the task comprised two types of items (Appendix A.2.2). In the first case, subjects were given a 'forced meaning selection' task in which they were asked to choose only one from a set of possible interpretation or meaning given to an utterance they heard. Each item presented in the tape gave sentence stress to different words at each trial.

On the test sheet, there were a set of sentences in the left column that were exactly the same except that a different word on the tape was stressed, and in the right column a list of possible impression was presented for the students to choose one that corresponds to the respective verbal cue (nuclear stress) they heard. For example, the subject would see a sentence "I would like a cup of herbal tea" on the left side and a list of possible meaning on the right side such as "**a**) Not any other sort of tea; **b**) A simple request for tea not coffee; c) Not a mug (a kind of larger container)". In one trial, the subject would hear the sentence with one word receiving nuclear stress (eg. *cup*). After listening to the tape, the students

would select one from the list given (a. or b. or c.) that best fits the particular sentence and its stress pattern.

On the second case, subjects were given a 'listen and answer' task in which they were presented with a set of sentences with contrasting tonic syllables or prominent word. The subject's task this time was not to choose from given possibilities but to write their answers themselves for the meaning they understood: if each shift of nuclear stress meant anything to them in the sentences they heard. On the response sheet, there were sentences that correspond to the speech they heard in the tape. After listening to the tape, the students would write any meaning they could make from each trial having a different word receiving the nuclear stress against the others.

In order to successfully complete this task, the learner must refer to his or her internal phonological representations of sentence stress patterns. Successful completion of this task indicates that the subject has acquired the ability to perceive when words in English receive prominence by the speaker because of the way they are pronounced and to make meaning out of it for effective communication.

Task 4: Intonation Identification and Comprehension Task

The fifth section of the test assessed the ability to identify differences in pitch between utterances and distinguish meaning based on two main glides of rising and falling of intonation that affect the perception of the tone and thus the meaning as well. A total of 24 items were designed for this purpose (Appendix C.4).

a) Intonation (Identification)

In the first task, a forced recognition task was used to assess the subjects' ability to discriminate (i.e., perceive) and recognize the English pitch contrasts. In this task, subjects heard a pair of contrasting sentences (one with rising and the other with falling intonation) and were asked to indicate to which of the two 'rising' or 'falling' directions the voice glides. On the test sheet (Appendix A.2.2), there were five pairs of sentences that were phonemically the same except to which direction the speaker changes the pitch. Following each pair of sentences was a question that required the student to distinguish one sentence from the other whether the pitch is rising or falling based on what they heard on the tape. After listening to the tape, the students wrote their answer as "R" or "F" for rising or falling pitch respectively.

b) Intonation (Distinguish Meaning)

The second aspect investigated is whether the subjects who were asked to discriminate the pitch difference between utterances were also able to comprehend the contrast as well. The students heard the same set of sentences used for discrimination previously and decided if each pair meant the same or different in meaning. A forced choice task was used here again whereby the subjects heard minimally paired sentences with one item containing, for example, a rising intonation and the other item containing a falling intonation. After listening to each pair, the subjects indicated whether the sentence items they heard were the same or different in meaning. An additional pair was also included in which the students would paraphrase their understanding for the particular impression or meaning they could make for each item they heard in terms of the rising or the falling tone employed.

3.4.2.4. Stimulus Presentation

Each participant in the perception experiment heard a battery of 7 tapes each presenting speech samples containing target pronunciation features under investigation. The tapes were played to each group of participants in a quiet room using PC-based audio player through high fidelity USB multimedia loud speaker at a comfortable listening level. Before each track, practice items (from a different file) were presented first so that the subjects could get used to the nature of the stimuli, the tasks they were supposed to perform, and the procedure of advancing to the next trial. After each trial, the subjects signaled to initiate the next trial.

Each trial was presented only once but the duration of the pause between two trials was controlled by the pace of the subjects. They could take as long as they needed to provide their responses. In addition to the directions in the test papers, each instruction was explained in Amharic on how they would proceed and provide their answers for each track in the test paper. The whole session went very smoothly. All of the subjects seemed quite comfortable with what they were doing.

3.4.3. Speech Elicitation and Audio-recording

To identify the characteristic pronunciation tendency or errors of ANL in their production and to measure the intelligibility of their spoken English to native English speakers, the sixty subjects were made to read aloud especially constructed/selected diagnostic passages for recording. It was from this

recorded speech that the final stimuli used for the analyses were designed. In this section, the procedures followed in the process of preparing the final stimuli are explained.

3.4.3.1. Speakers

Fifty-two Amharic native speakers, 27 females and 25 males, from the general population of 60 participants in the previous listening session, served as speakers in the production stage of the study. The speakers attended the recording session in response to the request sent to lists of students to each section through their respective teachers to voluntarily take part in an activity which they were told as a continuing part from the previous listening session. They were not aware of the purpose of the recording and why they are selected as well. All participants took part in the recording voluntarily. Even though the recording involved all the speakers who responded positively to the request, not all of these speakers were used for the final stimulus preparation.

3.4.3.2. Materials

The speech elicitation material used for the recording was read aloud. The reason for using prepared reading passages, rather than spontaneous speech, was to avoid any influence that could be caused from syntactic and semantic errors by the speakers in spontaneous speech, as proved in the pilot study, and thus to prevent any judgments of pronunciation and intelligibility from being influenced by factors which are not related to the study. The pilot study also showed uncertainty if non-pronunciation errors contributed to the speech judgments made.

The read aloud material used for the recording included two short paragraphs adopted for the purpose of this study from O'Connor (1980) and Gimson (1980) (see Appendix D for full script of the materials). Both paragraphs constitute meaningful and grammatically correct sentences representing a real-life context. The first paragraph, adapted from Gimson's (1980) illustrations for important areas of English pronunciation for foreign language learners, constitute 6 sentences. The second paragraph (containing 10 sentences) was adapted from O'Connor (1980) after his examples for practice of pronunciation.

3.4.3.3. Recording

Each of the 52 speakers was recorded while reading aloud all parts of the two production materials. The recording procedure was identical for each speaker. To rule out the influence of unfamiliar lexical items and performance anxiety, the students were given printed script of the material with sufficient time to

read through it and look up each sentence and practice reading aloud before the recording. When the practice was finished and the students indicated their readiness for the recording, they were again reminded orally the written instruction given in the script to read the texts aloud, casually and at a normal speed.

The recording was done with each speaker individually one after the other. Each speaker was given as much time as he or she needed to read through the text at the actual recording. Each sentence was read aloud in sequence and pauses or questions were welcome when the speaker found it necessary. The order of reading of the two passages was identical for all speakers.

The recording was made at weekends in a sound proof recording room in the speech laboratory of the department of English at AAU. Weekend was preferred to other working days for the students did not have busy class schedules and hence were willing to cooperate. Each speaker who was ready was asked to enter to the recording room when the previous speaker finished. Each individual recording took approximately 6 minutes on average.

A personal computer with 'power sound editor free' version 5.9.5 sound recording software and an amplifying microphone (AD-F6MW microphone) were used for the recording. The recorded speech files were then separately saved in 'wave sound' format with file name of the speaker ID at sample rate 44,100 KHZ and 16-bit resolution and mono channel.

3.4.3.4. Stimulus Preparation

The recorded utterances from the subjects passed through three stages before the final stimuli were ready: screening speakers, preparing sound pool and designing the final stimulus sets.

i) Screening Speakers

For the stimulus preparation, each of the 52 Amharic NL speakers who participated in the recording stage of the study was further screened based on additional background criteria apart from native language. This was done to make sure that the final stimuli would comprise speakers who share relatively similar social, linguistic and educational background. As it was learnt in the pilot, Amharic native speakers can be homogeneous in terms of their native language, but heterogeneous in terms of where they were born, brought up and educated which might affect their pronunciation in English. For instance, it was noted that speakers from Addis Ababa might have experienced different exposure and

use in the English language as opposed to speakers from a remote town in Wello or Gondar. On the other hand, speakers coming from other regions of Ethiopia where Amharic is not spoken (as a native language) are most often bilingual speakers and tend to sound different, both in their Amharic accent and perhaps in English as well, from those monolingual Amharic native speakers in Wello, Gojjam, Gondar and North Shewa. Likewise, some speakers from Addis Ababa particularly those who were educated in private and missionary schools tend to sound different in their English pronunciation for many reasons, including their exposure to and use of the target language. Because of the linguistic and social background of the area that speakers were born in, brought up and educated, there is no guarantee for valid analysis of their pronunciation in English unless such factors are somehow neutralized.

In order to reduce the effect of these variables on the judgments made on the subjects' English pronunciation and intelligibility, recorded speech from Amharic native speakers who were born and brought up in Amhara Region (i.e. Gojjam, Gondar, Wello, and North Shewa) and educated only in government schools were selected for the stimuli preparation. In other words, recorded speech from Amharic native speakers who were born and brought up in other areas out of the Amhara Region, including the metropolitan, were excluded.

The reason is to ascertain whether the speech samples to be used for the final analyses all meet similar demographic backgrounds: 1) speaking Amharic as NL; 2) born and brought up in four Amharic native dialect areas (Gojjam, Gondar, Wello and North Shewa) where the majority of the society is monolingual native speakers of Amharic; 3) educated in government schools, as opposed to others such as private-owned and missionary schools, which may be different in English language instruction including syllabus, methodology, classroom and teachers (even native English speakers), etc.

Thus, the 52 speakers were divided into five groups (Addis Ababa, Gojjam, Gondar, Wello, and North Shewa) based on the information they gave regarding the place where they were born and brought up and the place and type of schools where they were educated. Accordingly, 39 native Amharic speakers (16 females and 23 males) were found to fit the above two criteria and thus selected as eligible speaker candidates for the final stimuli of this study. Regarding their specific place where they of were born and brought up, 15 of them were from Gojjam while 14 were from Gondar, 9 from Wello, and 1 from North Shewa.

ii) Preparing Sound Pool

A pool of sound files was prepared from which sample speeches will be selected for the preparation of the final stimuli. First, each recorded sound file of the 39 eligible speakers was checked for quality of sound and good reading. This would ensure that recordings of poor sound quality (for e.g. those that have background noise or very low volume) would be excluded. So were recordings from speakers who read so inappropriately in that some were too fast, artificial or unnatural to comprehend. Accordingly, a total of 13 recordings were automatically rejected for breathy noise caused by poor use of the microphone, clicking sound and background echo, extremely high speed of utterance, full of nervousness, unnatural and unclear utterance, discontinuities, etc. This means 26 sound files or speakers were finally left for further preparation of the stimulus.

After selecting best quality recordings, the speech files recorded from each one of the 26 speakers were digitally segmented into sentence, phrase or clause length extracts and saved in a separate file as sound pool. The sound pool consisted of 16 sets of extracts digitally cut out from each sentence of the read aloud script. In other words, each set in the sound pool contains speech samples representing the sentences or a segment. The selection of each sample was based on the criteria that each selection should be of good sound quality, had to make sense, and should not contain many discontinuities of speech (repetitions, restructurings and self-corrections) which, when used extensively, may affect fluency. This would reduce other factors that would be evaluated during ratings. This criterion gave good reason to reject some segments from the sound pool.

The resulting sound pool contained a total of 201 speech extracts taken from 26 speakers representing those 16 sentences of the original read aloud text. The number of speech samples representing each sentence set in the sound pool, however, did not have equal distribution ranging from 4 to 23 and an average of 13 (i.e. speech samples taken from 13 speakers on average).

iii) Designing Final Stimuli

As a final stage in stimuli preparation, for each sentence of the script that the subjects read aloud, speech samples representing different speakers were semi-randomly selected from the sound pool prepared. It is semi-random because of the following reasons. One is that no speaker was selected more than twice so that as many speakers as possible will be represented in the stimulus. In other words, the maximum chance that a speaker could have was two, and thus if a speaker appeared more than twice,

another lot would be cast until a new speaker was selected. Secondly, if speech samples selected for a sentence contained exactly the same lexical and syntactic structures, only one of them was used, and the others excluded. Similarly, if it was already selected from a speaker, another lot would be thrown until a different one was obtained. In this way, the resulting set of stimulus constituted a total of 40 speech items representing 22 speakers.

However, because of the syntactic structure of the sentence under consideration, the number of excerpts representing a sentence ranges from 1-3. For example, sentences like 'so shall we meet at the station' is represented by one excerpt (one speaker) while as many as 4 excerpts (four speakers) are used for such longer sentences as 'I found that my old saw was not good enough and I decided to buy a new one'. For this reason, in the final stimulus set, there is unbalanced distribution of speech samples and speakers as well for the sentences depending on the structure. For instance, for the latter example above, four segments from different speakers were included: 1) 'my old saw was not good enough'; 2) 'I decided to buy a new one'; 3) 'but I found that my old saw was not good enough'; 4) 'my old saw was not good enough and I decided to buy a new one'.

As a final procedure, the 40 speech samples were reshuffled in such a way that no speaker and segment of the same sentence are presented in a row. The final stimulus set was later normalized for peak intensity (the volume was adjusted to normal audio level) to reduce differences in perceived loudness. Besides, each sentence was preceded by a 400-500 millisecond leading silence and introductory numbers for its order in the series.

The 40 speech samples were saved as window media audio format in a separate file as 'final speech stimuli' for pronunciation assessment and intelligibility test for native speakers of English to listen to and then transcribe. Appendix E presents the script of the stimuli.

As table 2 below presents, the final stimuli comprised equal proportion of speakers in terms of gender though the relevant NL dialect area the speakers came from varies.

Table 2: Proportion of Amharic speaker participants in the final production stimuli

	Sex		NL Dialect Area			
Speaker	M	F	Gondar	Gojjam	Wello	N. Shewa
#	20	20	16	17	6	1

3.4.4. Phonemic Measures of Pronunciation

In order to examine the effects of NL phonological influence on learners' production and to identify the extent and type of problems of pronunciation learners had while speaking (reading aloud) English texts, the speech samples taken from recorded utterances of the subjects were measured for segmental level errors. Even though it was planned in the proposal of the study, and tested in the pilot study, the assessment of the subjects' production at suprasegmental level could not be conducted in the main study because of practicality issues. Computer-aided acoustic analysis by using speech analyzer software called 'PRAAT' was employed for the pilot study with voluntary support from colleagues in the department of linguistics at AAU. Understandably, I did not receive the same positive welcome I enjoyed previously and hence I found it no more appealing to request and seek for further assistance for free. This choice also has to do with the other methods and procedures employed in the study which required a rigorous investment of time and energy on the part of the researcher. Though a couple of readers and examiners at the proposal and the pilot stages expressed their concern with the practicality and relevance of the acoustic test, I took the courage and insisted to employ it for the main study rather than having it revised. I did not realize what it was foreseen was true until the main study turned out to be hardly manageable to implement all the tools with the larger number of participants involved. As a result, I decided to exclude the acoustic analysis procedure intended for suprasegmental level analysis and limit the scope of the pronunciation assessment section to segmental level. The research report presented for pronunciation measures of the subjects' speech, therefore, focused on segmental level only. Suprasegmental factors that may be responsible for certain erroneous realizations at the segmental level will nevertheless be discussed, since these two levels are often connected.

The procedures to obtain segmental level pronunciation measures consisted of phonemic transcriptions of 22 speech samples as rendered by the subjects and annotating segmental errors committed with reference to canonical transcription of Standard English. From a total of 40 speech samples in the final speech stimuli we discussed earlier, one item was randomly selected proportionally from each speaker (1 sentence × 22 speakers) that made up a total of 22 speech samples. Appendix F presents the orthographic transcription of the stimuli, phonetic transcriptions of the sample speeches as rendered by the subjects, and the canonical phonetic transcription used as reference for the analysis.

First, broad phonetic transcription was made separately for each speech sample to transliterate English pronunciation as rendered by the subjects. For this task, each word from each speaker was played as often as necessary. A short list of Amharic phonemes and their allophones (Taddese, 1966; Bender et al. 1976) was used to transcribe when the subjects' actual pronunciation was heard non-target or deviant from that of English. It is true that Amharic and English may possess similar phonemes transcribed by the same phonemic symbol, and called by the same phonemic name; however, when the subjects pronounced it visibly different, it was transcribed using an Amharic phoneme or allophone. Phonemes shared by two languages must not be taken as to mean that these phonemes are pronounced exactly the same in the two languages (Brown, 1977: 20).

After the transcription, annotation of the segmental errors was made. Adopting the procedures followed by previous researches to measure non-native speakers' pronunciation errors, this study pursued two levels of segmental errors during the annotation: phonemic and phonetic. In Munro and Derwing (1999) phonemic errors were defined as "whether the deletion or insertion of a segment or the substitution of a segment that was clearly interpretable as an English phoneme different from the correct one"; whereas phonetic errors involved "the production of a segment in such a way that the intended category could be recognized but the segment sounded noticeably nonnative" (p.292). Meanwhile, perceptually salient deviations were marked by comparing the phonetic transcription as rendered by the subjects with canonical RP English pronunciation. For this task, canonical RP phonetic transcriptions provided by the original sources of the reading texts the subjects read aloud for recording (Gimson, 1975; O'Connor, 1980) served as standard reference. Besides, Cambridge Advanced Learners' Dictionary (2008) was used as an additional reference for prescribed pronunciation of Standard English. The annotation of each segmental error was made whenever a discrepancy was noticed between the learner's pronunciation and the canonical transcription. The marking of the errors consisted of annotating deleted, inserted and substituted segments.

The annotations of perceptually salient pronunciation errors in the speeches of the Amharic NL speakers were finally analyzed quantitatively and qualitatively to produce a list of target phonemes that were characteristically problematic for the speakers of this study. The quantitative analysis was made in terms of the overall phenomenon that was noticed with regard to more frequently mispronounced phonemes relative to the other, and to identify the most frequent vowel and consonant errors corresponding to the total phonemes in general and the vowels and consonants produced by the speakers in particular.

Having identified the most frequent errors across the whole speech, each of the errors identified and its corresponding erroneous realizations was analyzed qualitatively to spot its possible source in accordance with the learners' native language. In addition, based on the literature for the functional importance of the phonemes wrongly realized by the subjects, and whether and to what extent the error behavior exhibited reflected functional importance in English pronunciation, each mispronunciation was further filtered before included in the final inventory and a hierarchy made for its relative importance for the subjects.

3.4.5. Intelligibility Test

Adopting the procedures used by previous studies on the area such as Munro and Derwing (1995, 97, 99), intelligibility in this study is defined as the extent to which an utterance is actually recognized by a listener. To this end, the intelligibility of the Amharic NL speakers was assessed objectively by asking native speaker participants to listen and transcribe (by standard orthography) an utterance taken from the subjects and then by analyzing the extent of correct word recognitions made. Whether or not the listeners heard a different word or exactly the same one from what the subjects aimed to say was determined based on word to word matches between the transcriptions made by the listeners and the speeches made by the subjects.

Accordingly, as discussed in the stimuli preparation stage earlier, the intelligibility stimulus, which was designed from a recording of a read aloud passage, comprised a total of 40 speech excerpts representing 22 speakers. Appendix F and presents the orthographic transcription of the intelligibility stimulus with the same order as presented to native listeners. This transcription represented the intended utterances by the speakers and used as the original reference text to assign transcription scores to the listeners. Being segmented at locations of natural pauses in the original utterances, the final stimulus set of these 40 speech samples varied somewhat in length, having an average length of 9 words.

Before the natives' listening session of the intelligibility stimulus started, booklets with numbered spaces for transcriptions of each of the 40 utterances were handed to each listener. The listeners were told, as a general direction, to listen carefully to each utterance and then write out in standard orthography exactly what they would hear; in other words, to write the utterances presented with word

for word transcription. They were also told to make guesses or leave a space for the words they may not hear. Appendix B.2 presents native listeners' booklet used for this purpose.

The stimulus was presented individually in a quiet room at the office or residence of the listeners. The same procedure was followed in each session. The stimulus was played using PC-based audio player and good fidelity USB multimedia speaker. Each sample item was presented only once to the listeners. At the outset of each session, the listeners were first introduced using a different speech sample to illustrate how they would go through the task and to assure their comfortable listening volume.

On each trial, the listeners heard the sentences and then orthographically wrote their responses on the work sheet prepared. Each listener received a similar randomization of the 40 test sentences. Each listener took enough time to complete the task in such a way that a new stimulus was not presented until the listener was ready to proceed to the next one. After the transcription task, all the listeners completed an open-ended questionnaire on their personal background and opinions on the pronunciation of Ethiopian speakers when speaking English. Appendix B.3 presents full content of the questionnaire. The entire session with each listener lasted approximately 30 – 40 minutes.

All the listeners' booklets were collected at the end. The complete set of the listeners' transcription for all the 40 sample speeches of the stimulus were compared with the original transcription providing the intended utterances. Scores were then given according to exact word matches between the two. Each of the listeners' orthographic transcription was analyzed and coded for exact word matches against the original versions of the text. The mean score of all the listeners' transcriptions exactly matching the original versions was used as objective indices for determining the intelligibility of the subjects' utterances. Additionally, these intelligibility data was also used to investigate whether the listeners were affected by the tendency of the subjects' segmental pronunciation measured in this study.

CHAPTER FOUR

4. Phonological Contrast between English and Amharic

The aim of the phonological contrast in this study was to identify elements of English pronunciation which are foreign to the learners' native language and to spot possible difficulty areas that native Amharic speaking learners might encounter in learning and use of the TL. Meanwhile, possible problem areas predicted from the phonological contrast were used as a point reference for the tools designed and the analysis made to examine actual pronunciation difficulties the subjects experienced in their current use of the language as measured by the speech perception, production, and intelligibility tests.

The phonological system of Amharic appears to differ from its English counterpart in interesting ways. The study by Taddese (1966) also yielded a comprehensive contrastive-based finding that is of interest here: there are several English phonemes that are novel to Amharic and predicted as problems for Amharic speakers. Among other types of segmental differences including allophonic and phonetic in type, the resultant list under phonemic problem areas include English vowels, consonants and syllable structures which are foreign to Amharic phonology.

Perhaps due to the reference he used to represent English phonology, Taddese did not include in his problematic vowel list some phonemes such as /ʌ, and ə/ that are also foreign to Amharic. Besides, perhaps due to the time of the study in 1966, some phonetic symbols used do not correspond to those used by phoneticians today. The following lists by Taddese (p.116), for example, for English long vowels and diphthongs, which were all referred to as English complex vowels, do not correspond to the standard ways of representing English vowels: */iy, ey, ay, oy, uw, ow, eh, æh, ah, uh, oh, ɔh, ir, er, ər, ar, ur, or, ɔr/*. Meanwhile, Taddese only focused on segmental areas with no consideration of the suprasegmentals.

Thus, this study extended the study by Taddese by including new phonemes that were not treated, revising the phonetic representations of vowels, and incorporating suprasegmental areas. In this process, Taddese's segmental contrast and his predictions still prove to be useful for this study; thus while some modifications would be made where necessary; a new contrast and prediction was made for suprasegmental.

4.1. Phonological Differences between English and Amharic

In light of the fact that L2 pronunciation errors are often caused by the transfer of well-established NL sound systems (Brown, 1987; O'Connor, 1980), there is a need to examine some of the characteristic phonological differences between Amharic and English. Based on such contrastive analyses, specific problematic areas of English pronunciation for Amharic native learners can be identified. In this part of the report, therefore, segmental and suprasegmental aspects of English and Amharic are compared; differences in the phonology of both languages are discussed; and then the most important problematic areas for Amharic native learners are predicted. As indicated earlier, this study used those problem areas predicted as a reference phonological core point for its investigation of actual pronunciation problems and intelligibility of Amharic native speakers. Meanwhile, some of the implications for EFL pronunciation teaching in Ethiopia were drawn.

Though contrasting the phonology of the learners' native language with the target language have been common in ESL/EFL situation as a valuable implication for pronunciation teaching (Stern, 1992; Brown, 1987), there appears to be a gap of systematic study available in the Ethiopian EFL in the area of contrasting the phonology of the native languages of Ethiopian students and English, and to use it as a basis for pronunciation teaching. In fact, so far as Amharic is concerned, a pioneer study by Taddese (1966) compared the segmental phonemes of Amharic and English in order to determine their similarity and differences, and also to predict potential problem areas Amharic speakers would have. Taddese's contrastive study, however, is limited at segmental level only.

Therefore, this study used 'Amharic and English segmental phonemes: A contrastive study' by Taddese Beyene as a basis for the description of English and Amharic segmental contrast and the resultant prediction for problem areas. Meanwhile, some revisions were made where necessary with reference to the literature for contemporary English and Amharic phonological systems. As no similar contrastive works are available at suprasegmental level, a new contrast was essential for this study to supplement segmental problems; thus, characteristic differences between Amharic and English suprasegmental were examined and then problem areas were predicted. The phonological descriptions assumed in the study is based on the English sound inventory in their description of English phonetics and phonology by Peter Roach (1983, 2001), Gimson (1975), and O'Connor (1980); while Baye (2000) and Alemayehu (1987) are used for the description of Amharic segmental and suprasegmental respectively.

4.1.1. Segmental Differences of Amharic and English

English and Amharic belong to different language families. English is the Germanic language family (Indo-European) whereas Amharic is genetically Afro-Asiatic falling within the Semitic branch (Alemayehu, 1987). Due to the difference in origin, these two languages have distinct characteristics in terms of morphological, semantic, syntactic and phonological properties which have possibly caused many problems for both Amharic and English learners as second language.

4.1.1.1. Consonant

There are noticeable differences in consonantal distributions between Amharic and English. Comparing the consonant system of each language clearly illustrates the fact that there are more consonants in Amharic (26 consonants) (Baye, 2000) than in English (24 consonants) (O'Connor, 1980). Including those borrowed consonants such as /v/, Amharic has 30 consonant phonemes (Baye, 2000). As O'Connor describes, the consonants of English comprise 'friction consonants: /f, v, θ, ð, s, z, ʃ, ʒ, h/; stop consonants: /p, b, t, d, k, tʃ, dʒ/; nasal consonants: /m, n, ŋ/; lateral consonant /l/, and gliding consonants: /j, w, r/. According to Taddese's phonological comparison, there is similarity of distribution between the consonants of the two languages in the manner of articulation while differences exist in that of place of articulation.

The following nine statements will suffice for the major differences identified by the contrastive analysis between English and Amharic consonants by Taddese Beyene.

1. English /t/, /d/, /s/ and /z/ are alveolar; the corresponding consonants in Amharic are dental.
2. From a phonetic point of view, English /r/, /l/ and Amharic /r/ and /l/ are of different nature.
3. English /h/ is glottal while the corresponding consonant /x/ in Amharic is velar.
4. From allophonic point of view, English /p/, /t/, and /k/ are aspirated only initially and before stressed vowels, while the Amharic counter parts are aspirated in all positions.
5. Amharic /p, t, k, b, d, g, f, s, z, m, n, l, r/ allophonically are palatalized before /e/ where they never get palatalized in English.
6. English has interdental fricatives /θ/and /ð/; Amharic does not.
7. English [n] and [ŋ] have contrastive distribution while no such contrast exist in Amharic.
8. Amharic has palatalized stops/p/, /t/ and /k/ while they are velarized in English.
9. /p/ occurs initially, medially and finally in English while it does not occur finally in Amharic.

Thus looking at the lists above, it can be said that the most characteristic difference between Amharic and English consonant system lies not in the number of consonants found in each of the two languages but rather in the unique phonetic realizations and distribution patterns of consonants in both languages.

4.1.1.2. Vowels

More than the difference in the consonant system, there are noticeable differences in vowel distributions between Amharic and English. In English vowel system, there are 20 different vowels identified, usually divided, into groups of short vowels, long vowels and diphthongs (Roach, 2001). On the other hand, Amharic has only 7 vowels in its vowel inventory (Baye, 2000), corresponding to a system quite common among many natural languages in the world (Kenworthy, 1987). There have often been understandable differences between phoneticians on their representations and transcriptions of English vowels. As it is evident in Taddese below, the number and type of vowels of English that are not found in Amharic can differ depending on different phonetic transcription and the reference for English vowel representations. It is however obvious that there are considerably more vowels in English than in Amharic.

Taddese's (ibid) contrastive analysis between English and Amharic reveals significant differences in the following three areas: 1) number 2) quantity: long/short distinctions, or simple/complex distinctions, and 3) quality: open/close; front/back distinctions.

1. Amharic has two front vowels /i, e/ as against three /ɪ, e, æ/ in English which has low front vowel /æ/ while Amharic does not.
2. Amharic has two back vowels /ʊ, o/ as against three /ʊ, o, ɔ/ in English which has low back vowel /ɔ/ which Amharic does not.
3. Amharic vowels are generally higher or closer than English counter parts.
4. All English pure vowels have complex vowel counterparts /uh, ah, ər, ar, ɔh, and iy/.
5. All English vowel phonemes have long counter parts /uh, ah, ər, ɔh, and iy/ in open syllables and in the environment of voiced consonants; while Amharic does not have such distinctions, and hence none of long vowels of English occur in Amharic.
6. English diphthongs /ey, ay, oy, eh, aw, ow, uh, ur/ have weaker and shorter second gliding element, while Amharic does not have diphthongs in the way occurring in English.

Taddese's phonetic representations for long vowels and diphthongs no longer correspond to any of those found in English phonetics and phonology and even in the dictionaries commonly used today. Besides, English has a mid-back vowel /ʌ/ and mid-central vowel /ə/ often referred to as 'schwa' (O'Connor, 1980) which was not included in Taddese as Amharic lacks. English phoneticians most often use /ɒ/ rather than /ɔ/ to represent the low back vowel. Modifying the phonetic symbols used and adding those which were not considered, those English vowels which are foreign to the Amharic vowel inventory are revised as follows. Apart from the newly added simple vowels, the new list differs from Taddese's only in matters of symbols for representation.

1. The low front vowel /æ/
2. The mid central vowel /ə/
3. The mid back vowel /ʌ/
4. The low back vowel /ɒ/
5. All 5 English long vowels /iː, ɑː, ɜː, ɔː, uː/
6. All 8 English diphthongs /eɪ, aɪ, ɔɪ, əʊ , aʊ, ɪa, eə, ʊə/

4.1.1.3. Syllable Types

Comparing the syllable structures of English and Amharic, Taddese (ibid) presents some of the characteristic differences in the way that each language utilizes syllables for forming a word. As the following chart shows, syllable structures that are similar are marked + (plus) and those that are different are marked – (minus).

Table 3: Syllabication contrast between Amharic and English (Am= C_1 V C_{0-2} Vs. Eng= C_{0-3} V C_{0-4})

Syllable Structure	Amharic	English
V	+	+
VC	+	+
VCC	+	+
CCV	-	+
CCCV	-	+
CVC	+	+
CVCC	+	+
CVCCC	-	+
CVCCCC	-	+

From this chart, we can say that English allows a wider variety of syllable types than that of Amharic. In this regard, the syllable types that Amharic allows seem to be restricted to one consonant at word initial position and two consonant clusters at syllable final (Baye, 2000). In other words, such consonant cluster of (c) (c) (c) V (c) (c) (c) (c) in English doesn't occur in Amharic.

4.1.2. Suprasegmental Differences of English and Amharic

Aspects of languages such as rhythm, stress, and intonation are distinguished from segmental aspects such as consonants and vowels. These suprasegmental aspects of English are also considered to be different from those of Amharic in many respects.

4.1.2.1. Rhythm: Stress-timed vs. Syllable-timed

According to Roach (2001), the term 'stress-timed/syllable-timed' is used to characterize the pronunciation of languages that display a particular type of rhythm. In stress-timed languages, there is a tendency that stressed syllables recur at regular intervals, regardless of the number of unstressed syllable that intervene in a sentence. In other words, the amount of time it takes to say a sentence in stress-timed language depends on the number of syllables that receive stress, either minor or major, not on the total number of syllables (Gimson, 1980).

On the other hand, it is widely believed that everything which is not stress-timed is syllable-timed (Roach, 2001:86; Gimson, 1980:41). In syllable-timed languages, the syllables are said to occur at regular intervals of time, and the amount of time it takes to say a sentence depends on the number of syllables in the sentence, not on the number of stressed syllables as in stress-timed languages. According to Roach (2001) and Gimson (1980), English is categorized as stress- timed language. For example, it would take approximately the same amount of time to say the following two English sentences, even though the number of syllables in each sentence differs (ibid).

Birds / eat / worms.
The birds/ will have eaten / the worms.
1 2 3

According to stress-timedness, the intervals between stressed syllables in speech are either equal or at least more equal than the intervals between the nucleus of each successive syllable and next (O' Conner, 1980). In Amharic, however, each of the equivalent sentences of the English examples above would take different amount of time to complete each of the sentences. The duration of the recordings of each as spoken at normal speed by the present writer was measured using PRAAT; the first one took 1.56 sec. while the second one took 2.55 sec. amount of time.

wə/fʷotʃ/tɨ/lɑ/tɨl/yɨ/bə/lɑ/lu/ 9 syllables
wə/fʷo/tʃu/tɨ/lɑ/tɨ/lʷo/tʃun/yɨ/bə/lʷɑ/tʃə/wal/ 14 syllables

These examples show that the amount of time to say a sentence in Amharic differs depending on how many syllables the sentence contains, not how many stressed syllables it contains as in the English examples. As is apparent from the examples above, it seems that Amharic has syllable-timed rhythm, though no one has ever claimed to which rhythm category Amharic lies.

4.1.2.2. Stress: Stress-accent vs. Pitch-accent

According to the description of some Amharic prosodic features by Alemayehu (1987), it can be said that Amharic is similar with English in having word stress. However, it seems that Amharic stress pattern is characteristically different from that of English in some respects. For example, Amharic always assigns lexical stress on the penultimate syllable (i.e. the syllable before last) of the word (ibid), while in English stress can fall on the first, middle or last syllables of words (Roach, 2001, Kelly, 2000). In languages such as Amharic where the stress usually falls in the same position in a word, "we cannot say that stress is able to determine the meaning of a word" (Roach, 2001:32). In English, however, stress affects the meaning of a word depending on the position of the stress. In this regard, Alemayehu (1987) concludes that Amharic word stress pattern does not have such function. Besides, unlike that of English, Amharic lacks any sort of stress rules which distinguish between compound words from phrases (Alemayehu, 1987). By illustration, English distinguishes between "black bird" (phrase) and "black bird" (compound words) because of their stress, as marked by underlining, while Amharic doesn't have such patterns in words of the same formation as in between /bəkl^{w}ob^{y}et/ whose equivalent can be either "mule house" with stress on both words to refer to a 'house of a mule' while "mule house" with the last word receiving stress to refer to a name of a village in Addis Ababa.

Another important distinction between English and Amharic lies on the factors that cause a syllable to be made or heard as stressed. In other words, Amharic and English seem to differ in terms of how word stress is realized in creating characteristic stress patterns of each language. In English, for example, stressed syllables are marked primarily by making vowels longer and louder plus pitch (O'Connor, 1980; Roach, 2001); while in Amharic syllable stress involves simply saying vowels at a higher pitch (Alemayehu, 1987). Corresponding to such difference in stress realization like between Amharic and English above is often referred to as the distinction between stress-accent and pitch-accent languages (Gimson, 1980; Roach, 2001).

According to English phoneticians, the notion of stress accent of English seems quite relevant to the existence of reduced or unstressed vowel called "schwa". The occurrence of schwa is considered as a natural phenomenon in that if significantly strong accent is placed on a particular single vowel or syllable in a word, other vowels or syllables in the same word become less significant and their reduction process is facilitated (O'Connor, 1980). In addition, it can be said that this way of making stress greatly contributes to creating a stress-timed rhythmic pattern of English (Dalton and Seidlhofer, 1994).

In contrast to English stress patterns, Amharic use of pitch in marking stress (Alemayehu, 1987) without any reduction of unstressed syllables can explain the syllable-timed rhythmic pattern of Amharic; using slightly higher pitch to mark stress does not make a particular vowel or syllable in a word prominent in quality as compared to other vowels or syllables uttered at a slightly lower pitch (Roach, 2001). However, a stressed syllable in English is heard more prominently than unstressed neighbor due to length and loudness of the vowel in it (ibid: 33). Thus, it can be said that the amount of time to say a sentence in Amharic is not restricted to the number of stressed vowels or syllables as in English, but to the number of syllables available.

4.1.2.3. Intonation

Indicating that intonation has always been a difficult thing to define, phoneticians describe it as the melody of speech, which is to be analyzed in terms of variations in pitch our voice make when speaking (Roach, 2001, 2001:33). It is also looked at an aspect of language that we are usually only aware of in our NL at a subconscious level. Intonation is used in different ways in different languages (Roach, 2001). Although certain aspects of intonation may be common to many languages, some of the ways in which intonation is used may be specific to particular ones (Ibid).

According to Alemayehu's (1987) description of intonation in Amharic, it can be said that Amharic and English have some characteristics in common such as final rising intonation pattern as used in yes-No questions, or final falling ones as used in information questions, (i.e. WH Questions), statements and imperatives. The difference may be on the degree of pitch changes utilized in creating rising and falling intonation contours and its accentual and attitudinal functions. For example, Amharic seems to use less pitch variation than English in that Amharic mostly employs either high or low tone where low tone is the most common one (Alemayehu, 1987); while in English, rising, falling and a combination between the two significantly change the meaning to be conveyed (Roach, 2001). In other words, Amharic and

English have different pitch functions in uttering a sentence. Naming it after 'accentual function of intonation' in English, which we do not find in Amharic, Gimson (1980 :264) explains pitch changes occur in conjunction with the major sentence stress (which is usually placed on a stressed syllable in the final content word of an utterance) to convey special meaning of sentences. This pattern is also referred to as marked or contrastive stress.

As Gimson (ibid) describes, "intonation changes are the most efficient means of rendering prominence for a listener those parts of an utterance on which the speaker wishes to concentrate attention." In this regard, the word carrying the most important meaning, receives primary accent (stress) and pitch changes (nuclear placement) as a cue for signaling prominence. Such accentual function of intonation seems to be lacking in Amharic which uses pitch changes mainly for grammatical functions as a means for distinguishing different types of sentences (e.g. the same sequence of words may, with a falling intonation be interpreted as a statement or, with a rising intonation as a question).

Perhaps, another important way to look at the difference between English and Amharic is to look at the involvement of intonation in both languages in the discourse structure of speech and the psychological state of the speaker. According to Kelly (2000), the link between intonation and the surrounding discourse (i.e. the wider context of a conversation) is very significant in English. Falling tones (which are known as 'proclaiming tone') indicates what is new information between the speaker and the listener, while rising or fall-rise tones (known as 'referring tone') indicates what is shared (ibid : 101). Mean while, the function of intonation in English to indicate the emotion and attitude of the speaker is considerably significant in English (Roach, 2001). A single sentence "I think it is time to go now" can be said in 'a happy way, a sad way, an angry way, and so on depending on the pitch employed' (ibid : 35). As a native speaker of the language, I can easily notice that Amharic does not exhibit such function of intonation as an essential component of discourse or attitude. For example, an equivalent interpretation of the sentence above will be normally said in a falling tone in all circumstances, with no significant clue to the speaker's attitude or emotion towards a situation.

4.2. Problem Areas of English Pronunciation for Amharic Speakers

According to contrastive analysis hypothesis (CAH), it is possible to predict, depending on the degree of similarity between the phonology of mother tongue (MT) and target language (TL), pronunciation patterns that would cause difficulty or become a source of errors or problems for the SL/FL learner

(Brown 1987). The assumption behind is that the phonemes in the native language of the students that are structured and distributed similarly to those in the target language do not constitute a learning problem, that is, they function successfully when transferred into the target language. On the other hand, the phonemes in the native language which are structured and/or distributed differently with those in the target language constitute a major problem. In this regard, phonological differences between Amharic and English discussed earlier reveal several potential problematic areas that Amharic native learners may encounter.

Phonological difficulties derived or predicted from contrastive analysis assume different possible degree or hierarchy of difficulty based on the notions of transfer with regard to the structure and distribution of the phonemes in the two languages in contrast (ibid). Accordingly, specific phonological problem areas for ANL can be grouped in to such levels as phonemic, phonetic, allophonic and distributional (Taddese, 1966). ANL learner will have phonemic problems if English has phonemes which are unmatched in the phonemic system of Amharic. Phonetic problems arise when both the native and the target language have comparable phonemes, but with phonetically different realizations in the two languages. Allophonic problems refers to when the corresponding phonemes in English and Amharic show partially similar and partially different allophonic structure. Meanwhile, distributional problems will occur if there is a contrast in the distribution of corresponding phonemes in the native and the target language. In this regard, while Amharic native learners of English may have any or all of the above problem types, some of the characteristic specific problem areas of pronunciations are predicted as follows.

4.2.1. Consonants

The Amharic consonantal inventory contains such a wider variety of consonants than its English counterpart; and hence only a few consonant phonemes of English are absent in Amharic. Accordingly, Amharic native learners may not face series problems at phonemic level as compared to that of phonetic ones in which the two languages have several different realizations.

The major problem that may arise from the lack of particular consonants in Amharic but which exist in English is the pronunciation of interdental fricatives /θ/ and /ð/. Because of the particular absence of these consonant sounds in Amharic, it can be predicted that Amharic native learners may wrongly substitute "/s/ or /t/ and /z/ for /θ/ and /ð/ as in /sink/ for /θink/ or /za/ for /ða/" (Taddese, p. 118), though the exact substitutes and their manifestations need to be verified through interlingual

identifications. In this regard, therefore, this strategy of substitution might cause some miscommunication problems between Amharic native speakers and native speakers of English; For instance, such words as 'think' and 'cloth' might be wrongly perceived as 'sink' and 'close' by native listeners.

Another problem may arise from the difference in phonetic and allophonic realization between the two languages, especially when Amharic native speakers face those aspects of English which might not always be similar in Amharic. For example, voiceless stops, such as /p, t, k/, are aspirated in Amharic in all positions, while in English, it only occurs word initially and before stressed vowels (Taddese, ibid). Therefore, by transferring their NL allophonic habits into English, Amharic native learners may 'aspirate' such voiceless stops in all positions. As a part of potential characteristic accent feature of Amharic speakers, Taddese (ibid) predicted the following phonetic and allophonic problems (pp. 112-113).

1. All English stop phonemes would be released finally.
2. All English stop phonemes would be palatalized before /e/ as in /bet/ into /b^{y}et/.
3. Aspiration of all English voiceless stops in all positions as in /pot/ into /pot^{h}/.
4. Abrupt or sudden beginning and ending of all English voiced stops in initial and final positions.
5. Reinterpretation of English alveolar /t, d/ as dental.
6. Reinterpretation of English /b/ as a voiced bilabial fricative after a vowel.
7. Palatalization of all English fricative phonemes before /e/.
8. Fronting and backing of English /s/ and /z/ before /i/ and /u, o/ respectively as in /fes/ into /f^{y}es/.
9. Palatalization of English /m/ and /n/ before /e/ as in /nem/ and /men/ into /n^{y}em/ and /m^{y}en/.
10. Reinterpretation of English /n/ as velar before palatal affricates, and as dental in other environments.
11. Reinterpretation of English /ŋ/ as /n/ in final position as in /siŋ/ into /sin/.
12. Palatalization of English /l/ before /e/, and fronting and backing before /i/ and /u, o/ respectively as in /let/ into /l^{y}et/.
13. Reinterpretation of the velarized allophone of English dark /l/ as /l/ (clear l).
14. Palatalization of English dark /l/ before /e/.
15. Reinterpretation of retroflexed English /r/ as flapped /r/ in all environments.

Still another problem that needs to be addressed is that Amharic native speakers may have difficulty producing English words with consonant clusters (ibid). Such difficulty is caused by the fact that Amharic does not allow initial clusters nor permit final clusters more than two consonants. Thus, by transferring their NL consonant distribution habits into English (ibid), Amharic native speakers may tend to either insert a vowel between the first and second consonant of the cluster or add a vowel before the cluster.

For example, words with initial consonant cluster such as 'sport' and 'script' may be pronounced as /ɨsport/ and /ɨskiripit/ respectively, while words with more than two final clusters such as 'tempt' and 'tempts' may be pronounced as /tempit/ and /tempitis/ respectively. Most probably, following their NL, Amharic speakers may insert Amharic central vowel /ɨ/ which is used as a vowel of 'epentheses'. This kind of vowel insertion strategy that SL/FL English speakers may employ also occur when the native and the target language have a corresponding phonemes /A/ and /B/ but only the target language uses them in sequence /AB/ (Brown, 1987; Jenkins, 2000). In this regard, some English words constitute a syllabic problem for Amharic speakers if they contain 'non-permissible' final consonant sequences (i.e. Amharic does not permit) including /-dz/, /-ʤz/, /-rz/, and /-vz/, etc.

4.2.2. Vowels

A simple contrast between English and Amharic vowel systems reveals that there is apparently more vowel present in English than in Amharic. The fact that the Amharic vowel inventory is characterized as a typical seven vowel system (Beye, 2000) as significantly smaller than that of the English vowel inventory with at least twenty vowel system (Roach, 2001) suggests that Amharic native students would have difficulty producing English vowels that do not exist in the corresponding vowel system of Amharic. For example, English /æ/ is an absent category in Amharic, and hence contributes a special problem for Amharic speakers. Thus, substitution of the nearest vowel /a/ or /e/ for /æ/ may occur as in /map/ for /mæp/, or /men/ for /mæn/. English /ɒ/ is another vowel which constitutes a special problem for Amharic speakers for its absence in their native language. As a result, "Amharic native learners may substitute Amharic /o/ for English /ɒ/ as /ol/ for /ɒl/" (Taddese, p. 118). In general, the Amharic lack of a low front vowel /æ/, the low back vowel /ɒ/, and the low central vowel /ʌ/ as present in English, and also the different tongue positioning of the vowel /a/ between the two languages (i.e. /a/ is a low back vowel in English while it is a low central vowel in Amharic) suggest some considerable confusion to Amharic native speakers as in producing such words as 'pat, pot, putt; cat, cot, cut; hat, hot, hut', etc.

Furthermore, the long/short distinctions made in English seem to be one of the most problematic areas in pronunciation for Amharic students. For example, Amharic learners may produce the long/short vowel pairs of English almost identically as if they were the same vowels; for example, words such as 'sleep' /sli:p/, 'fast' /fɑ:st/ and 'stewed' /stu:d/ may be pronounced in the same way as such words as 'slip' /slɪp/, 'fest' /fest/ and 'stood' /stʊd/ are pronounced respectively. On the other hand, each of

English diphthongs constitutes potential problem for Amharic speaking students. Thus all English diphthongs will be interpreted as simple vowels (Taddese). For example, words such as 'poor' /pʊər/, 'day' /deɪ/, and 'fare' /feər/ may be pronounced in the same way as /pʊr/, /dev/, and /fir/ respectively.

4.2.3. Stress, Rhythm and Intonation

Since Amharic seems to be falling under syllable-timed language categories, because at least it is not a stress-timed language (Gimson, 1980:40), Amharic native learners of English may have difficulty producing English words and sentences in the way that corresponds to the characteristic rhythm of English. The reason behind this difficulty seems to be twofold: 1) there is no reduced or short vowel equivalent to English 'schwa' in Amharic; 2) in a syllable-timed language like Amharic, each syllable is assigned an equal amount of weight, regardless of whether the syllable is stressed or unstressed. As a result, Amharic speakers' pronunciation of English words and sentences may sound, what Gimson (1980:40) describes, "staccato-like to the native speakers ears", to mean each syllables sharply detached from each other. According to the author, this particular type of rhythm can adversely affect the comprehensibility of their English to the native speakers.

In addition, the difference in the way of stress marking between Amharic and English, also contributes to the difficulty for Amharic students in both producing and receiving the characteristic stress patterns and the overall rhythm of English. So far as word stress pattern is concerned, English has some pairs of semantically related words whose grammatical category is reflected in their stress pattern, such as: 'import' (noun), 'import' (verb). The fact that Amharic has a fixed stress pattern on the penultimate syllable (Alemayehu, 1987); Amharic native learners might sound ungrammatical in their speech as they may not distinguish the correct word category through shifting stress.

Another problem may arise in cases where the difference in stress signals semantic function in other ways other than grammar. For example, in the pair 'subject/subject', the difference is not only in grammatical category (noun/verb) but also in meaning (if used in different contexts). Amharic native learners may confuse native listeners who are sensitive to shift of word stress patterns (Kenworthy, 1987). Moreover, the lack of stress patterns in Amharic in the formation of words may cause considerable problem for Amharic native learners to distinguish in their speech between compound words and phrases, as in for example between *'the white house'* and *'the white house'* respectively.

Finally, the issue of difficulty that Amharic native students might face in realizing the characteristic intonation patterns of English should also be addressed. Although both Amharic and English utilize the basic intonation patterns for grammatical functions such as questions, statements, commands, etc, the difference between the two rests not in the way of creating intonation patterns but rather in the degree of pitch changes or pitch ranges employed differently in creating appropriate intonation contours in each language. As a result, perhaps relying heavily on their use of the narrower pitch range of their NL intonation patterns, Amharic native students may often fail to display the wider pitch range utilized in creating English intonation patterns.

As Roach (2001:35) puts it, "communicative interaction would be much more difficult without appropriate utilization of intonation." The fact that Amharic lacks accentual function of intonation, as discussed in the previous section, suggests that Amharic native speakers may fail to convey special prominence using intonation or to comprehend what is specially conveyed to them. For example, a single sentence *"she won't go out with anyone"* can convey two different meanings depending on whether it employs a falling or a falling-rising pitch movement: falling pitch movement on *'any'* means that 'she will go out with nobody'; while falling-rising pitch movement on *'any'* means 'she is careful about who she goes out with' (Roach, 2001).

Similarly, as a part of its utilization of wider range of pitch contour, English uses shift of nuclear placement position, which is absent in Amharic, as an important clue for special prominence. It may, therefore, be difficult for the Amharic native learner to comprehend special distinction or emphasis attributed to one of the content words receiving pitch prominence among the neighboring words. In the case of a sentence *"I have plans to leave",* for example, by shifting nuclear placement, speakers convey different meanings to the listener.

Furthermore, it should be noted that since pitch changes in English can convey not only the meaning of sentences but also the speaker's attitude towards a topic of conversation, narrower use of pitch ranges by Amharic native students in their speech might be (miss) interpreted by native English speakers as a sign of boredom or lack of interest. For example, a simple English sentence "That would be nice" (in response to an invitation, let's say) would normally be said in a falling tone by Amharic native speakers transferring the NL intonation habit. This might be (miss) interpreted as if the speaker is not happy with the invitation. Conversely, while the same sentence is said by the native speaker it may be difficult for

the Amharic native to distinguish the speaker's attitude or emotion conveyed through the change of intonation employed towards any of such attitude or emotion of the speaker as 'enormous enthusiasm, mild pleasure, surprise, relief, sarcasm, and boredom amongst other possibilities' (Kelly, 2000:95). To be straightforward, this aspect of intonation, apart from the variety of accentual functions it serves in English, is what the present researcher is often worried about during his conversation with the natives. It is not difficult to imagine how many difficulties and misunderstandings in reality arise during actual productions and interaction between Amharic native learners and native speakers, which is hopefully revealed in the interlanguage and intelligibility analysis of the present study.

4.3. High Priority (HP) Problems for Amharic Speakers

According to contrastive analysis hypothesis (CAH), pronunciation difficulties for EFL/ESL learners of English mainly arise from phonological contrasts between the native language of the learner and the target language. Through detailed examination of Amharic and English phonological differences, some of the specific problem areas of pronunciation have been predicted. As we have seen in the preceding sections, potential pronunciation difficulty areas predicted for Amharic native learners are only clear reflections of the NL phonological transfer. Thus it is quite conceivable that those predicted problem areas of pronunciation can be taken as the most important sources of errors of pronunciation so far as Amharic native speakers of English are concerned. In this regard, therefore, the resultant lists of problematic areas predicted from such contrastive analysis naturally suggests the critical need for researches on the role of pronunciation in actual communication, like the present study, to become more aware and focused towards the specific impact that NL background would bring to the receptive and productive performance of the learners.

According to Brown (1987), transfer errors or problems of phonology that SL/FL learners encounter can be categorized under different levels or types as phonemic, phonetic, allophonic, and distributional depending on the degree of contrast or similarity between the native language of the students and the target language. Among these, those problem areas which are totally lacking in the native language of the learners are assumed to be of the highest priority so far as their role in communication is concerned (ibid). As writers frequently emphasize, those features of pronunciation which are not available in the learners' native language will exert far greater difficulty (Jenkins, 2000). On the other hand, those problem areas resulting from different phonetic or allophonic realization assume relatively lower status

in their potential to hamper communication (Jenkins, 2000). Accordingly, the present study considers the following as high priority problem areas (HP) and uses them as focal areas for investigating actual perceptions and productions in the subjects' interlanguage and their intelligibility status.

1. Interdental fricative consonants /θ/ and /ð/
2. The low front vowel /æ/
3. The mid central vowel /ə/
4. The mid back vowel /ʌ/
5. The low back vowel /ɒ/
6. All English long vowels and diphthongs
7. Reduction of vowels in to schwa (weak forms)
8. Word and sentence stress patterns
9. Stress-timed rhythm
10. Accentual and attitudinal functions of intonation
11. Syllables with initial and final (more than 2 members) consonant clusters

As a major focal area of investigation, the list above represent potential pronunciation problems predicted Amharic native learners would encounter when: 1) sounds in English are not found in the inventory of Amharic; 2) the rules of combining sounds into words in Amharic are different from those in English (i.e. different syllable types); and 3) when the characteristic pattern of stress and intonation in English, which determine the overall rhythm or melody of the language, are different from those in Amharic. The extent and nature of predicted problems, in fact, should be verified in the subjects' actual use of spoken English. The next chapter presents the results of the data stemming from perception, production, and intelligibility tests designed for this purpose.

CHAPTER FIVE

5. RESULTS AND DISCUSSION OF THE DATA

The main objective of the study is to closely examine aural/oral difficulties of English pronunciation that Native Amharic speakers might be experiencing from the influence of their NL and the intelligibility of their spoken English. To this end, the study predicted a range of possible problem areas for the subjects by identifying English phonetic and phonological forms which are lacking in their native language Amharic, and used the resultant lists as a frame of reference to investigate specific characteristic difficulties the learners actually experienced in spoken English. In this chapter, the main results gathered from data collection are presented and discussed in light of the literature in the area of L2 phonological acquisition and intelligibility. The results are organized in 3 major sections. The first section, the 'speech perception test', presents the extent and nature of difficulty foreign features of English pronunciation caused to the subjects as they are exposed to audio stimuli containing the targets. The next section called 'phonemic measures of pronunciation' presents the data which stemmed from auditory analysis which sought characteristic tendencies the subjects exhibited in pronouncing target phonemes in the speech they produced. Then, the third section, 'the intelligibility test' presents the extent to which the subjects were intelligible in their spoken English as determined by native English speakers who listened to and orthographically transcribed the speech samples taken from the subjects' productions.

5.1. Speech Perception Test

The speech perception test of the study investigated ANS learners' perception of selected areas of English pronunciation which are foreign to Amharic phonology and thus predicted as potential problems. Contrastive based problem areas of English pronunciation the test targeted comprised both segmental and suprasegmental features including short vowels /æ, ʌ, ə, ɒ/; long vowels /i:, a:, ɔ:, u:, ɜ:/; diphthongs /eɪ, aɪ, ɔɪ, aʊ, əʊ, ɪa, eə, ʊə/; consonants /θ, ð/; sentence stress (weak forms, tonic/nuclear stress); and intonation patterns (rising and falling pitches). To test ANS learners' detection and recognition of English pronunciation in the TL input, independent tasks were designed each aiming at a particular pronunciation target: 1) forced word discrimination for vowels and consonants; 2) listen and write (transcription) for weak forms; and 3) forced identification and meaning recognition for sentence stress and intonation. For this purpose, a total of 89 native English speaker recorded utterances (taken

from audio materials for English pronunciation) was used presenting 121 phonetic and phonological items corresponding to the target sounds and features listed above.

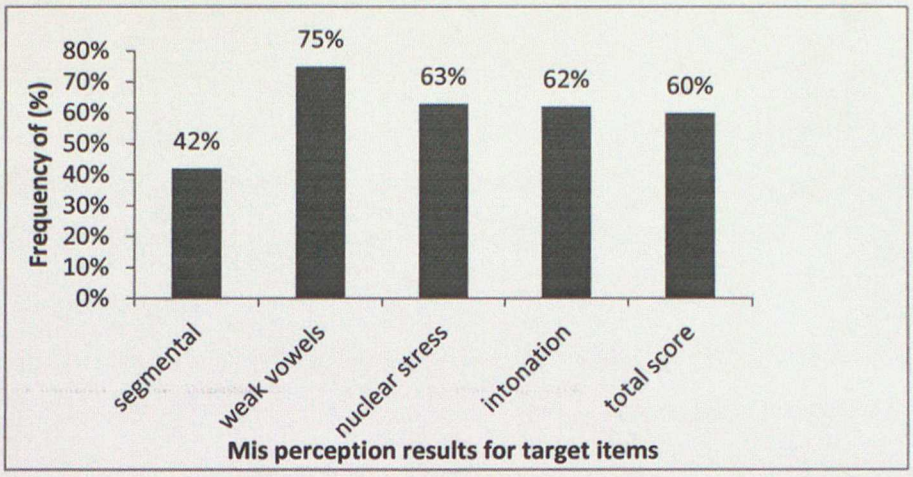
Sixty ANS undergraduate students at AAU completed the speech perception tasks by responding on the test papers based on directions given after listening to the audio tapes that played the stimuli containing utterances with targets sound features. The audio stimuli presented 89 non-contextualized words and sentences in different arrangements to the subjects to hear and identify 121 target sound items embedded in each.

Each response provided by the subjects for each audio stimulus was first coded for correctness relative to the particular target sound item presented. In other words, each one of the 121 target sound items embedded in the 89 utterances in the audio stimuli was coded for correct or incorrect answer from each subject: '0' for correct answers and '1' for incorrect answers. In addition to those responses that did not correspond to the target sound feature in the stimuli, an error score was given when either the item was skipped with no answer given or when more than one option was marked as an answer rather than one. The latter two cases could have been analyzed separately but this study took them as a sign of confusion or uncertainty and thus manifestations of the learners' difficulty.

To assess the extent of perception errors the subjects committed, and to obtain the final inventory of difficulty areas, the total incorrect score each sound item received was changed to percentage scores based on the total number of 60 responses from the subjects. Similarly, mean percentage error score that each targets received was computed and analyzed relative to scores for individual target features included in the test.

As a whole, the total mean percentage error score for the whole perception task shows greater perception difficulty on the part of the subjects. From a total of 7,260 (60 subjects x 121 target items) responses, 4,320 or 60% of them were not correct. Out of the 121 target items presented, the subjects received a total error score ranging from 38 (31%) to 95 (79%), with mean 72 (60%) per speaker. The total score was also tabulated for target segmental phonemes (vowels and consonants), weak forms, nuclear stress and intonation and analyzed in absolute and relative terms. The following figure summarizes the extent of error scores each target feature received and the total test result.

Figure 2: Results of global error measures on speech perception test



As can be seen from the figure above, weak vowels with 75% error score presented the greatest difficulty for the subjects. The mean percentage error score for the whole perception task ranging from 42% to 75% with mean 60% is not impressive for university students who have had more than twelve years of English language instruction. The result witnesses that the Amharic speaking subjects found the majority of the items which presented English phonetic and phonological features quite difficult to discriminate or identify. This difficulty can mainly be explained in relation to the subjects' confusion or uncertainty in perceiving English pronunciation features their NL lacks. Such considerable level of difficulty the Amharic subjects demonstrated in the present perception test is not surprising in the sense that several previous studies have confirmed that areas of differences between the phonemic systems of English and learners' NL cause greater difficulties for the subjects' pronunciation performances both at perceptual and articulatory levels (Italo, 1988; Chan, 2007; Moustofa, 1979; Jilg, 1999).

In the following sections, the results of the speech perception data will be presented and discussed in more detail in terms of the particular target features under investigation.

5.1.1. Perception of Segmental Sounds

A total of 42 minimal pairs that contrasted novel target English sounds (i.e. English sounds which are not found in Amharic phonology) with non-novel sounds (i.e. English sounds which are found in Amharic phonology) were used to assess the subjects' ability to discriminate (i.e., perceive) novel English sound contrasts and distinguish the words separated by the two. Subjects read printed versions of minimal pairs and marked one that corresponds to what they heard in the tape.

Each of the 2520 responses (42 items x 60 subjects) were coded for 1) correct word identification and 2) incorrect word identification. A response that corresponded to the word they heard in the tape was counted as correct and a response that did not match the stimuli was counted as error. Total incorrect scores on short vowels, long vowels, diphthongs and consonants were tabulated separately for statistical analysis. Table 4 and 5 report the learners' overall incorrect word identification performances for each sound group and their total perception result for the whole target segments included in the test.

In each of the minimal pair the subjects heard, one target vowel or consonant was contrasted with another one to separate the words. Total mean percentage score for incorrect word identifications as a whole represented 42% of the total responses. Besides, with only 10% (table 4) of the students with scores above 70% correct, it does show that the majority of the learners had acute difficulty in discriminating English target sounds covered in the test.

Table 4: Incorrect perception frequency distributions for sound items and total scores (N=60)

% of errors	Short vowels	Long vowels	Diphthongs	consonants	Total segmental errors
100-90	-	-	-	1(1.7)	-
89-80	-	-	-	1(1.7)	-
79-70	5(8.3)	2(3.3)	3(5.0)	4(6.7)	-
69- 60	4(6.7)	8(13.3)	1(1.7)	6(10.0)	4(6.7)
59-50	7(11.7)	21(35.0)	6(10.0)	26(43.3)	14(23.3)
49-40	-	14(23.3)	6(10.0)	15(25.0)	20(33.3)
39-30	17(28.3)	8(13.3)	27(45.0)	2(3.3)	16(26.7)
29-20	20(33.3)	6(10.0)	8(13.3)	2(3.3)	5(8.3)
19-10	6(10.0)	1(1.7)	3(5.0)	3(5.0)	1(1.7)
9-0	1(1.6)	-	6(10.0)	-	-
Total	60 (100)	0 (100)	60 (100)	60 (100)	60 (100)

Notes: (1) N =60.
(2) Figures in parenthesis indicate perc ntage.
(3) Example, for short vowels, 5 learner s scored between 79% and 70%.

The total test score, as presented in table 5 below, also shows that from the 42 minimal pair items that each of the 60 subjects heard, each participant on average failed to discriminate 18 of the minimal pairs (42%). In other words, the students heard almost half novel English sounds and their non-novel counterparts as the same. Besides, with the majority of the subjects (20 or 33%) receiving 40%-50% error score, it seems that the task presented moderate difficulty for the majority. For a number of

reasons, the result shows that contrastive-origin segmental problems still continue to cause considerable difficulty in the learners' actual perceptions. This may not be unexpected given that several previous researches on phonetic and phonological influences on SL/FL learners perception of English segments have reminded us consistently that phonological contrasts that are not employed contrastively in the native language are difficult for the learners to acquire unless they get used to them somehow, either through instruction (Bradlow, et al. 1997) or experience (Flege et al. 1997; and Halle et al. 1999).

Table 5: Descriptive statistics for sound items and total segmental scores

	short vowels	long vowels	diphthongs	consonants	total error
N	60	60	60	60	60
n	8	9	13	12	42
% of error	36.4	48.1	34.3	50.8	42.4
Mean	2.9	4.3	4.4	6.1	17.8
Std. Deviation	1.4	1.3	2.1	1.8	4.5
Range	6.00	6.0	10.0	9.0	20.0
Minimum	.00	1.0	.0	2.0	7.0
Maximum	6.00	7.0	10.0	11.0	27.0
Sum	175.00	260.0	268.0	366.0	1069.0

As summarized in table 5, the total mean percentage misidentification scores computed under each phonemic category reveals not equal level of difficulty the subjects had in discriminating target sound items. Total error score for the consonants accounted for approximately 51% which is greater than the mean error scores for the three types of vowels: long vowels (48%), short vowels (36.4%) and diphthongs (34.3%). Among the three types of vowels, long vowels received larger error score than that of diphthongs and short vowels. The mean percentage results the subjects received shows the learners found target English consonants more difficult to perceive than target vowels. As to the vowels, long vowels were more difficult than that of short vowels and diphthongs.

To check whether the observed differences of scores for consonants, short vowels, long vowels and diphthongs were 'real' or 'significant', t_r-test for all pairs was computed. This t-test is applied in order to see the existence and nature of differences between scores of the same group to a situation where more than two variables are involved (Diamantopoulos and Schlegelmilch, 2000). The result of the paired sample t-test, as presented in table 6 below, confirms that there was a significant difference in the subjects' perception scores as a function of the phoneme types they heard.

Table 6: Paired samples T-Tests between misperception scores for vowels and consonants (N=60)

pair	Target pairs	Mean	Std. Deviation	Std. Error Mean	df	t	Sig. (2-tailed
1	short vowel	2.9167	1.42961	.18456	59	-6.238	.000
	long vowel	4.3333	1.33616	.17250			
2	short vowel	2.9167	1.42961	.18456	59	-5.299	.000
	diphthong	4.4667	2.17432	.28070			
3	short vowel	2.9167	1.42961	.18456	59	-13.564	.000
	consonant	6.1000	1.83839	.23733			
4	long vowel	4.3333	1.33616	.17250	59	-.447	.656
	diphthong	4.4667	2.17432	.28070			
5	long vowel	4.3333	1.33616	.17250	59	-6.165	.000
	consonant	6.1000	1.83839	.23733			
6	diphthong	4.4667	2.17432	.28070	59	-5.383	.000
	consonant	6.1000	1.83839	.23733			

Comparisons of the first pair shows that there was s significant difference in the scores for short vowels (M=2.9, SD=1.4) and long vowels (M=4.3, SD= 1.3), t (59) = -.6.238, p< .05. Other pairs which reveal significant differences between scores include short vowel-diphthong, short vowel-consonant, long vowel-consonant, and diphthong consonant. However, the score for long vowels (M=4.3, SD=1.3) and diphthongs (M=4.4, SD=2.1) did not have significant difference, t (59) = -.447, p =.656 > 0.05, and therefore the two vowel types must be considered equal. If the results of the differences hold true, we can explain the extent of perception difficulty caused by the phonemes in this perception test as target consonants, with error scores (M=6.1, SD = 1.8), was the most difficult for the subjects followed by long vowels and diphthongs with equal score (M= 4.4), while short vowels (M=2.9, SD=1.4) were moderately easier.

The result has been consistent with previous researches such as Italo (1988) which exhibited that all non-existent English phonemes in Afan Oromo do not exert the same degree of difficulty for Oromo subjects. Yet, the present study demonstrated consonants more problematic for Amharic L1 speaking listeners than vowels and thus offered a different result from Italo (1988) who found vowels as the source of greater perception problem for the Oromo learners than consonants. Among other things, this difference might be explained in relation to the difference of the phonology of the NL probably exerting different degree of influence on learners' perception.

In order to evaluate performance scores each sound contrast received relative to the other one, additional analyses were carried out separately corresponding to individual target sound. To begin with

the most difficult category, target consonant phonemes are presented first followed by target vowel items in terms of their relative difficulty level.

5.1.1.1. Inter-dental Fricative Consonants: /θ/ and /ð/

The test presented a total of twelve minimal pair items which contrasted /θ/ with /s/ and /ð/ with /z/ as distinctive features that distinguish one word from the other one (Appendix C). The result of incorrect word identification scores for this particular items (51%) shows that, the students most often failed to recognize /θ-s/ and /ð-z/ contrasts as distinctive sounds. Given that the Amharic phonology does not have English interdental fricatives (Taddese, 1966), the Amharic speaking subjects faced substantial difficulty to discriminate these sounds (Tables 5 and 6). Why interdental fricatives posed the greatest difficulty for the subjects can be explained in relation to the complex nature of these sounds for all learners from virtually all NL backgrounds, including native English children (Gimson, 1980; Jenkins, 2000; Schmidt, 1987).

Table 7 below presents the respective results for voiceless and voiced interdental fricatives. In order to see if the subjects performed differently as a function of voicing, paired sample t-test was computed between scores for voiced /ð/ and voiceless /θ/. The result shows that there was no significant difference in scores for the voiced /ð-z/ contrasts (M=3.16, SD=1.22) and voiceless contrasts /θ-s/ (M=2.93, SD=1.32), t (59) = -1.021, p=.311 > .05.

Table 7: Paired samples T-Tests on perception scores for voiceless and voiced interdentals (N=60)

Target	Mean	SD	Std. Error Mean	df	t	sig. (2-talied
voiceless /θ-s/	2.9333	1.32597	.22844	59	-1.021	.311
voiced /ð-z/	3.1667	1.22359				

The t-test result reveals that mean error scores we obtained for voiced /ð/ and voiceless /θ/ should be taken as equal. One of the predictions documented in the literature based on Eckman's 'Markedness Deferential Hypothesis (MDH)' assumes voiced phonemes as more difficult to learn for SL/FL learners than voiceless sounds (Eckman, 1977, as cited in Jenkins, 2000). In that sense, the /θ-s/ contrast should relatively be perceived better. However, the performance pattern for the subjects of this study suggests that voiced and voiceless interdental fricatives posed equal amount difficulty for the subjects' perception. Lack of such information on the present data may be taken as an indication that both voiced

and voiceless interdental fricative consonant sounds unequivocally present acute problems for the subjects' perception and thus the subjects have found both equally difficult.

The auditory task having the two interdental fricatives also shows a wide range of variation depending on the position of the target sound and the minimal pairs presented. For example, the position of the sounds in the word stimuli seems to function as a cause of variation for the students' perception performance with /ð/ at final positions (60%) receiving greater error score than any other place (44%). Similarly, /θ/ at final positions (52%) was misperceived more often by the subjects than they did either at initial and medial positions (43%), (Table 8). From the results, it can be said that the place of the target sounds in the words the subjects heard affected the perception performance of the subjects with word final positions being the source of most frequent trouble for the subjects relative to medial and initial positions.

Table 8: Error score distribution per items on /ð/ and /θ/

/ð-/	**%**	**/- ð-/**	**%**	**/- ð/**	**%**	
In these/zizz	38.3	*In hazer/heather*	41.6	*In breathe/breeze*	51.6	
In zed/then	50	*In teasing/teething*	65	*In close/clothe*	70	
mean	**44.1**		**53.3**		**60.8**	**52.7**
/ɵ-/		**/- ɵ-/**		**/ -ɵ/**		
In *sing/thing*	45	In *twelfth/twelfths*	21.6	In *faith/face*	40	
In *sought/thought*	56.6	In *force/fourths*	65	In *mouse/mouth*	65	
mean	**50.3**		**43.3**		**52.3**	**48.3**

The subjects' performance also varied as a function of the minimal pairs presented. For instance, misidentification scores on /ð/ varied considerably from 70% to 38.3%. The students heard /ð/ as /z/ more often in items 'close/clothe' and 'teasing/teething' than they did on other items such as 'breathe/breeze', 'hazer/heather', and 'these/zizz'. Similar patterns of variation (from 65% to 40%) across items is also observed on /θ/ with the students more often failed to correctly identify contrasts such as 'force/fourths' and 'mouse/mouth' than others such as 'faith/face', 'sing/thing' and 'twelfth/twelfths'. Why students performed so differently on these items is not evidently clear. Perhaps, phonetic and phonological environments embedded in the words, or the other vowels and consonants adjacent to the target sounds might have contributed for this variation.

5.1.1.2. Long Vowels and Diphthongs

Long Vowels: /i:/, /a:/, /ɔ:/, /u:/ and /ɜ:/

The minimal pair identification task provided a total of nine items contrasting all the five English target long vowels /i:/, /a:/, /ɔ:/, /u:/ and /ɜ:/ with their short counterparts /ɪ/, /æ/, /ɒ/, /ʊ/ and /ʌ/. The sixty subjects listened to each of the minimal pairs and identified the word with the long vowel which appeared in the stimuli with different arrangements. The total mean score shows that 44.3% of the words the subjects chose for the words of the long vowels were words of the short vowels. The following table summarizes the mean percentage of times that target long vowels were incorrectly identified or perceived as short vowels across the items.

Table 9: Error score distribution on target long vowels

/i:/ vs. /ɪ/	%	/ a:/ vs. /æ/		/ ɔ:/ vs. /ɒ/	%	/ u:/ vs. /ʊ/		/ɜ:/vs. /ʌ/	%
In *been/bin*	*30*	-		In *cord/cod*	*63.3*	In *wood/wooed*	*75*	In *bud/bird*	*15*
In *bead/bid*	*40*	In *lard/lad*	*36.6*	In *caught/cot*	*56.6*	In *suit/soot*	*36.6*	In *turn/ton*	*15*
mean	**35**		**36.6**		**60.0**		**55.8**		**15**
									44.3

The data presented in table 9 shows a range of variation in mean percentage error scores with /ɔ:-ɒ/ and /u:-ʊ/ contrast receiving the largest (60%) and (55%) respectively while other contrasts such as /ɜ:-ʌ/, /a:-æ/ contrast are receiving the lowest error score (15%) and (37%) respectively. Just looking at the two extreme results, it is surprising to note that words embedding two novel English vowel contrasts /ɔ:-ɒ/ and /ɜ:-ʌ/ neither of which the learners' NL possesses caused different degree of perceptual difficulty for the subjects with the later being relatively easier. This discrepancy however can reasonably be explained from the point of view of phonetic properties of the target sounds and the perceived similarity or difference they might have in English and their relations with the learners' NL.

It must be noted that the Amharic /o/ vowel is very close in quality and quantity with the English long vowels /ɔ:/ and /ɒ/ with the main difference between the two may be on the position of the tongue and the extent of lip rounding employed; English involves extreme openness and very slight lip rounding to produce these vowels with quantity (i.e. length) being the main distinguishing factor between them (Gimson, 1980); whereas Amharic seems to have slight openness but a considerable lip rounding to produce /o/ (Taddese, 1966). It is understandable that the Amharic speakers might perceive English /ɒ/ and /ɔ:/ as the Amharic counterpart /o/ because the native language neither has the short vowel in its quality nor the length to distinguish it from the other one. The effort it required the researcher to

perceptually discriminate between these English vowels and their difference with the Amharic counterpart personally witnessed the confusion Amharic speakers might have.

In that sense, the perceived similarity between English /ɔ:/ and /ɒ/ with the Amharic /o/ might have led the Amharic subjects to such greater confusions (60%) to identify the words contrasting these vowels than they did with other long-short vowel combinations they heard. The findings just summarized are consistent with the results of most prominent researches on non-native speakers' perceptions (Flege et al. 1997) suggesting that the nature of the NL vowel inventory and its perceived relation to vowels in an L2 influence the extent of difficulty to which L2 vowels would be perceived. Similar explanation can be linked to /u:-ʊ/ which received larger error score (56%) than that of /a:-æ/ which was relatively easier (37) for the subjects to distinguish.

The extent that long vowels were misidentified also varied (from 75% to 15%) as a function of the minimal pairs presenting the target vowels. For example, the extreme discrepancy of results for /u:-u/ contrast in minimal pairs 'wood-wooed' (75% error) and 'suit-soot' (37%) seems to have been caused from the nature of the words carrying the target vowels. Similar variation occurred on /i:-ɪ/ and /ɔ:-ɒ/ contrasts as in 'bead/bid' and 'cord/cod' showing greater error scores as opposed to 'been/bin' and 'caught/cot' respectively. It is not evidently clear if such variation occurred due to either familiarity level of the listeners with the words containing the target vowels or else the particular phonetic and phonological characteristics of the sounds adjacent to the targets. The later might be viable given that 'bud/bird' and 'turn/ton' which would not in any way represent different level of familiarity for the learners as compared to the other items showed similar pattern as both received the same error score (15%).

5.1.1.3. Short Vowels: Low vowels /æ, ʌ, and ɒ/ and Mid-central /ə/

The minimal pair identification task provided a total of eight items contrasting target vowels with other vowels in five different arrangements: /æ-e/, /æ-ʌ/, /ʌ-ɒ/, /ɒ-ʊ /, /ə-□/. The Amharic speaking subjects listened to these vowels embedded in minimal pairs and discriminated one of the words which they perceived corresponding to the word carrying the target English short vowels which are lacking in their NL. The following table summarizes the mean percentage of times that target English vowels were incorrectly identified as represented by the stimuli. In other words, the figures represent the percentage of times that other vowels were heard by the subjects instead of the intended target vowels.



Table 10: Error score distribution on target short vowels

/æ/	F	%	/ʌ/	F	%	/ɒ/	F	%	/ə/	F	%
mass/mess	9	15	flush/flash	45	75	dog/dug	9	15	ahead/head	13	22
pack/peck	30	50	stuck/stock	15	25	cod/could	13	22	-	-	-
fan/fun	41	68									
Total MI score (%)		44			50			19			22
mean% (n=8)											36

Being the third most frequently misperceived target phonemes next to consonants and long vowels, short vowels with 36% of error score exhibited variations regarding the extent in which words were misidentified varied across the target vowels embedded. The total misidentification results per each vowel in table 10 shows that the learners committed higher misidentifications on the back central /ʌ/ and the low front /æ/ vowels (50% and 44%) than they did on the mid central /ə/ and the low back /ɒ/ vowels (22% and 17%). Like what we observed in the results of the long vowels, this result shows that all novel English short vowels did not present equal amount of difficulty to the subjects.

The way in which the target English vowels were misidentified varied as a function of the contrasting vowel the subjects heard in the minimal pair. For instance, the misidentification scores for target vowels /æ/ and /ʌ/ varied significantly with respect to the particular vowels the subjects heard as a contrast. In the case of the mid vowel /ʌ/, the learners misidentified it more often when it was contrasted with low-front vowel /æ/ in 'flush/flash' than they did when it was contrasted with low-back vowel /ɒ/ in 'stuck/stock' (75% vs. 15%). Similarly, the low/open front vowel /æ/ was perceived more poorly when it was contrasted with the mid-back /ʌ/ in 'fan/fun' (68%) than when it was in contrast with mid/half-open front vowel /e/ (M=32%) though it also showed some variety again receiving so different error scores in the respective minimal pairs as in 'mass/mess' (15%) better identified than 'pack/peck' (50%); why this occurred is not clear. Perhaps, the particular consonants adjacent to the vowel can be responsible. The case of the other target vowel /ɒ/ seems to be inconsistent to the former pattern to some extent with back-front /ɒ-ʌ/ contrast in 'dog/dug' receiving (15%) less error score than that of back-back /ɒ-ʊ/ contrast in 'cod/could' (22%).

Similar to the Amharic speaking subjects who exhibited different degrees of perception difficulty for the target vowels, previous research (e.g. Brown, 1997) have shown that not all novel segments exert equal amount of difficulty, with some being easy to learn relative to the other. Indeed, this variation is also known to be affected by 'perceived similarity' of novel sounds with that of the NL and other interlingual factors such as amount of exposure, training and experience the learners had (Flege et al. 1997). While

which one of these factors or perhaps another is responsible for the subjects' variation is not accounted in this study, it seems reasonable to say that short vowels in general presented considerable difficulty, with front and back vowels /æ/ and /ʌ/ respectively posing greater problems than back vowel /ɒ/. Besides, the extent that a vowel was perceived showed variation as a function of the contrasting vowel presented in combination with the target vowel. The different degree of difficulty the subjects demonstrated in terms of novel English vowels and the accompanying contrasting vowel as well shed light on the importance of training learners with due attention on the contrasting vowels that have perceived similarity (e.g. /ʌ-æ/ contrasts as in 'luck/lack'), and exposing learners to different arrangements (e.g. /æ/ with /ʌ/, /eɪ/, /ɒ/, or /aɪ/), as in 'lack' contrasted with 'luck, lake, lock, or like' respectively.

5.1.1.4. Diphthongs: /eɪ/, /aɪ/, /ɔɪ/, /aʊ/, /əʊ/, /ɪə/, /eə/ and /ʊə/

The subjects heard a total of 13 minimal pairs introducing English diphthongs contrasted with other kinds of English vowels such as short vowels (e.g. /eɪ-e/) as in 'mate/met', long vowels (e.g. /aɪ-a:/ as 'pike/park' or other diphthongs (e.g. /aɪ-eɪ/) as in 'pie/pay'. The percentage of times each target diphthong was misidentified is presented as follows in terms diphthong type, individual diphthong and stimulus (minimal pair) the subjects heard.

Table 11: Performance scores per diphthong type

Fronting	%	Centering	%	Closing	%	Total	%
/eɪ/, /aɪ/, /ɔɪ/	32	/ɪə/, /eə/, /ʊə/	26	/əʊ/, /aʊ/	55	diphthongs	32

First, from the total 780 words (13 x 60) the subjects identified as corresponding to the stimuli they heard containing the target diphthong, 34% of them were rather wrong words containing short vowels, long vowels or different diphthongs other than the target. Among the three types of gliding movement English diphthongs constitute, words with closing diphthongs caused the most misidentifications (55%) for the Amharic subjects perception.

Further analysis was carried out to learn more if particular environments and the accompanying contrasting vowels to the target diphthong compounded the learners' confusion or otherwise. The mean percentage value of misidentification computed in terms of the contrasting vowel for target diphthongs shows greater error score for diphthong-diphthong (37.2%) and diphthong-short vowel (37.4%)

contrasts relative to that of diphthong-long vowel contrasts (30.3). The diphthong-diphthong contrasts include /aɪ-eɪ/ and /eə-ɪə/ from which the former pairs both gliding to front vowel /ɪ/ was more confusing than the later ones gliding to central vowel /ə/. The next most frequently misperceived diphthong was /eɪ/ which was contrasted with short vowel /e/. It is not difficult to understand the confusing quality of /eɪ-e/ contrasts for Amharic speaking listeners whose NL does not own /eɪ/ and thus who might have heard both as /e/.

The subjects were relatively better in distinguishing such diphthongs in diphthong-long vowel context as /ɔɪ-ɔ:/ (18%), /ʊə-ɔ:/ (30%), /aʊ-ɜ:/ (32%), and /ɪə-i:/ (20%). The diphthong-long vowel contrast /əʊ-ɔ:/ in the word 'boat-bought', however, exceptionally revealed the most misidentification score (77%) of all diphthongs in all combinations. It is fair to say that this extreme confusion occurred on the minimal pairs constituting by far the most common English words for the subjects. Yet the perceived similarity between the vowels and perhaps lack of adequate exposure or familiarity on how the words are pronounced by English speakers might have been responsible.

Table 12: Error score distribution on diphthongs

Target sound	Minimal pair	contrasted with	Error score (%)	Mean
/eɪ/	mate/met	/e/	37	38
	sale/sell		38	
/aɪ/	pie/pay	/eɪ/	58	39
	pike/park	/a:/	20	
/ɔɪ/	bore/boy	/ɔ:/	13	18
	coin/corn		22	
/aʊ/	dirt/doubt	/ɜ:/	32	54
/əʊ/	boat/bought	/ɔ:/	77	
/ɪa/	feared/feed	/i:/	20	20
/ea/	bear/beer	/ɪa/	25	27
	stare/steer	/ɪa/	28	
/ʊə/	poor/paw	/ɔ:/	20	30
	dour/door	/ɔ:/	40	

Notes: Target diphthong vs. short vowel (38%); target diphthongs vs. long vowels (31%); diphthong vs. diphthong (37%).

Overall misidentification score in this section reveals the extent that target diphthongs presented to subjects to discriminate was heard as a short vowel, a long vowel or another diphthong. Of all target diphthongs presented, diphthongs /aʊ/ and /əʊ/, which was presented to the subjects in contrast with long vowels /ɜ:/ in 'doubt/dirt' and /ɔ:/ in 'boat/bought' respectively, received the largest

misidentification score (54.1%) as opposed to the rest of the target diphthongs which all received below 50% error score. On the other hand, diphthongs /ɔɪ/, /ɪə/ and /eə/ received lower error score when compared to /əʊ and aʊ/, /aɪ/, /eɪ/ and /ʊə/ (17.5%, 20% and 26.6% vs. 54.1%, 39.1%, 37.5%, and 30%). Looking more closely the results on each minimal pair item, the /əʊ-ɔ:/ in minimal pair 'boat/bought' received significantly the highest error score as opposed to /ɔɪ-ɔ:/ contrast in minimal pair 'bore/boy' having the least misidentification score (76.6 % vs. 13.3 %).

The result indicates that the Amharic subjects' misidentified diphthongs less often than they did for short vowels, long vowels, and consonants. Nevertheless, the performance of the subjects is still not inspiring for university level students. From this result, it can be said that English diphthongs pose considerable confusions for the learners in terms of identifying words having diphthongs which often distinguish words and thus meanings in the target pronunciation. The result may not be surprising given that English diphthongs do not occur in Amharic, even such few items as /aɪ/ and /ɪə/ which seem to be 'shared' are realized quite differently in the NL of the subjects. Therefore, each of the English diphthongs inherently constitutes a problem for Amharic speaking students. The perception result revealed in the present data indeed indicates that the problems learners have on diphthongs should not be neglected.

5.1.2. Perception of Suprasegmentals

This section of the perception test provided data to observe the ability of the Amharic speaking subjects in identifying English suprasegmentals and distinguishing their meanings and to analyze the probabilities of the subjects' difficulties to English prosody in general and target features included in particular. The data comprised three sets of suprasegmentals namely weak forms, sentence stress (nuclear stress) and intonation (rising and falling) collected from separate perception tasks the subjects completed: listen and write (transcription), listen and identify, and listen and distinguish meaning.

A total of 4,740 responses from the 60 subjects for 79 target items presented in the audio stimuli was coded for correct and incorrect responses and tabulated separately per each item for statistical analysis. Table 13 and 14 below present the distribution of the total incorrect score and the scores for each target feature under consideration. Global error scores for the whole test on suprasegmentals shows that the Amharic speaking subjects did not respond correctly 69% of times for the whole test. For first-year university students, the result for the group as a whole is not impressive. It rather suggests the level of

difficulty the subjects had in perceiving the features of English suprasegmental covered on this test. For example, 83.3% of the learners (table 14) with error scores above 60%, it does indicate that the level of difficulty the majority of the learners had was harsh. The result perhaps reflects strong NL transfer the learners still experience despite more than 12 years of classroom instruction.

Table 13: Frequency distribution of errors for section and total scores

% of errors	weak vowels (transcribe)	Primary stress (identify)	Primary stress (meaning)	Intonation (identify)	Intonation (meaning)	Total performance errors
100-90	23 (38.3)	1 (1.7)	11 (18.3)	9 (15.0)	_	_
89-80	31(51.6)	8 (13.3)	9 (15.0)	17 (28.3)	2 (3.3)	6 (10.0)
79-70	27 (45)	8 (13.3)	7 (11.7)	6 (10.0)	6 (10.0)	26 (43.3)
69- 60	20 (33.3)	19 (31.7)	17 (28.3)	10 (16.7)	_	18 (30.0)
59-50	4 (6.6)	12 (20.0)	4 (6.7)	10 (16.7)	19 (31.7)	5 (8.3)
49-40	3 (5)	_	8 (13.3)	3 (5.0)	19 (31.7)	3 (5.0)
39-30	8 (13.3)	7 (11.7)	2 (3.3)	4 (6.7)	_	2 (3.3)
29-20	4 (6.7)	4 (6.7)	1 (1.7)	1 (1.7)	12 (20.0)	_
19-10	1 (1.7)	1 (1.7)	_	1 (1.7)	2 (3.3)	_
9-0	_	_	_	_	_	
Total	60 (100)	60 (100)	60 (100)	60 (100)	60 (100)	60 (100)

Notes: (1) N = 60.
(2) Figures in parentheses indicate percentage.
(3) Example: In distinguishing meaning for primary stress, 11 learners scored between 90% and 100%, and 9 learners between 80% and 89%, etc.

Given that all the items the subjects heard tested their perception ability on contrastively predicted problem areas of English suprasegmentals which are lacking in the learners' NL, it can reasonably said that the majority of the learners were commonly constrained by some common reason which most likely is a function of their NL background. Descriptive measures of dispersion presented in table 14 across the subjects (range=39, SD= 8.4), however, indicates there is a room of variability among the subjects in their ability to perceive English suprasegmentals included in the test. Such heterogeneity among the subjects can be explained in terms of the notion of interlanguage factors probably functioning to cause variability among the learners on their progress of L2 acquisition (Jenkins, 2000). The scope limits this study to account for which factors were responsible. To address learners' pronunciation from such wider perspective and to develop comprehensive understanding, interlingual factors such as learners' motivation, amount of exposure and contacts with native speakers, focus of

classroom instruction, attitudes and personal commitment, etc. should be examined in future researches.

By far the highest error scores the subjects obtained was for section 1, marking weak forms in unstressed syllables, which received 74.7% incorrect score (table 14). The subjects scored relatively lower error scores for the other three sections: section 4 (identifying intonation, 68.9%), section 3 (distinguishing meaning based on nuclear stress, 66.9%), and section 2 (identifying prominent word corresponding to nuclear stress, 59.4%). Section 5, distinguishing the meaning of a sentence based on its intonation received the lowest error score (47.9%) relative to the rest of the tasks.

Table 14: Descriptive statistics for error scores on each task and total scores

	Weak forms (transcribe)	Primary stress (identify)	Primary stress (meaning)	Intonation (identify)	Intonation (meaning)	Total score
N	60	60	60	60	60	60
No. items	41	8	11	12	7	79
Sum	1838	285	442	496	201	3262
percentage	74.7	59.4	66.9	68.9	47.9	68.8
Mean	30.6	4.8	7.4	8.2	3.3	54.4
SD	6.5	1.5	2.1	2.5	1.1	8.4
Range	29	7	11	10	5	39
Minimum	11	1	0	2	1	29
Maximum	40	8	11	12	6	68

The total error scores the subjects obtained for each tasks, as presented in table 14 above, shows a wide range of difficulty, ranging from 47.9% to 74.7% with mean 68.8%. To see if the differences of scores for the perception tasks were significant and thus assume the different level of difficulty was 'real', the t_r-test for all pairs was computed (Diamantopoulos and Schlegelmilch, 2000). In other words, paired comparisons of perception scores were applied (taking two at a time) for weak forms, stress (identify), stress (meaning), intonation (identify) and intonation (meaning). Depending upon the results if particular pairs were found to differ or otherwise, we would draw conclusions concerning the existence and nature of differences between the perception error scores, and thus the difficulty level. The summary of t-test results presented below in table 15 shows that there were significant differences in the scores for all possible pairs at 95% significance level. This confirms that weak forms (M=30.6, SD= 6.5) caused the greatest difficulty followed by identification of intonation patterns (M=8.2, SD= 2.5) and

distinguishing primary stress meaning (M=7.4, SD= 2.1); while identification of primary stress (M=4.8, SD= 1.5) and distinguishing meanings of intonation (M=3.3, SD=1.1) were relatively easier.

Table 15: Paired sample t-tests of the subjects' performance on different tasks on suprasegmentals

	sub tests	Mean	Std. Deviation	t	df	sig. (2-tailed)
Pair 1	weak forms	30.6333	6.58444	29.560	59	.000
	primary stress (identify)	4.7500	1.52521			
Pair 2	weak forms	30.6333	6.58444	28.425	59	.000
	primary stress (meaning)	7.3667	2.09896			
Pair 3	weak forms	30.6333	6.58444	24.937	59	.000
	intonation (identify)	8.2667	2.50333			
Pair 4	weak forms	30.6333	6.58444	32.439	59	.000
	intonation (meaning)	3.3500	1.11728			
Pair 5	primary stress (identify)	4.7500	1.52521	-10.222	59	.000
	intonation (identify)	8.2667	2.50333			
Pair 6	primary stress (identify)	4.7500	1.52521	5.770	59	.000
	intonation (meaning)	3.3500	1.11728			

What accounts for this variation in the scores between the tasks and thus causing different degree of difficulty for the learners was probably the particular suprasegmental feature under consideration. Was it also related to the nature of the respective task for each section? Further discussion of the data on each of the tasks and the feature under focus is presented below which might answer the extent of difficulty each feature presented to the subjects and the cause of such variability.

5.1.2.1. Weak Forms (Transcribe)

This section of the study assessed the ability of the students to recognize weakening or reduction of vowels in unstressed words of sentences. As indicated in the previous section, the most difficult task for the subjects was section 1 (74.7% incorrect), transcribing sentences with unstressed words having weak or reduced vowels (table 15 above). The subjects heard 10 different sentences containing a total of 41 words (average 4) with weak forms (all are monosyllabic) and completed the transcription task having 5 'cloze-test' and 5 'write all words you hear' procedures.

Each of the subjects' written responses on the test sheet for the 41 weak items was coded as 'correct' if it corresponded to the stimuli and 'incorrect' if it did not. The data coded was tabulated separately for statistical analysis under each task type to evaluate the extent their performance varied when they were supported by context in 'close-test' procedure relative to when they were not in 'write all hear'.

For 'cloze-test' transcription task, the words the learners wrote for the missing words representing weak forms were coded for correctness. For 'write all words you hear' procedure, although the students listened to the tape and transcribed what they heard for each sentence, the analysis targeted on transcriptions corresponding to unstressed words in the sentence whose vowels received reduction or weakening process. For example, for the item "WHY should a MAN EARN MORE than a WOMAN?", though the students were asked to write all the words they heard, only those in small cases (i.e. unstressed words) were selected for the analysis and each response was coded for correct word matches and in correct word matches with the original stimuli.

In both cases, responses for target weak forms that either exactly matches the stimulus (EWM) or word substitutions having changes on grammar (e.g. did for do) or errors on spelling (e.g. wos for was; shud for should) were counted as correct. This was followed in an attempt not to penalize students for spelling and grammatical errors which are not relevant for the study. On the other hand, a response that falls either to word substitutions with similar pronunciation but semantically different (e.g. 'four' instead of 'for'; 'shade' instead of 'should'), novel word substitutions (e.g. 'theatre' for 'there are some') which have neither semantic nor pronunciation similarity, or deletions (if no word is written for the stimulus in the response sheet) was counted as error. The number of times that each weak syllable was not correctly transcribed was tabulated separately for statistical analysis.

Table 16 below presents the mean score each sentence was wrongly transcribed in relation to the number of weak syllables (words) each sentence contains. Total mean scores for each procedure shows that the learners found 'write all words you hear' (49%) more difficult to recognize weak forms than they did in the 'fill in' procedure (40%).

The reason that accounted for this variation between the two tasks can be explained in relation to the nature of the tasks themselves. In the first case, the learners found recognizing weak syllables moderately difficult because they were only required to spot missing weak form words. In the second case, however, to recognize weak form words became more difficult as they were required to write the whole utterance, thus the load to process information increased. In both cases, however, unstressed word items the subjects heard were mostly deleted or substituted perhaps due to relatively short and fast speech attributed to them in the stimuli. The following table presents the stimuli presented and the extent of error scores it received.

Table 16: Transcription results of weak forms per sentence items

Items	Weak forms (no.)	Freq.	Mean (%)
1. we can WAIT for the BUS	4	126	31.5
2. HOW do the LIGHTS WORK	2	60	30
3. there are some NEW BOOKS I must READ	4	227	56.7
4. she TOOK her AUNT for a DERIVE	4	179	44.7
5. the BASKET was FOOL of THINGS to EAT	4	127	31.5
Cloze-test total	**18**	**719**	**39.9**
6. WHY should a MAN EARN MORE than a WOMAN	4	205	51.2
7. you OUGHT to HAVE your OWN CAR	3	112	37.3
8. he WANTS to COME and SEE us at HOME	5	229	45.8
9. HAVE you TAKEN them from THAT BOX	3	142	47.3
10. it is TRUE that he was LATE but his CAR has BROKEN DOWN	8	432	54
Write all total	**23**	**1120**	**48.6**
TOTAL	**41**	**1839**	**44.8/74.7%**

Note: Words written with small case are unstressed and therefore their vowels undergo weakening. The uses of small and upper cases in the sentences are deliberate.

Among the 18 weak syllables in the cloze-test procedure, the most misrecognized item was the weak syllable 'must' presented in '*There are some new books I **must** read*'. It seems that the subjects were not familiar with the word as pronounced in its weak form /məs^{t}/, and perhaps they only know it in its more general sense of "obligation" /mʌst/ (Roach, 1991: 108). As was evident in sample responses, such as *'same', 'asks', 'was', 'can', 'as', 'slight', 'since', 'at', etc.*, which all represent neither semantic nor phonetic similarity with the stimulus *'must'*, the subjects must have heard it as a different word Still many others preferred not to give any response for it. Perhaps, the deletion of /t/ at final position might have also worsened the problem.

Table 17: Total error scores per weak vowel stimuli for close-test procedure

word item	Sum	Mean	item	sum	Mean (%)
must	59	98.3	was	44	73.3
some	58	95.8	to	35	58.3
there	57	95	can	35	58.3
are	53	88.8	do	35	58.3
her	52	86.6	we	27	45.0
a	52	86.6	she	27	45.0
for (2)	97	80.3	the (3)	43	23.8
of	48	80.0			

The other most misrecognized unstressed syllables constituted *'there', 'are'* and *'some'* in the phrase *'there are some'* (which received 95.0, 88.0 and 95% error score respectively). The majority of the students wrote novel substitutions as evident in responses such as *'the news at', 'one akes', 'the sity of', 'theater', 'the summer', 'their sum'*, etc'. The reason why the subjects were in difficulty to recognize *'there are some'*, and *'must'* may be explained not for the words were unfamiliar but rather the weakening of the vowel in each to 'schwa' and the very reduction process. Perhaps, the consecutive occurrence of weak syllables at initial stage of the sentence and the very fast speech associated might have also worsened the students' confusions.

Weak syllables such as *'her'* /ə/, *'a'* /ə/, and *'for'* /fər/ in the stimulus *'she TOOK her AUNT for a DRIVE'* also received above 80% error scores representing the second largest misrecognition scores relative to the other weak form words. The majority of the students did not perceive them exactly as intended because they might be familiar to only the strong forms of these words as /hɜːʳ/, /ei/, and /fɔːʳ/. For instance, most often the students substituted *'her aunt'* with *'about', 'our land', 'around'*, etc. which might have influenced by the shortening of *'her'* into /ə/ which involves both weakening of the vowel and the deletion or obscure quality of initial consonant /h/.

Meanwhile, words such as *'to', 'can'*, and *'do'* which are changed into /tə/, /kən/ and /də/ from their most familiar strong forms /tu:/, /kæn/ and /du/ appeared in items *'we can WAIT for the BUS'* and *'HOW do the LIGHTS WORK'* were also misrecognized by more than 50% of the subjects. *'we can'* for example, was replaced by *'week', 'waken', 'wind', 'wit end', 'won win', 'wicked'* while *'for'* and *'do'* were most often deleted.

Relatively speaking, pronouns such as *'we'* /wi/ and *'she'* /ʃi/ were less difficult for the students to recognize with less than 50% error while *'the'* /ðə/ was the most correctly recognized weak form with 23% error score. These words which received relatively better performance score occurred at the initial position of the sentence and were immediately followed by stressed syllables.

The same pattern of difficulty seem to have surfaced the 'write all words' task, in which the phonological process of the utterances in the item as a whole, in addition to the specific weak vowels, seems to have compounded the learners' perception difficulty. The following table presents target word items which are pronounced in the stimuli with their weak versions, and wrong transcription scores they received.

Table 18: Performance error scores in 'write all words' task

word item	Sum	Mean	*Word item*	sum	%
has	60.00	100	*a(2)*	54.0	90.0
them	59.00	98	*your*	51.0	85.0
was	58.00	96	*from*	52.0	86.0
that	58.00	96	*is*	46.00	76
his	57.00	95	*it*	42.00	70
at	57.00	95	*should*	40.00	66
us	57.00	95	*he*	35.00	58
than	57.00	95	*to (2)*	43.0	57.5
he	56.00	95	*you(2)*	24.5	40.8
but	55.00	91			
and	54.00	90			

All of these 20 different target words contained reduced vowels for they are unstressed syllables in the respective sentences (Roach, 1993). All of them are assumed to represent the most familiar and frequently used English words and it was possible for the students to recognize these words and complete this task successfully simply by relying on the sentences they heard. However, the students could not recognize and transcribe these words above 50% accuracy, may be because the corresponding verbal cue in the stimuli was not familiar to the subjects.

Some of the weak forms such as '*than, a, and, us, at, them, that, he, was, but, and his*' received more than 90% inaccurate transcription score. There are even cases with harsher results; all 60 students, for example, marked the auxiliary verb "*has*" unrecognized in the item "*it is TRUE that he was LATE but his CAR has BROKEN DOWN*". The item being representing the longest sentence with 13 words from which only 3 (*true, late and car*) are stressed (said longer and louder); the difficulty for the students not to recognize the unstressed syllables may be explained in terms of the entire reduction process employed to pronounce the sentence.

In the attempt to closely look at if the subjects' overall performance was affected by the stimuli characteristics, the mean percentage of error scores for each sentence was compared with the number of weak forms and the length of the sentence as presented in table 19 below.

Table 19: Transcription score in terms of sentence length

Sentence stimuli	Length (no. of words)	weak (freq.)	% error
1. WHY should a MAN EARN MORE than a WOMAN (66.6) (86.6) (95.0) (93.3)	9	4	85.4
2. you OUGHT to HAVE your OWN CAR (30.0) (71.6) (85.0)	7	3	62.2
3. he WANTS to COME and SEE us at HOME 58.3 43.3 90.0 95.0 95. 0	9	5	76.3
4. HAVE you TAKEN them from THAT BOX 51.6 98.3 86.6	7	3	78.8
5. it is TRUE that he was LATE but his CAR has BROKEN DOWN (70.0) (76.6) (96.6) (93.3) (96.6) (91.6) (95.0) (100)	13	8	89.9

Correlation tests between total mean percentage error scores with length of sentences (r= .738) and number of weak syllables (r= .616) shows that there was a positive relationships between sentence characteristics and performance scores. As such, sentence length and number of weak syllables seem to be contributing for the students' poor performance in recognizing words with reduction process in the pronunciation of the sentences they heard. In fact, other processes such as rhythm and intonation patterns which are also greatly linked with the reduction process in unstressed syllables of the sentences might have also compounded the problem. It can be fair to say that the transcription of sentences constituting weak syllables show significant problem up on the students to recognize and perceive as said by native English speakers.

All the target words (weak forms) which the subjects heard have both a strong and weak forms and they generally belong to a category called 'function words' as opposed to 'grammatical words' the difference being that the former do not have a dictionary meaning in the way that nouns, verbs, adjectives and adverbs have (Roach, 1991). In an attempt to see the level of difficulty in terms of categories of function words, target weak forms were grouped under different grammatical categories and ranked in terms of misrecognition percentage scores they received. Table 20 below shows that the subjects' wrong word transcriptions varied as function of the grammatical category of the target word. The mean percentage error scores show that determiners, conjunctions and verb to be included in the stimuli were less easily recognized by the subjects than were the others.

Table 20: Rank of unstressed words misrecognition per grammatical categories

Grammatical category	No. of weak forms	Mean error scores
determiner	3	57.6
conjunctions	2	54.5
be	4	50.2
auxiliary	2	47.5
prepositions	9	46.1
modals	3	44.6
pronouns	12	42.6
articles	6	33.1
total	41	44.8

In this regard, determiners (*there, some, that*), conjunctions (*but, and*), and verb to be (*is, are, was*) received the first three most misrecognition scores while auxiliary verbs (*do, has*), prepositions (*to, for, of, from, at*) and modal verbs (*can, must, should*) occupied the second most misrecognized weak forms. In this study, pronouns (*you, we, she, you, your, her, them, his, us, he*) and articles (*a, the*) relatively received better recognition scores.

To recapitulate the perception test on English weak form, the test result showed if Amharic speaking subjects had any difficulty in perceiving certain well-known English words that can be pronounced in two different ways, which are called strong forms and weak forms. Roach (1993) and Brown (1977) are concerned with the difficulty foreign learners might have in perceiving and making meaning out of unstressed syllables which are comparatively obscure relative to the stressed syllables which are louder, longer, more prominent in pitch and very precisely articulated. Likewise, the data in this test demonstrates unstressed syllables are a very difficult thing to recognize for the native Amharic speaker subjects. The difficulties can be said to arise from a number of reasons. One may be the transfer of Amharic in which each syllable is pronounced with the same amount of stress as all the other syllables and the pattern in English speakers to pronounce unstressed syllables quickly and obscurely with less force, shorter length and lower pitch might be still alien to most of the subjects.

Unless the learners have established awareness and exposure to this stress pattern of English, the difficulty in recognizing unstressed words in the native speakers' text they heard is quite inevitable. It is evident that the majority of the university level students who participated in this data set do not have awareness or exposure for the use of weak forms in listening to spoken English. The writer strongly believes that the difficulty most often noticed in understanding native English speech in media, lectures

and personal contacts probably arise from lack of awareness and exposure for the use of unstressed syllables and their typical pronunciation in English.

Roach (1993) and Brown (1977) suggest it is very important to learn how weak forms are used since practically all native speakers of English use them. To use Brown's description, native speakers instinctively relied on this pattern and adequate awareness and familiarity is absolutely essential if foreign learners are to understand them. The acute difficulty we observed in the data earlier from the learners sits in contradiction with 'the decisive, natural, all time use of stressed vs. unstressed patterns in English pronunciation. Though the data in this study did not concern itself with is effect on the learners' communication, it is not difficult to guess that lack of familiarity with reduction processes in English pronunciation would limit understanding of spoken English, particularly with native speakers. Thus, for improved overall listening comprehension of spoken English in the wider context, it is essential to expose and make our learners aware of different ways of English pronunciation for stressed and unstressed syllables or words and to help them work out the structure of the message and understand speakers who do use weak forms.

5.1.2.2. Intonation (Identify)

This task particularly required the subjects to identify the direction of intonation in English utterances and mark to which direction (rising or falling) each item glides. As the study seeks for data on perceptual difficulty towards English intonation, it was hoped that this particular task would provide essential information regarding the students' ability to identify and perceive the contrast between rising and falling intonation. The students listened to 12 sentences constituting 6 pairs each contrasting with one another only in intonation (rising or falling). The items were randomly reshuffled for their intonation in order to prevent the students' performance from bias. For example, the first pair (item 1 and 2) presents falling and then rising while the second one presents vice-versa. Thus, the students had to apply their perceptual ability to correctly identify the intonation pattern for each item.

In the test sheet, the students had been informed that each pair constituted similar sentences with mere contrast of intonation each having either falling (F) or rising (R) (Appendix A.2.2). The students therefore had to mark either 'F' or 'R' for each sentence they heard. It can be said that they should easily perform the task at least for the second repeated sentences of the pairs which could probably be discriminated in reference to the first. The total scores the learners received for this task, however,

shows that the majority of the subjects failed to identify the correct intonation pattern for the sentences they heard and thus identifying one of the two directions of intonations was not an easy task for most of the subjects. The following table reports the distribution of total errors to each stimulus they heard.

Table 21: Total intonation (identify) error distribution per item

No	Sentence stimuli	Intonation (identify)	
		Fr.	%
1	↘What is your name?	37	61.7
2	↗What is your name	37	61.7
3	↗What color is your car?	39	65.0
4	↘What color is your car	44	73.4
5	↘You're French, aren't you?	48	80.0
6	↗You're French, aren't you?	47	78.3
7	↘Where do you live?	36	60.0
8	↗Where do you live?	39	65.0
9	↗What time does your train leave?	40	66.7
10	↘What time does your train leave?	42	70.0
11	↘Why don't you come to my party?	43	71.7
12	↗Why don't you come to my party?	44	73.3

Total percentage error scores for each of the twelve items, as presented in table 21, reveals that all the sentences the subjects heard were not properly identified for their intonation with total misidentification score of 68.8%. In other words, rising intonations were most often wrongly perceived by the students as falling, and vice versa. Descriptive measures (M= 8.2, SD= 2.1) show that there is moderate homogeneity among the sixty subjects in their performance indicating that the task generally presented considerable problem for all the subjects.

All the items the students heard are approximately equal in length (with average number of words, 7) and grammatically similar as well with all having simple sentence construction in the form of 'WH-questions'. Only one pair, item 3 and 4, "*You're French, aren't you?*", representing tag question was grammatically different from the rest of the items. These items received the largest intonation misidentification score with 80% and 78% of error scores respectively.

The literature on English intonation puts forward that the function of pitch direction in English is often associated with conveying attitude of the speaker which is sometimes referred to as the discourse function of intonation (Kelly, 2000; Roach, 1993; Radford, et al. 2009). As can be inferred from the data of this study, the majority of the Amharic speaking subjects found difficult to distinguish rising pitch

from falling or vice versa. In fact the learners' native language Amharic does apply intonation for grammatical purpose, for example, to distinguish questions from statements (Alemayehu, 1987). Therefore, from the point of view of NL language transfer, it can be said that the learners have some knowledge of rising and falling pitch movement and hence should identify it in English utterances they heard. The data, however, shows the opposite. This contradiction can be explained in relation to the literature in that the wider range of pitch movement in English (O'Connor, 1980; Roach, 1993) than used in Amharic might have caused the confusion to some extent. This finding reveals that because a pronunciation feature is shared by the NL does not mean that learners will not have problems with it in English. According to Jenkins (2000), and Brown (1977), foreign learners might face acute problems not only from novel aspects of English pronunciation but also from those features which are shared by the NL. This indicates that in the teaching of pronunciation to the Amharic speaking learners, due attention should be given to make them familiar with rising and falling intonations in English speech. Those features of English pronunciation which are also found in the NL but more functional in English should also be dealt (Dalton and Seidlhofer, 1994).

5.1.2.3. Primary Stress (Distinguish Meaning)

This section of the test assessed the ability of the subjects to distinguish meaning among a set of sentences which are contrasted only with prominence by nuclear stress (primary sentence stress). Three sets of constituting 3 sentences each, the last one having 5, that makes up a total of 11 utterances ranging in length from 7 to 9 words appeared on the answer sheet (Appendix A.2.2). In each set, there were groups of sentences that were exactly the same except that a different word on the tape was stressed. Each sentence was followed by options for possible meaning for the students to mark one. After listening to the tape, the students selected one of the options, by circling or underlining, which best fit the stimuli with the target stress pattern.

The result shows that stress (meaning) was the third least achieved tasks for the students with more than 66% of the students receiving error scores (table 22). It is assumed that nuclear stress violates the phonological rule in Amharic that does not allow sentence stress patterns and thus the students might transfer NL stress patterns which might have constrained their perceptual ability to successfully perform the tasks.

Table 22: Distribution of error score for distinguishing meaning of sentence primary stress

Item	Length (no. of words)	Sentence stimuli	Freq.	%
1	7	i'd like a cup of herbal **TEA**	22	36.6
2	7	i'd like a cup of **HERBAL** tea	24	40
3	7	i'd like a **CUP** of herbal tea	60	100
4	8	he lives in the house on the **CORNER**	28	46.7
5	9	**NO**, he lives in the **HOUSE** on the corner	34	56.7
6	9	he already **LIVES** in the house on the corner	35	58.3
7	8	**I'**LL walk with you to the station	56	93.3
8	8	i'll **WALK** with you to the station	55	91.7
9	8	i'll walk with **YOU** to the station	56	93.3
10	9	i'll walk with you **TO** the station	54	90.0
11		i'll walk with you to the **STAtion**	57	95.0
		sum	**442.00**	**66.9**

Note: words in bold font represent prominent ones.Sentence initial capitals are left out deliberately.

It is assumed that the students had to employ their perceptual ability to distinguish the respective meaning of sentences corresponding to shift of nuclear stress minimally contrasting words receiving prominence. The distribution of error scores across the 11 test items shows, however, a wide range of difficulty ranging from 100% to 36.0% inaccurate responses. The most difficult item (which received 100% inaccuracy) was identifying the meaning of the sentence *"I would like a **cup** of herbal tea"* where ***'cup'*** received prominence as opposed to the preceding items in which prominence shifted to ***'tea'*** (36.6% inaccurate) and ***'herbal'*** (40% inaccurate) respectively. This means that the latter items (items 1 and 2 in table 22) representing exactly the same sentence but with a different sentence focus was moderately difficult relative to the former. Why this variation occurred between these items is unclear. A closer look at the other sets of the test items presents a more complex picture. The item *"he lives in the house on the corner",* shifting its prominence on words ***'lives'***, ***'house'*** and ***'corner',*** shows relatively better and parallel performance scores for the subjects received slightly less error score for distinguishing meaning when prominence shifted to the last word ***corner*** (46.7%) than they did for ***'lives'*** and ***'house'*** at medial positions (56.7% and 58.3% inaccurate). It looks as if students performed better in distinguishing the meaning of primary stress when prominence is on the last words of the sentence. However, the results for the third set *"I'll walk with you to the **station**"* presents a contradicting picture with 95% error score when prominence is on the last word ***'station'***.

This variation seems to be related to the grammatical category and the number of prominent words contrasted in the sentences. While the first two sets of sentences had 3 nouns each receiving

prominence, the third set of items presented 5 prominent words with a wider grammatical category including pronoun (I), verb (walk), object (you) and noun (station). As presented in table 23 above, the mean scores of the 3 sets of items yielded that the third one *"I'll walk with you to the station",* with 5 sentences each shifting focus words on 5 positions, received the largest mean error score (58.9%) in contrast to the other 2 with smaller number of prominence shift and target word category (32%).

The test on the use of English contrastive stress patterns resulting in meaning changes in sentences corresponding to the prominent word provided crucial data for diagnosing learners' ability and difficulties in terms of perceiving sentence stress contrasts and understanding the meaning conveyed. However, it is not clear from the results if the students were actually responding to the physical clue of English prominence (vowel length, intensity and pitch) and considering how such changes on certain syllables or words in a sentence affected meaning. What can be said, though, is that the students as a group performed better for some items than others and that the majority of the students had difficulty with the task as a whole.

5.1.2.4. Primary Stress (Identify)

This session assessed the ability of the subjects to identify the focus (primary stress) of a sentence. A set of 10 sentences utterances ranging in length from 7 to 9 words appeared on the answer sheet. After listening to each utterance, students were told to underline the word they recognized as received special prominence or focus while spoken in the audio stimuli. Table 4 and 5 presented earlier show the distribution of total scores on primary stress identification; the majority of students (35 or 58.3%) scored between 89-60% of misidentifications while very few students scored the two extreme results either to the highest error score (100-90%) or to the lowest (10-10%) point with range (88%). Though its total error score (59.4%, SD=1.5) for the group as a whole is not an inspiring result for university students, it can be said that the students found the stress identification task relatively less difficult as compared to unstressed word recognition (75%), intonation identification (69%), and nuclear stress meaning discrimination (67%) tasks.

Table 23 below presents the total number of times the students failed to identify the words which received prominence as presented in the stimuli. The misidentification in subject scores shows variability of performance across the items in the stimuli.

Table 23: Distribution of nuclear stress misidentification per items

item	Sentence length(words)	Sentence stimuli	Fr.	%
1	8	he lives in the house on the **CORNER**	36	60.0
2	9	**NO**, he lives in the **HOUSE** on the corner	31	51.7
3	9	he already **LIVES** in the house on the corner	40	66.7
4	7	**I'LL** walk with you to the station	50	83.3
5	7	i'll **WALK** with you to the station	21	35.0
6	7	i'll walk with **YOU** to the station	35	58.3
7	7	i'll walk with you **TO** the station	38	63.3
8	7	i'll walk with you to the **STAtion**	34	56.6
		sum	285.00	59.4

Notes: (1) N = 60. (2) Item 2 consisted of two words receiving prominence. (3) Some students marked the focus in both words and some only in one. Both cases are considered as correct. (4) Sentence initial capital is left out deliberately.

The number of times that the students failed to identify nuclear stress in each item ranged from 35% to 83% with mean 60%. This result shows that this task was difficult for the group as a whole to mark the shift of primary stress. It is, however, unclear what accounts for the variation of performance scores across the items. Given that all the items including item no. 4 and item no. 5, which represent the highest and the lowest error scores respectively, are alike in length (number of words), we can say that length did not affect the result. Other consideration was also made with reference to the grammatical structure of the items. Given that most of the sentences have similar grammatical structures (table 24), the only difference being the words receiving the contrasting primary stress, the variation of scores between items still seems difficult to explain. Regarding the position of the target word in the sentence, for instance, item no. 4 (*'I'll walk with you to the station'*) and item no.2 (*'No, he lives in the house on the corner'*, both having nuclear stress on the first words '***I***' and '***No***' respectively, showed extreme variation (83% vs. 51%). Thus, there is no any clear pattern that could indicate position where target words occur had any effect on the subjects' poor performance.

Perhaps, the weak point in the students' ability seems to be linked with the lack of 'contrastive stress pattern' in their native language Amharic. The tendency in Amharic to say both English stressed and unstressed syllable with equally higher pitch might have limited the subjects' ability to identify the words which receive prominence through contrastive stress patterns. Unless the learners had been made familiar with this pattern of spoken English, it is not surprising to see confusions they exhibited in the test to select any word in the stimuli as stressed. For example, for the sentence *'he lives in the house on the corner'*, many respondents marked ***'in'*** and ***'the'*** which rather received weak forms in the stimuli.

Given that Amharic and English sentence stress systems are so different from each other, we would expect considerable difficulty with stress identification task. This would particularly be relatable because the task relied on both the learners' ability to recognize words which are said louder, longer and with higher pitch and to contrast it with the rest of the words in the utterance. As mentioned above, the learners completed this task by reading written scripts of sentences simultaneously while listening to the tape. The result of the task suggests that the majority of the subjects were hardly capable of identifying nuclear stress pattern in the given sentences. Nevertheless, there is no indication to what extent the subjects were sensitive, if they were at all, to the phonological signals such as pitch changes or vowel length and used them as a clue to their responses.

5.1.2.5. Intonation (Distinguish Meaning)

The intonation (meaning) task evaluated the ability of the subjects in perceiving meaning changes between two sentences that were contrasted with the direction of the pitch employed. The subjects heard seven pairs of sentences and decided if each pair was the same or different in meaning (Appendix A.2.2 and C). In other words, these particular tasks only tested if the students could perceive English intonation and were aware of their distinctive functions in meaning. What exactly did the students comprehend was not the focus because it would be too much to ask understanding of intonation in the absence of the necessary discourse. For this reason, the analysis only focused on whether or not the students felt different impression for contrasting intonation patterns particularly between rising and falling intonation. In their responses, the subjects marked 'S' for 'similar' or 'D' for 'different' corresponding to their perceptions to sentence pairs minimally contrasting rising and falling intonations.

The total mean incorrect score the subjects received as a group was 47.9% (SD = 1.1) ranging from 90% to 17%. The result shows the task was the least difficult for the students as compared to the other tasks on suprasegmentals for which the subjects scored more error scores. Yet the 48% total error score on this particular performance was not still inspiring for university student subjects.

The distribution of scores each pair received is presented in table 24 below. The total performance score on this section shows that for nearly half (47.9%) of the total responses by the subjects incorrectly marked minimally contrasted sentences between rising and falling intonation as having no meaning differences.

Table 24: Distribution of intonation (meaning) error score per item

No.	Sentence pair stimuli	Freq.	Perc.
1	↘ What is your name? ↗ What is your name?	10	16.7
2.	↗ What color is your car? ↘ What color is your car?	19	31.7
3.	↘ You're French, aren't you? ↗ You're French, aren't you?	27	45
4.	↘ Where do you live? ↗ Where do you live?	14	23.3
5.	↗ What time does your train leave? ↘ What time does your train leave?	43	71.7
6. 7.	↘ Why don't you come to my party? ↗ Why don't you come to my party?	54(18, NA) 49(21, NA)	90(30, NA) 83(35, NA)

For example, 17% of the students perceived "*What is your name*?" as having the same impression no matter spoken by rising or falling intonation. Similarly, the item '*what color is your car?*' which the subjects heard two times with a rising and a falling intonation was perceived as both having the same meaning by 31% of the responses. Larger error scores (45%) was found for falling and rising intonation contrasts in the item '*You are French, aren't you?*' as having no function in meaning.

The total and individual error scores show that the subjects most often found rising and falling intonation patterns in the stimuli functional in making utterances different in meaning. An additional item was included in the test as a way of cross-checking if the subjects could really make meaning out target intonation contrasts rather than selecting one of the two options given. The last pair of stimuli '↘*Why don't you come to my party?*' Vs. '↗*Why don't you come to my party?*' required the subjects to write their own impressions or understanding of the sentences with respect to the particular intonation pattern. This task demonstrated the subjects' difficulty to actually make meaning out of the contrast as 87% of their responses failing to provide any sensible response.

As indicated earlier, the result generally shows that the subjects of this study found to distinguish intonation as a factor to meaning difference relatively easier than they did to identify the correct direction of intonation. Why the students scored better in distinguishing meaning than identifying its glide might be explained in the nature of the task rather than the ability of the students to comprehend English intonation contrasts. Firstly, in the intonation (meaning) task, the same items which had been presented previously for intonation identification was used again; and listening to the items for the

second time might have contributed to the students' relative success. Secondly, in the very task of choosing one of the two options in marking whether or not the items are different (D) or similar (S) in meaning, the students might have found relatively easier to label each pair with one of the options. Besides, a significant increase of error score found on the last pair which required particular understanding confirms that the subjects' relatively better achievement in recognizing meaning differences does not mean that they would actually make meaning out of it. It must be noted, however, that it may be difficult to explain the issue with precision with such small number of items. It seems therefore desirable to extend the study with large number of items that present intonation with different arrangements and combinations, and more systematically enquire the extent that the learners distinguish and make meaning out of intonation.

5.2. Phonemic Measures of Pronunciation

The data for pronunciation measures to be presented and discussed under this section provided a means of investigating the extent and type of phonemic problems learners experienced from NL phonological influence in their production while speaking (reading aloud) English. Additionally, since native listeners transcribed the full set of intelligibility stimulus taken from the subjects in a single transcription session (to be presented after this section), these pronunciation judgment data was also used in relation with intelligibility data to investigate whether the listeners' transcription tasks was affected by pronunciation errors; and if such talker specific pronunciation characteristics was related to the extent that intelligibility judgments improved or otherwise in terms of native listeners' characteristics such as NL accent, level of exposure, and length of residence (or familiarity) in Ethiopia.

As discussed in the methodology section, the study is limited to segmental level pronunciation for pragmatic reasons and thus suprasegmentals are not presented here though some aspects included such as weak forms give some indications towards the learners' prosody in the speeches they produced. The assessment was made on 22 speech samples selected semi-randomly from 22 speakers from the final speech stimuli designed (for more details, see 'procedures of stimuli preparation' in chapter 3).

The procedure to assess the subjects' pronunciation and to obtain the final inventory of errors consisted of two different stages namely auditory analysis and evaluation of errors, in which errors meeting the following three criteria were selected: perceptually salient, frequent, and potentially hampering to communication. First of all, only errors that are perceived or heard by a listener (the researcher in this

case) as clearly deviant from Standard English – in other words, as obvious errors – should be considered (criterion 1). With respect to frequency, those errors which represented frequently committed errors in the speech samples are prioritized, holding an assumption that to address infrequent errors would have little impact on overall pronunciation performance (criterion 2). Finally, perceptually salient deviations that are unlikely to hamper communication, such as deviations that English listeners are familiar with because they are found in certain native varieties, or that the errors may simply infer the speakers' accent yet having no significant threat to intelligibility, ought not to be prioritized (criterion 3).

The first phase of the procedure, auditory analysis, consisted of phonetic transcriptions and annotations of perceptually salient errors, in line with the criterion that phonemic errors should be perceived or heard noticeably (criterion 1). First, broad phonetic transcription was made separately to transliterate the pronunciation as rendered by the subjects. For this task, each word from each speaker was played as often as necessary. Then perceptually salient deviations were marked by comparing the phonetic transcription as rendered by the subjects against Standard English pronunciation, where by phonetic mismatches between the two were selected separately for further analysis. For this task, canonical RP phonetic transcriptions provided by the original sources of the reading texts the subjects read aloud for recording (Gimson, 1975; O'Connor, 1980) served as standard reference. Besides, Cambridge Advanced Learners' Dictionary (2008) was also used as an additional reference.

The annotation was made whenever a discrepancy was noticed between the transcription of the learner's pronunciation and the canonical transcription. The marking of the errors consisted of annotating deleted, inserted and substituted segments. More specifically, the annotation of substitutions or insertions marked non-standard English phonemes or allophones different from the target phonemes. As a wide range of mispronunciations could stem from the NL Amharic, a short list of Amharic phonemes and their allophones (Taddese, 1966; Bender et al. 1976) was prepared in advance and used as a reference in a bid to transcribe non-English pronunciations and to annotate the errors as well. The general point to note here is that Amharic and English may possess similar phoneme transcribed by the same phonemic symbol, and called by the same phonemic name (e.g. /g/, /d/); however, when the subjects pronounced it saliently different - for example, as [g^w] with rounding effect or [dd] with tightening or lengthening effect in words such as 'good' [g^wʊdd] - from how it is pronounced in Standard English (RP) /gʊd/, it was transcribed using an Amharic phoneme or allophone and annotated as mispronunciation accordingly. The transcription and the annotations of errors were made

by the researcher. It must be noted, however, that phonetic transcription or even annotation is a relatively subjective task and if it happened in the present task, it could challenge the robustness of the inventory of pronunciation errors produced and thus it can be taken as a limitation of the study. In order to minimize it, however, the researcher invested as much time and effort as needed to transcribe and annotate as objectively as possible. Besides, the final transcription and annotation was checked two times. The researcher had completed the same type of task for the pilot study and the experience was valuable for the present task. The orthographic transcription of the sample speeches, the phonetic transcriptions made as rendered by the speakers, and the canonical phonetic transcription used as reference is presented in Appendix F.

The second phase consisted in an evaluation of the errors identified based on overall error frequency patterns in which the focus was on the most frequently mispronounced target phonemes (and their corresponding actual realizations as rendered by the subjects). The assumption followed with respect to frequency is that infrequent errors have little impact on overall pronunciation performance, and will, therefore, not contribute significantly to improving communication in general and to the subjects' intelligibility under evaluation in particular (criterion 2). Although each segmental sound and syllable structure does not have equal number of representations in the whole text, the frequency of mispronunciation was computed into percentage scores relative to the number of target sounds present in the original reading aloud text. Thus, a particular sound might be mispronounced more than once and the counting of mispronunciation was based on its frequency in the whole transcription. One point that should be made here is that target English phonemes included and analyzed here represented only the particular text used which had random representations of target phonemes in terms of number, phonological environment, and order. Frequently mispronounced phonemes therefore must be seen in this respect, based on the number of times it occurred in the very particular text used.

Finally, the most frequent and perceptually salient deviations were also analyzed against the third criterion with respect to the extent that those errors were also salient to hamper communication in the context of EIL (criterion 3). In line with proposed importance of non-native pronunciation errors in the literature (Gimson, 1980; Jenkins, 2000), those errors of pronunciation committed by the Amharic speaking subjects were assessed and filtered so that an error that was unlikely to hamper communication ought not to be prioritized. For instance, deviations that English listeners may be familiar with because they are found in certain well-known native English varieties; and those that were

assumed as having little impact in communication, yet only characterizing the Amharic speakers' non-native accent of English, were not included in the final inventory of pronunciation errors.

5.2.1. Total Segmental Measures

The speech stimuli (i.e. the read aloud text used for eliciting speech) contained a total of 573 phonemes comprising 222 vowels and 351 consonants which represented 39% and 61% respectively of all the phonemes produced. At first, global examination of the errors committed reveals that a total of 60% of the phonemes produced were perceived as mispronunciations with the majority (51%) constituting substitutions and deletions while small proportions of them were insertions (8%). Meanwhile, relative measures show that erroneous vowels outnumbered erroneous consonants. While vowels in the stimuli represented 39% (n = 222) of all phonemes, 73% of the vowels were deleted or substituted (n= 161), as opposed to 38% for the consonants (n= 133), which represented 61% (n= 351) of all target phonemes. Of mispronounced vowels, short vowels (47%) represented the most frequent errors followed by diphthongs (32%) while long vowels (22%) received relatively lower error score. On the other hand mispronounced consonants involved non-English realizations of consonants mostly caused by phonological environment (71%), and deletion or substitution by an English consonant different from the correct one (27%).

Following procedural definitions in previous works for non-native pronunciation errors (Derwing and Munro, 1997; Munro and Derwing, 1999), the analysis of the pronunciation of the Amharic NL speaker subjects were defined and analyzed as phonemic and phonetic errors. Phonemic errors were the deletions or insertion of a segment, or the substitution of a segment that was clearly interpretable as an English phoneme different from the correct one (e.g. /s/ for /θ/). The mean percentage phonemic errors for the subject in each utterance ranged from 22% to 57%, with mean 36% (which accounted for 60% of all segmental errors committed, n=339). Phonemic errors comprised larger proportion of vowels (59%) and moderate proportions of consonants (17%), and insertion of additional sounds (16%). Phonemic errors of vowels, for example, accounted for two phonemic changes: changes in quality (i.e. using a different English vowel for the target (e.g. /a/ for /æ/), and length (i.e. the substitution of English short vowels for long vowels and diphthongs). On the other hand, phonetic errors involved the production of a segment in such a way that the intended category could be recognized but the segment sounded noticeably different from Standard English pronunciation (e.g. [d^{w}] for /d/ in /dɒnt/). The mean

percentage phonetic errors per utterance ranged from 14% to 42% with mean 25% (which accounted for 40% of all segmental errors). The largest proportion (71%) of phonetic substitutions occurred on consonants due to the speakers preferences to use palatalized, rounded and geminated pronunciation in certain environments. Besides, substitutions of vowels such as [ay] for /aɪ/, [oy] for /ɔɪ/ and [o] for /ɒ/ were considered as phonetic changes of vowels comprising 29% of all phonetic errors. The result shows that most of the time, the errors committed by the subjects were on vowels which made up the largest proportion of phonemic errors.

Following the second and third criteria for producing the final inventory of errors for the subjects, perceptually salient mispronunciations were further screened on the basis of relative frequency and importance in communication, whereby non-frequent errors were excluded and potentially not hindering to communication were not prioritized. The following sections presents mispronounced vowels, consonants, and insertions the subjects committed frequently and the evaluation made regarding each frequent phoneme for its role in communication (criterion 3).

5.2.2. Frequently Mispronounced Vowels (MISP V)

The resultant list of frequently mispronounced phonemes included 9 vowel phonemes, representing 84% of the mispronounced vowels and 46% of all the mispronounced phonemes, and 7 consonant phonemes, representing 41% of the mispronounced consonants and 19% of all the mispronounced phonemes. Table 25 presents frequent vowel errors, and their specific corresponding realizations as rendered by the speakers.

Table 25: Frequently mispronounced vowels (MISP V) and corresponding realizations (Real) (N=161)

Target vowels	# MISP V	% MISP V	Realizations
/ə/	37	23	[á, a, ʊ, o, ɨ, ẽ, e]
/ʌ/	10	6	[á, a]
/ɒ/	11	7	[o]
/æ/	7	4	[á, a, e]
/ɔ:/	11	7	[u, o+w, or, o, a]
/i:/	9	6	[i, ɨ]
/u:/	11	7	[u, u+w]; deleted
aʊ/əʊ	12	7	[o, o+w, a+w]
/aɪ/	27	17	[a+y]
Total	**135**	**84**	

On the whole, many vowels are confused with sounds that are similar from a phonetic and phonological point of view, but differ both in quantity and quality. With respect to the specific errors identified, a number of considerations are in place. Each will be presented as follows depending on frequency of times mispronunciation occurred in their categories (i.e. short vowels, long vowels and diphthongs).

5.2.2.1. The Mid Central Vowel /ə/

To start with the simple vowels, the most frequent error of all target vowels concern the mid-central vowel schwa /ə/ which received 23% errors where the subjects consistently used strong forms instead of weak forms in unstressed syllables. The fact that weakening of pure vowels mostly occur in unstressed syllables of words, particularly in functional words such as articles, prepositions and demonstratives, and that the frequency of such words are also large in the stimulus, but with total absence in the samples' productions, seem to have contributed to such significant errors committed.

Of the erroneous realizations of this phoneme, all consist of substituting this vowel with the pure form of the vowels. Many of the unstressed vowels such as /a/, /e/, /ɪ/, /o/, /ʊ/ which should be reduced to their weak forms were incorrectly realized in their strong forms as in /zát/, /endd/, /for/, and /tʊ/ instead of [ə]. The mid-central vowel /ə/ of English has an Amharic equivalent, as in words like [bəl:a] 'he ate' and [nəgə] 'tomorrow' (Taddese, 1966), is one of the two most frequent vowels of Amharic including /ɨ/, though some linguists describe as 'it has no pure transliteration being confused with the mid-front vowels /e/ and /a/' (Bender et al. 1976). In this sense therefore, we can say that Amharic has the mid-central vowel /ə/ as in English and Amharic speakers seem to have an inherent ability to produce this vowel in its isolated sense. The subjects in the present data showed consistency to this view by pronouncing fairly correctly words like 'but' /bət/ and 'was' /wəz/; yet the vowel in these words sounded a bit longer and louder having pure vowel forms as opposed to the English schwa which 'tends to be shorter and has lower intensity' which gives it a different quality relative to other vowels (Roach, 1991:75).

Therefore, the problem the Amharic speakers witnessed in terms of the English vowel schwa was two-fold: phonetic and phonological. From phonetic view point, the subjects actually pronounced this vowel but pronouncing it equally long and loud as other vowel phonemes; and hence it did not sound relatively shorter and faster than the other vowels as pronounced in English. This phonetic variation may not be as such important in many cases. However, it was sometimes compounded by pronouncing the next silent

phoneme when it is followed by the letter 'r' at word final position as in 'cheaper' which may spoil the desired stress pattern of the whole utterance. Though noticed as such, this phonetic variation with schwa may not be as important as the one related to the phonological process of English sentence stress pattern as exhibited below.

The second and more important problem noticed in this regard was phonological in the sense that the speakers did not realize the use of this vowel as reduced form of vowels in weak (unstressed) syllables relative to stressed (strong) forms. In other words, the most prevalent substitutions on /ə/ in the sample utterances can be generally explained as the use of pure vowels such as [o] as in words 'proffessionali' /prəˈfeʃənəli/, and 'for' /fəˈr/; [u] as in words 'it would' /ɪtəd/, 'to' /tə/, 'do' /də/; [a] as in words 'afford' /əˈfɔ:d/, 'that' /ðət/, [e] as in words 'there' /ðəˈr/, etc.

Since English schwa is the sound to which full vowels can be reduced in unstressed position in English (Roach, 1991), it seems plausible to say that the subjects entire preference to use pure vowel forms, instead of reducing them to schwa, may be due to lack of vowel reduction rules in their native language Amharic. The results summarized on the subjects' inability to use vowel reduction may not be surprising because difficulty in acquiring English stress-timed pronunciation (i.e. variation in stress and in degree of vowel reduction from syllable to syllable) has been documented for learners whose native language is syllable-timed where syllables are pronounced with equal length and loudness. For instance, Trofimovich and Baker (2006) demonstrated Korean learners' difficulty in English vowel reduction as evidence for syllable-timed NL constraints in acquiring stress-timed English patterns. Nevertheless, Korean learners' production of vowel reduction was found to be affected by the amount of learners' L2 experience and exposure, as Trofimovich and Baker (2006) yielded a significant correlation between length of residence and syllable duration in L2 pronunciation of the Korean speakers.

Therefore, Amharic speaker learners' production which exhibited total lack of vowel reductions, which essentially characterizes English stress-timed prosody - stress, intonation, and rhythm - can be explained in relation to the transfer of syllable-timed rhythm of the NL Amharic, probably compounded by lack of exposure and familiarity to this particular pattern of English pronunciation. The Amharic subjects' preference to use pure vowels as a substitute for the schwa vowel, and pronounce all phonemes with equivalent length and loudness in all contexts may simply indicate that the speakers have not yet taken notice of English pronunciation for stressed and unstressed syllables. In that case, reducing vowels into schwa in unstressed or weak syllables which characterizes English stress and rhythmic patterns may be a

bottom line of interest in the pronunciation of the Amharic speakers. This problem perhaps reveals the basic characteristic of Amharic speakers' pronunciation in terms of stress and rhythm in their spoken English.

In his advice to foreign learners to pay attention to the use of schwa in English, Gimson (1980) stresses that learners should note /ə/ as a sound which occurs very frequently in English and that 'correct obscuration' of unaccented syllables of a word is a much part of English stress and rhythmic pattern. Above all, lack of vowel reductions in spoken English is likely to pose basic intelligibility problem to native speakers who are said to be very dependent on the structure of information (rhythm) in the spoken message based on the contrast of stressed and unstressed syllables (Brown, 1977; Kenworthy, 1983). Interestingly, this particular element of English pronunciation, as presented in the perception test of this study, also proved to be causing severe difficulty for the subjects to recognize the most familiar words they heard in English utterances. Therefore, from the vantage points of frequency of its errors and its function in spoken communication, vowel reduction should be prioritized in our inventory of English pronunciation problems for the subjects in this study.

5.2.2.2. The Low Back Vowel /ɒ/

Another short vowel which was found to be relatively frequently mispronounced (7%) by the Amharic speaking subjects refers to the low back vowel /ɒ/. The pronunciation of the subjects for this target vowel in words such as 'was, not, long, job, holiday' etc. involved the production of an Amharic equivalent vowel [o] as a substitute. According to Munro and Derwings' (1999) description for such mispronunciations, the intended category of this vowel could be recognized as English but it was noticed sounding different from Standard English (RP) pronunciation /ɒ/. In that case, it can be considered as a phonetic type of error.

Gimson (1980) describes RP pronunciation for /ɒ/ as it has extremely open nature resembling /a:/ as in 'part' but distinct from it with slight lip-rounding The way that this vowel was pronounced by the subjects, however, sounded strongly lip-rounded and less open as compared to that of English /ɒ/. For instance, words such as 'not', 'was', 'job' and 'long' /nɒt/, /wɒz/, /ʤɒb/ and /lɒŋ/ were pronounced by the subjects as /n^{w}ot/, /wəz/, /ʤ^{w}ob/ and /l^{w}oŋg/ respectively, with the target vowel sounding like highly rounded and a bit long compounded with a rounding quality of the preceding consonant.

The tendency of the speakers not to provide the target English 'highly open' and 'slightly-rounded' quality in their pronunciation may be explained in relation to the equivalent NL Amharic vowel /o/ which rather has a 'mid-open' and 'strongly-rounded' quality (Taddese, 1966), and thus the learners probably transferred the Amharic vowel quality to their English. Such vowels like the Amharic /o/ and English /ɒ/ are often referred to by researchers as having 'perceived similarity' and as more difficult to learn than those which are totally absent in the learners NL (Flege et al. 1997; Jenkins, 2000). The learners' confusions with /o/ and /ɒ/ in this study is consistent with the notion of 'perceived similarity' suggesting that it is unlikely for new phonetic categories to be established for L2 vowels that are highly similar to a vowel in the native language (Brown, 1997). In that case, learning to pronounce English /ɒ/ for the Amharic speakers may not be easily achieved and may represent typical English accent characteristic for them.

The realization of /ɒ/ by native English speakers is well described by Gimson (1980) as having some variation even in Standard English accents. For instance, unlike in RP which invariably use /ɒ/, in GA the vowel may be used alternatively with [a], [a:], and /ɔ:/. From this point of view, the Amharic speaking subjects' realization of the highly-open back /ɒ/ as mid-open /o/, most often with the lengthening effect, might not totally sound strange to native English speakers, and thus might not harm communication significantly. For this reason, considering this vowel as an important problem might benefit the learners for improved pronunciation because it represented one of the frequent errors in the data; nevertheless, this problem does not fulfill criterion-3 (errors should be potentially hampering to communication) as it has similar realization in the inner circle variety, and thus should not be included in the final inventory of high priority pronunciation problems for the subjects. It may be approached optionally for accent reduction.

5.2.2.3. The Low Front Vowel /æ/ and the Mid Back Vowel /ʌ/

The other frequently occurring mispronounced vowel in the speeches of the Amharic speaking subjects, whose own language has a less complex vowel system than English, lies in the establishment of the vowel quality oppositions between /æ/ and /ʌ/ with /a/ or /a:/. Perhaps because Amharic only has one (central) vowel /a/ in the open region (i.e. low vowels), the learners realized the low front vowel /æ/ and the mid-back /ʌ/ as the typical low central /a/ vowel. For example, the subjects commonly used /a/ instead of /æ/ in pronouncing [hȧnds], [haviŋg] and [garaʤɨs] for the word 'hands', 'having' and 'garages' respectively. Similarly, substitutions of /a/ or /a:/ for /ʌ/ was common as in the pronunciations

of [ma:tʃ], [kam] and [inaf] for the words 'much', 'come', and 'enough'. The problem the subjects exhibited in the present study is partly consistent with previous contrastive study (Taddese, 1966) who predicted /e/ as a substitute for /æ/; the difference being that the subjects' actual productions in this data witnessed /a/ as more frequently used substitute for /æ/ than /e/.

Gimson (1980:112) notes that the vowels/æ/ and /ʌ/ have noticeable varieties among native English speakers themselves alternatively using central vowels [a], [ʌ] and [a:] having no distinction with front /æ/ and back /ʌ/. For instance, /æ/ in the word 'cat' may be pronounced as in the vowel in 'cut' with /ʌ/; while /æ/ in the word 'cam' may be pronounced alternatively with /a:/ as in 'calm'. The fact that native speakers themselves experience such variety makes the realization of the English /æ/ and /ʌ/ by the Amharic speaking learners as /a/ or /a:/ not strange to native listeners and even tolerable and perhaps not harmful for communication. For this reason, this particular tendency may not be an essential attribute to the final inventory of the high priority pronunciation problems for Amharic native learners. However, there might be certain cases where Amharic NL subjects may be required to maintain the proper qualitative distinctions between /ʌ/, /æ/ and their common preferences for them as /a/ or /a:/: match, much, march; ban, bun, barn; hat, hut, hurt. Therefore, it may benefit learners to scale down these vowels to optional level whereby they can be treated alternatively rather than totally rejecting them in our inventory.

5.2.2.4. Long Vowels

For long vowels, the subjects commonly used short vowel counterparts instead. This variation was also often accompanied by the insertion of /w/ and pronouncing the silent phoneme /r/ corresponding to orthography which often follows long vowels. For example, in the productions of words like 'car' /ka:/, 'more' /mɔ:/, 'reading /ri:dɪŋ/, short vowel counterparts such as /a, ɒ, i / were used instead of the long vowels. Among the five long vowels of English, /i:/, /ɔ:/ and /u:/ were frequently (19%) mispronounced phonemes by the subjects.

For all the word items in which /i:/ occurs, the use of the short English vowel /i/ was common. For instance, in the pronunciation of words such as 'me' /mi:/, 'been' /bi:n/ and 'seem' /si:m/, the long vowel in these words was commonly replaced by a short vowel /i/. It should be noted that length or quantitative relationship between /ɪ/ and /i:/ is significantly functional in English distinguishing many words such as 'bead' /bi:d/ and 'bid' /bɪd/ and this distinction should be learnt by the foreign learners

for improved intelligibility (Gimson, 1980). Perhaps another evidence that voice the importance of learning to distinguish, among others, between /ɪ/ and /i:/ for foreign learners was presented in fairly straight forward humorous documentary of the BBC entitled 'Mind Your Language', as, for example, in one of its episodes, a native English speaker misunderstood the job of a Greek speaker because of similar pronunciation for the vowel in 'sheep'/ʃi:p/ and 'ship' /ʃɪp/.

For /ɔ:/, the same pattern of using a short vowel /o/ was identified but this time the substitute was often accompanied by the insertion of the semi-vowel consonant /w/, either before or after /o/, and post-vocalic /r/. For instance, the subjects pronounced /towt/ and /sow/ for 'thought' /θɔ:t/ and 'saw' /sɔ:/ respectively inserting /w/ after /o/. Likewise, the insertion can occur before the target vowel as in /mʷorr/ for 'more' /mɔːʳ/ where silent post vocalic /r/ was also inserted after it. This shows that the pronunciation of long vowel /ɔ:/ not only was replaced by its Amharic short counterpart /o/ but also semi-vowel consonant /w/ and /r/ accompanied it.

For the other long vowel /u:/, the same tendency of using short vowel counterpart was observed as in pronouncing 'school' as /ɨskul/ for /sku:l/. However, more frequently identified problem of the subjects for /u:/ was deletion when it occurs after the semi-vowel consonant /j/ which was also accompanied by additional phonemic errors on adjacent phonemes such that items like 'new'/nju:/, 'usually'/ju:ʒʊəlɪ/, and 'few' /fju:/ were rendered as /nʸɪw/, /jʒalʸɪ/, and /fɪw/.

Such mispronunciation of long vowels may be explained in terms of the subjects' NL transfer in the sense that Amharic does not possess long vowels in its inventory (Bender et al. 1974; Taddese, 1966). The insertion of /w/, for instance, can inherently arise from one important feature of the NL phonological system in which /o/ - which was used by the subjects as a substitute for the long vowel /ɔ:/ - posses what is called 'on-glide or of-glide /w/' in some contexts so that /w/-like sound can often be heard by Amharic speakers before or after it (Bender et al. 1974:80). The subjects' pronunciation tendency for English long vowel /ɔ:/ has been consistent with this description of Amharic phonology as it was evident, for example, in the pronunciation of words such as 'afford' /əˈfɔ:d/ and 'saw' /sɔ:/ which was rendered as /afʷord/ and /sow/ respectively. On the other hand, the insertion of /r/ after long vowels, as in 'afford' in the above example, probably stems from orthography rather than phonemic reasons and the main source of this tendency may be due to the speakers' lack of awareness that post-vocalic /r/ is often silent in English.

The Amharic subjects' tendency to use short vowels instead of long ones is not surprising for other studies on FL and SL pronunciation of English have shown that temporal patterns (vowel length) is one of the characteristic pronunciation difficulty for most learners. For example, Bradlow et al. (2008) have specified native and non-native speakers exhibiting quite large ranges of performance in producing English temporal patterns suggesting that speakers' tendency to use short vowels in place of long ones does not only characterize degree of 'foreign-accent' but also affects intelligibility to native English speakers. Having met the three criteria set for selecting the most important pronunciation errors in the subjects' pronunciation must be salient, frequent and potentially hampering communication, length of vowels must be scaled up in the list of high priority pronunciation inventory for Amharic speaking learners.

5.2.2.5. Diphthongs

Of the eight English diphthongs /au/ and /ai/ were selected as frequently occurring vowel errors in this database representing 25% of all mispronounced vowel errors. The Amharic subjects often realized /əʊ/ as /o/ as in /old/ for /əʊld/, and /olso/ for /ɔ:lsəʊ/. In some other cases, the use of this vowel /o/ and /a/ was accompanied by addition of semi-vowel /w/ after /o/ as in /sow/ for /səʊ/ 'saw' and /tawn/ or /town/ for /taʊn/ 'town'. It is also common to hear a kind of rounding quality of the consonants before the substitute of this diphthong as in /fʷolk/ for /fəʊk/ 'folk', /mʷost/ for /məʊst/ 'most' and /dwont/ for / dəʊnt/ 'don't'.

The other most frequently mispronounced English diphthong was /aɪ/ in words such as 'like', 'find', 'time', which almost all the subjects realized it as /a/ followed by the insertion of the semi vowel /j/ as in /lajk/, /fajnd/, and /tajm/. While English diphthongs consist of a smooth movement, often called a glide, from the first element to the second one with the second one being said weaker and shorter than the first (Roach, 1983), the insertion of semi-consonant /j/ for the second element of /aɪ/ and pronouncing it equally as clearly and strongly as the first element made the subjects' pronunciation of the diphthongs deviant from English.

The subjects' tendency in pronouncing English diphthongs can be closely explained in three ways in terms of their classifications after the quality of the second gliding element: closing, centering, and fronting. Centering diphthongs constitute /ɪə/, /ʊə/ and /eə/ as in word items such as 'here' /hɪəʳ/, poor /pʊəʳ/ and fare /feəʳ/. For these words, the subjects preferred using the first gliding vowel as rendered

in /hir/, /pur/ and /fer/ respectively. Besides, in those cases where /r/ appeared following the diphthongs, usually at word final positions as in the examples above, the subjects pronounced it accompanying the use of short vowels instead of diphthongs.

The second case refers to fronting diphthongs constituting /aɪ/, /ɔɪ/, and /eɪ/ for which the subjects used the first gliding vowel or another Amharic or English equivalent different from the correct one which was also followed by a semi-vowel /j/. For example, word items like 'find' and 'boys' were pronounced as /fajnd/, /bojs/. Similarly, words such as 'train', 'great' and 'rail' were pronounced as [tren], [gret] and [rel] respectively substituting the target diphthong by short vowel /e/ without the second element of the glide. The last group of diphthongs refers to closing diphthongs constituting /aʊ/ and /əʊ/ for which the subjects used the first gliding vowel followed by the semi-vowel /w/ as in pronouncing word item such as 'found' /faʊnd/ as /fawɨnd/.

Diphthongs consist of a movement or glide from one vowel to another while a vowel which remains constant and does not glide is called a pure vowel (Roach, 1983:3). One of the most common pronunciation mistakes that result in a foreign accent is the production of pure vowels where a diphthong should be pronounced and making of the second glide equally strong and long as the first one (Roach, 1983). The result of the data for the Amharic subjects was partly consistent with this observation, as the Amharic speakers not only omitted the second element of the diphthong but also inserted vowel-like consonants /w/ and /j/.

English phoneticians describe stress or accentuation patterns, among other things, are also associated with 'diphthongization' in that 'most of the length and stress associated with the glide is concentrated on the first element, the second element being only lightly sounded' (Gimson, 1980:128). The subjects' preference to substitute short vowels and insert semi-vowel consonants after it for English diphthongs would not only be limited to a particular word but also transcends to stress, intonation and rhythm of the whole utterance. In other words, the total substitutions of diphthongs by other short vowels observed in the samples' productions above also suggests expected deviations in stress patterns as well. Therefore, English diphthongs, particularly those which were frequent, should be included in the final inventory of pronunciation problems for the subjects.

5.2.3. Frequently Mispronounced Consonants (MISP C)

For frequently mispronounced consonants, 7 phonemes were selected representing 43% of the mispronounced consonants and 19% of all the mispronounced phonemes. In this regard, more problematic consonants for most of the speakers as compared to all the consonants the subjects produced include /θ/, /ð/, /j/, /z/, /r/, /f/ and /d/.

Table 26: Most frequently mispronounced consonants (MISP C) and corresponding realizations

Targets	# TC MIS	% MIS C(N=133)	Realizations
/ð/	11	8	[z]
/ɵ/	4	3	[t]
/z/	9	7	[s] (devoicing)
/f/	**9**	**7**	***[f^{w}]*** *(*rounded*)*
/d/	**9**	**7**	***[dd]*** *(*lengthy*)*
/r/	**8**	**6**	***[r^{y}]*** *(*palatalized*)*
/j/	7	5	deleted
total	**55**	**43**	

As presented in table 26, except the two interdental fricative consonants, the rest of the list constituted sounds which are shared by both the NL Amharic and the target language English. The result summarized here on 'shared phonemes' constituting the largest proportion of frequent consonant errors confirms the general commentary that two languages each possessing a phoneme does not necessarily mean that these phonemes cause no problems for the learners (Brown, 1977:20).

5.2.3.1. Interdental Fricative Consonants /θ, ð/

Among those frequently mispronounced consonants by Amharic speaking subjects include the substitution of interdental fricatives by other consonant phonemes which accounted for 12% of all mispronounced consonants. In the place of all the dental fricatives /ɵ/ and /ð/, the subjects commonly substituted /t/ for /θ/ and /z/ for /ð/ as in /towt/, /tĩŋk/, /torn^{y}i/, /wiz/, /zə/, /zàt^{h}/ instead of /ɵɔ:t/, /ɵɪŋ/, /ɵɔ:nɪ/, /wɪð/, /ðə/, /ðət/ for 'thought', 'think', 'thorny', 'with', 'the', and 'that' respectively.

As indicated by many writers, these sounds are inherently difficult for all learners virtually from all NL because the majority of the world's language does not own these sounds (Gimson, 1980; Jenkins, 2000). Besides, according to Eckman's (1977) 'Markedness Differential Hypothesis' (as cited in Jenkins, 2000), both sounds are more difficult for ESL learners to acquire, for that they are 'marked phonemes',

meaning that they are not very frequent sounds in the world's languages. The reason for them being difficult for Amharic speaking subjects may be related to this hypothesis that these sounds are not found in any Ethiopian languages including the subjects NL Amharic (Taddese, 1966).

The result of this study is consistent with previous researches which have demonstrated interdental fricatives constituting the largest area of difficulty for non-native learners in the area of consonant acquisition. Egyptian speakers, for instance, replace /θ/ and /ð/ respectively with either or both of /t, s/ and /z, d/ (Moustofa, 1979), with the exception of Hindi speakers who use substitute /t̪, d̪/ from their NL inventory (Sethi et al. 2004). Brazilian learners tend to replace the consonant sound /θ/ with /s/, /t/, or /f/, and replace /ð/ with /z/, /d/, or /v/ (Schadech, 2010). The problem of dental fricatives for Ethiopian learners has also been exhibited by Italo (1988) who made it evident that Oromo learners realize /ð/ as /z/ or /s/ while /θ/ as /s/ or /t/ in their English pronunciation.

The subjects of this study showed total preference for voiceless [t] over voiceless [s] in place of /θ/, just different of what the above studies revealed, and what contrastive analysis (Taddese, 1966) for Amharic speakers would predict for /s/ as most likely substitute. Such inconsistency might be due to limited representation of the target phoneme in the text used in terms of number and phonological environment. Had /θ/ been represented in more words and further phonological environments, there might have been cases for /s/ to be used as additional substitute for the Amharic subjects.

On the other hand, both the voiceless /θ/ and the voiced /ð/ paused the same amount of difficulty for the subjects of this study which showed total preference to substitute all instances with [t] and [z] respectively. In that case, the result contradicts the most common suggestions by writers made in relation to Eckmans Markedness Hypothesis (1977) (e.g. Jenkins, 2000) that /θ/ and /ð/ are not equally difficult in the acquisition of consonants with the former voiceless phoneme pausing relatively less difficulty and easily learnt relative to the later voiced one. In this study, both these sounds were equally difficult for the subjects as a group suggesting the subjects have not yet acquired both. Perhaps, if such discrepancy really exists, it could be revealed if the performance of the subjects were compared to more advanced learners.

Interdental fricatives are known to be acquired last by native learners themselves which presupposes non-native learners' problem with these sounds is also driven by developmental factors (Gimson, 1980; Schmidt, 1987; Jenkins, 2000). In this connection, Jenkins (2000), among a number of other points,

claims the complexity of learning interdental fricatives for L2 learners due to the interaction of transfer processes with interlingual factors related to development and motor control.

Jenkins (2000) interprets the function of interlingual factors as evidence for her argument that 'no amount of teaching will result in automatic production' of interdental fricatives, and for her proposal to reject them in classroom instruction. For these reasons, Jenkins did not include them in the list of her 'lingua franca core' which constitutes sounds she assumed to be essential for the use of English as a lingua franca (Jenkins, 2000: 106). For Gimson (1980:179), however, though these sounds are rare in the world's language, learners can lessen the difficulty in pronouncing them from extensive training. He stresses that 'the difficulty of /θ, ð/ lies not so much in their articulation, which most learners can perform correctly in isolation, as in their combination with other fricatives', and suggests learners will have to spend some effort to learn how to pronounce these sounds.

Previous literature has shed light on the importance of improved pronunciation on interdental fricatives not because they are source or difficulty for the non-native speakers to pronounce but more importantly they can hinder intelligibility. In one study, Schadech (2010) verifies that the non-target pronunciation of the interdental fricative sounds by Brazilians does hinder English native speakers' comprehensibility. Therefore, it is suggested that teaching and practicing of these sounds are important in order for non-native speakers not to have communication problems (ibid). So far as Amharic speakers are concerned, it may be important, as Gimson (1980) and Schadech (2010) note, to provide interdental fricative consonant sounds of English due attention for the possible harm they would create for intelligibility. Thus, it is reasonable to propose that pronunciations of interdental fricatives are to be improved, if at all possible, and would be fair to offer them inclusion in the list the final high priority pronunciation problems for the Amharic speaking learners.

5.2.3.2. The Semi-Consonant /j/

The Amharic speaking subjects showed considerable variation on the semi-vowel consonant /j/ when it occurs before vowels long vowel /u:/ and diphthong /ʊə/ as in words 'few'/fju:/, 'new' /nju:/, 'during' /djʊərɪŋ/, etc. In their pronunciation of these words as /fɪw/, /nɪw/ and /d^{w}ʊrɪŋg/, the subjects omitted the semi-vowel /j/ and substituted the following vowels with short vowel /ɪ/ along with /w/. In the last example, we can see a preference to substitute the diphthong /ʊə/ by a short vowel /ʊ/ giving the preceding consonant a rounding quality as [d^{w}].

Some variability between subjects was observed when the target occurred at word initial position as in 'usually' /ju:ʒʊəli/ where the phoneme was correctly pronounced as in / jʒalʸɪ/, yet the long vowel /u:/ that follows /j/ was still omitted. In another case, /j/ received the omission while the vowel was changed into /ʊ/ as rendered in /ʊʒali/. It seems then that the semi-vowel /j/ represented no systematic problem by its own, which sounds consistent with what contrastive analysis would predict the semi-vowel /j/ as a cause of no problem for it belongs to the Amharic Phonology. So the problem seems contextual, as the data demonstrated that the subjects preferred to omit /j/ where it occurred adjacent to other vowels such as /u:/ and /ʊə/.

The tendency of omitting /j/ is also known to be occurring in some native English varieties particularly in RP and North American English (Trudgill and Hannah, 1982). Gimson (1980) also makes it obvious that an alternative pronunciation without /j/ exists among different varieties of native English pronunciation in which speakers may reduce /ju:/ and /jʊ/ sequences to /u:/ in many of the words. However, it is noted that the use of /ju:/ is regularly retained after plosive and nasal consonants (e.g. nju:/) in many accents while /j/ may be dropped following all consonants in some other accents (e.g. /nu:/) (Ibid: 212). In this case, therefore, the fluctuation of the Amharic speaking subjects to pronounce /j/ should cause very little impact in communication (particularly with native speakers of English), and thus this particular problem can be tolerated and its relative importance could thus be scaled down in the final inventory of pronunciation problem for the subjects.

5.2.3.3. Final Devoicing

Another important tendency in Amharic speaking subjects' pronunciation was devoicing (changing voiced sounds into voiceless) of /z/ at word final position. It is known that in English the plural marker /-s/ or /-es/ following voiced consonants or vowels are pronounced as /z/. Corresponding to the orthographic /s/ or /es/, the subjects did not consider at all to pronounce such plural nouns with final voicing as 'boys'/bɔɪz/ , 'hands' /hændz/, 'garages' /gærɑ:dʒz/, 'trains'/treɪnz/, 'fares'/feərz/, 'shelves' /ʃelvz/ and 'hours'/aʊərz/ which were rather rendered with final voiceless [s] as in [bojs], [hándɨs], [garadʒɨs], [trʸens], [fʸers], [ʃʸelvɨs] and [xaworɨs] respectively.

A closer look at the phonotactic (syllabic) structures of the items at final positions reveals that some of the words contain 'non-permissible' final consonant sequences (i.e. they don't occur in Amharic) including /-dz/, /-dʒz/, /-rz/, and /-vz/, and this might have posed a problem for the Amharic speakers as

contrastive analysis would predict (Taddese, 1966). Consistent with this prediction, the subjects inserted a vowel /ɨ/ between the consonants and changed the final voiced consonant /z/ into /s/. Yet the students also made the same errors even on words with permissible consonant clusters such as /-nz/ in /treɪnz/ and without final consonant cluster as in /bɔɪz/ which shows additional source for the problem apart from syllabic structure. It is quite reasonable therefore to assume that incorrect pronunciation of final devoicing for plural nouns is probably caused by lack of adequate and explicit training on how to pronounce plural formations, which might be linked to very low attention in classrooms to the aspect of pronunciation in vocabulary and grammar lessons (Anegagregn, 2007).

In the same token, the preference of the subjects in this study to retain orthography was also observed in final voicing of past markers /ed/ after voiceless consonant /p/ as in the pronunciation of words such as 'helped' /helpt/ rather rendered as [halpɨd] with final /d/. This demonstrates the learners' lack of awareness, or readiness to be fair, on phonologically governed pronunciation of English words and grammatical changes, which indeed needs to be given due attention in vocabulary and grammar lessons. For this reason, the learners' orthographic-dependent tendency to devoice plural markers and voice past markers in all contexts probably deserves a consideration in the final inventory of important pronunciation problems for the subjects.

5.2.3.4. Fronting and Rounding of Consonants

Virtually all subjects in this study showed a common tendency of giving some consonants a fronting and a rounding effect when pronouncing words having consonants preceding front vowels /e/ and /ɪ/, and back vowels /o/ and /ʊ/ respectively. Fronting and rounding of English consonants before front and back vowels respectively represented the most frequent feature (53%) in the pronunciation of consonants by the subjects. For instance, the subjects of this study showed a strong preference to pronounce consonants giving non-English fronting quality before /e/ and /ɪ/ as in /klʸevər/ for 'clever', /ɨspʸend/ for 'spend', /tornʸɪ/ for 'thorny', etc. From all of these instances, /rʸ/ was noticed as the most frequent as in /grʸet/ for 'great', /frʸendd/ for 'friend', /rʸidiŋg/ for 'reading', and /trʸenɨs/ for 'trains', etc.

Likewise, many of English consonants produced before /o/ and /u/ were realized as rounded before back rounded vowels /o/ and /ʊ/ with /fʷ/ representing the most frequent as in /fʷorr/ for 'for', /affʷorɨdd/ for 'afford', /nʷot/ for 'not', /tʷʊ/ for 'too', /fʷolk/ for 'folk', etc.

Such particular variability of the subjects in pronouncing English consonants might be best explained in relation to phonological transfer of Amharic consonants which are known to have fronted and backed allophones (Taddese, 1966; Bender, et al. 1976). However, it seems that these features are more wide spread in such Amharic dialects as Gojjam, Wello and Shewa than in Addis Ababa (Bender et al. 1976). Thus the frequent occurrence of this feature in the data of the present study may be attributed to the purposive sampling employed to select speakers from these three dialect areas by excluding those from Addis Ababa area. The fronting and backing of English consonants which predominantly occurred in the speech of the subjects of this study can generally be considered as a typical English pronunciation feature or accent for Amharic speakers. Further verification to demonstrate this assumption comes from anecdotal observation towards a humor people casually make by mimicking English pronunciation characterized by frequent rounding and fronting of consonants which they call it 'Amharic English' aka 'Gojjam English' or 'Wello English'.

Previous studies have shown that strong foreign accent in English takes more time for native English listeners to process information than less accented ones and thus might affect intelligibility to some extent though accentedness and intelligibility do not necessarily correlate (Munro and Derwing, 1995, 1997; 1999). General commentaries forwarded on the relationships between foreign accentedness and intelligibility has consistently suggested a hierarchy of importance between them giving foreign accentedness the least important consideration. The most proponent claims often made in this regard is that non-native speech may be highly intelligible even if the speaker has a strong foreign accent. Though it should not be interpreted as such foreign accented speech is always perfectly intelligible, equating accentedness with lack of intelligibility is indeed a hasty generalization. In that sense, Amharic speakers' tendency to front and round English consonants can contribute to the learners' foreign accent. Given accentedness assumed having no detrimental role for communication, Amharic speakers' preference to retain Amharic-influenced variation to their English pronunciation can be justified unless it affects their communication. For these reasons, it would be fair to give fronting and backing of English consonants to include in the final inventory of pronunciation problems but with relatively lower importance to be considered depending on context.

5.2.3.5. Lengthening Effect on Consonants

Another important feature noticed from the production of English consonants by the Amharic native subjects was a sort of lengthening effect. 18% of the mispronounced consonants were represented by a

noticeable use of lengthened consonants which occurred mostly on word final positions as in /kamm/ for 'come', /kkarr/ for 'car', /nott/ for 'not', /gʊdd/ for 'good' etc. In fact, this may vary from a slight lengthening as in [kk] word initially in 'car' to much more than double as in [dd] word finaly in 'good'. In some of these examples, an insertion of high front unrounded vowel /ɨ/ was noticed after it word finally perhaps to separate it from the next word as in /olddɨsaw/ 'old saw' and /ʃʸelvɨzzɨfʷorr/ 'shelves for'.

The subjects' preference to 'lengthen' or 'tighten' their consonants particularly at word final positions verifies what contrastive analysis (Taddese, 1966) would predict in that Amharic speakers may pronounce word final consonants with audible release due to the transfer from Amharic which tightens consonants word finally. However, this phonological feature in Amharic is used to distinguish meaning of words and phonologists call it 'gemination'. Though with a different function, it is noted that gemination also occurs in English at a word boundary or in the middle of a compound word as in 'seem more' (mm) (Bender et al. 1976). In that case, its presence is not strange in the English pronunciation of the Amharic speaking subjects.

However, the Amharic speaking subjects tended to frequently geminate final consonants for many of the words they produced including function words such as 'and' and 'for', which are supposed to be pronounced faster and shorter relative to stressed words or syllables in an utterance. This is realized by reducing vowels in to schwa and pronouncing adjacent consonants with quick articulation (O'Connor, 1980). The preference of the Amharic speakers to produce consonants with audible release may give the pronunciation of these words extra length and peculiar rhythm to the whole utterance. While pronouncing it normally is not a problem by itself, pronouncing the post-vocalic /r/ with such lengthening effect as in /kkarr/ may sound odd and cause negative perceptual effect for listeners, particularly speakers who do not pronounce post-vocalic /r/ in 'non-rhotic' (r-less) accents of English. Therefore, pronouncing of word final consonants with noticeable release or lengthening effect in general and that of /r/ in particular should not be tolerated in all contexts. It therefore deserves a place in the inventory so that due attention would be given to it in a bid to improve Amharic learners' overall English pronunciation particularly in terms of accent (stress) and rhythm.

5.2.4. Insertions

Thus far, we have only considered errors in terms of substitutions and deletions. However, insertions were also examined as this phenomenon may reveal a problem with specific phonemes or with a

specific phonetic context. The results for the most frequent insertions, and the contexts in which they occurred, are presented in table 27. The most frequent deviant insertion is the high central unrounded vowel /ɨ/, which appears within consonant clusters. Another frequent insertion found is that of the 'postvocalic' /r/ occurring immediately after a vowel. The insertion of the voiced and voiceless plosive /g/ and /k/ only occurs after the velar nasal /ŋ/, in syllable or word-final position, indicating a structural problem related to the velar nasal consonant. Semi-vowel /w/ was also inserted after long vowels /ɔ:/ and /u:/, which were changed to their short counterparts.

Table 27: Most frequent illegal insertions and relative context

INS	#INS	% INS(N=47)	CONTEXT
/ɨ/	15	32	before or within consonant clusters
/w/	7	15	after vowels /ɔ:/, /u:/, /aʊ/, /əʊ/
/r/	7	15	at post vocalic <r>
/g/, /k/	5	11	after/ŋ/
Total	34	72	

5.2.4.1. Insertion of High Central Vowel /ɨ/

The most frequent insertion is that of the high central vowel /ɨ/ phoneme, which appears within consonant clusters. This insertion was made at pre-consonantal word initial position as in 'spending' /spendɪŋ/ and 'school' /sku:l/ which were realized as, for instance, /ɨspʸendiŋg/ and /ɨskul/ respectively; and within consonants at word initial positions as in /pɨroffʸeʃnali/ for 'proffessionally' /prəfeʃənəlɪ/, and at word final positions as in 'helped' /helpt/, 'hands' /hændz/ and 'tackle' /tækl/ which were rendered as /xəlpɨd/, /hándɨs/ and /takkɨl/ respectively.

Many of two consonant clusters at word initial position such as /fr-/, /gr-/, /kl-/, /pr-/ in 'friend', 'great', 'clever' and 'prudent' respectively were pronounced correctly; nevertheless, the vowel /ɨ/ was inserted before the first member of the cluster in pronouncing some clusters involving /s-/ as first member such as 'spending' and 'school'. Likewise, many of word final clusters with two consonants such as /-nd/, /-nt/, /-ld/, /-lf/, /-rs/ as in 'find', 'don't', 'old', 'self', 'fares' were correctly pronounced; yet very few words involving /-ns/ and /-kl/, as in 'trains' and 'tackle' respectively, were pronounced with the insertion of the vowel /ɨ/ between the consonants. Consonant clusters with three members both at word initial and final positions as in words such as /ɪntrəst/ 'interest', /pru:dn̩t/ 'prudent', /helpt/ 'helped' and /hændz/ 'hands' were all rendered by the subjects with the insertion of /ɨ/.

On the whole then consonant clusters with two sequences (occurring both initially and finally) were found causing no significant problem for the subjects. Consonant clusters with three or more sequences, however, posed production difficulties indicating that the number of consonants in clusters affected the degree of problems. The result of the data demonstrates the characteristic tendency of Amharic speakers in their native language, 'which uses high central vowel /ɨ/ quite frequently as a helping vowel to split up clusters of consonants in a way which is deviant from English' (Bender et al. 1976).

Previous studies on other language group of Ethiopian students such as Oromo speakers reported similar pattern of inserting vowels, either front vowel /i/ or /e/ in this case, at pre-consonantal or within consonant clusters (Italo, 1988). Other researches also has documented insertion may also involve 'parogage'- addition of a vowel to the end of a word as in the case of Korean speakers (Jenkins, 2000) or Taiwanese speakers (Huang and Radant, 2009). The pronunciation assessment in this study showed a strong preference of the Amharic speakers for the addition /ɨ/ at initial position and its insertion within consonants over 'parogage'-addition of vowels after cluster. In fact, in a few words, some instance showed cases that resemble parogage though it happened between consonants in consecutive words as in [pʷurɨfʷolk] for 'poor folk'. The variation of the realizations on insertion among NL groups indicated for Oromo, Korean, or Taiwanese speakers, including the Amharic speaking learners in this study, seems to be very much related to the respective function of the native language phonology.

Influenced by their respective mother tongue, 'vowel epenthesis' is known to be one of the most common preferences of learners in order to preserve the syllabic structure of the NL. The chief source of such syllable simplification process, so is the case by the Amharic speakers, is explained in relation to a 'universal tendency' towards a simple open-syllable CV pattern of many of the world's languages (Jenkins, 2000; Tarone, 1980) against English syllabic inventory which can contain uncommon consonant clusters of up to three consonants in initial position and four in final position, the pronunciation of which requires a certain degree of articulatory effort. It is worth-noting that in addition to vowel epenthesis, previous studies has also shown learners' tendency to simplify the syllables of the non-CV English by deleting one of the members of the cluster (Jenkins, 2000). Consistent with this tendency, the Amharic speakers in this study also showed the deletion of /j/ as in words involving /j/ as second member of word initial cluster such as / fju:/ 'few' and /nju:/ 'new' which were pronounced as /fɪw/ and /nɪw/.

Vowel epenthesis in general including the insertion of the vowel /ɨ/ as in the case of Amharic speaking learners can seriously disrupt the stress pattern of a word or sentence by creating new syllables and

modifying existing ones. This, in turn, can compromise the communication flow since stress patterns play a crucial role in the listener's recognition of words (Brown, 1977; Kenworthy, 1983). Consistent to this view, Jenkins (2000) confirmed that an intelligibility problem may result from a unique deviation such as insertion within a single word or more commonly from multiple deviations among consecutive words. Consequently, /ɨ/ epenthesis of the Amharic speaking subjects should be included in our inventory of priority errors.

5.2.4.2. Insertion of the Semi-Vowel Consonant /w/

Another most frequent insertion in the Amharic speaking subjects was /w/ which accounts for 15% of all the insertions committed. /w/ was inserted at different word positions after long vowel /ɔ:/ as in 'saw' /sɔ:/ and 'thought' /θɔ:t/ which were rendered by the subjects as /sow/ and /towt/, showing a preference to change the long vowel into its short counterpart before the insertion of the semi-vowel consonant /w/. In other cases, the insertion of /w/ occurred after such vowels of rounding quality as the long vowel /u:/ and the diphthong /aʊ/ preceded by /j/ as in 'few' /fju:/, 'new'/nju:/, 'found' /faʊnd/ and 'town' /təʊn/ which was rendered as /fʸiw/, /nʸiw/, /fawnd/ and /tawn/.

In all of these instances, though the subjects were in difficulty to pronounce the long vowel /u:/ and the diphthong /əu/ with their original quality, we can see that the insertion of /w/ gave the respective simple vowel substitute /o/ approximately similar quantity or length with the target long vowel and the diphthong. Among a number other points she makes regarding the role of vowels for intelligibility, Jenkins (2000:145) notes that it is the length rather than the quality of long vowels and diphthongs that is most salient for intelligibility. In fact, the analysis of this study on short vowels previously substantiate this assumption as the subjects' preference for /a/ instead of /æ/, for instance, was taken as tolerable. If that is true, the insertion of /w/ by the Amharic speakers after back vowel /o/ to substitute long vowel /u:/ and the diphthong /aw/ provides the required length and thus the use of /o/ should not be taken as a problem by its own. It can rather be interpreted positively as a way of resolving the difficulty they might have to pronounce the corresponding long vowel and diphthong. Therefore, the insertion of /w/ can be scaled down in the inventory of pronunciation problems for the Amharic speakers and cannot be accorded high priority.

5.2.4.3. Insertion of the Alveolar Flap /r/

Pronouncing post-vocalic /r/ is another pronunciation feature that was observed as frequent preference of the Amharic speaking subjects. In that case, it accounted for 15% of the insertions made. Native speakers use post-alveolar approximant /r/ differently depending on the phoneme adjacent to it as either vocalic (as a sign of length or an off-glide of diphthongs) or consonantal forms (as retroflexed semi-consonant) (Roach, 2001). The subjects in this study showed a strong tendency to pronounce /r/ in all positions; perhaps as contrastive analysis (Taddese, 1966) would predict, the speakers might substitute retroflexed semi-vowel English /r/ as 'voiced alveolar flap'. However, this study could not detect such fine-grained phonetic characteristics because it relied on 'perceptually salient' deviations as a criterion to spot the learners' pronunciation in English. The annotation of errors in this study rather noticed all the speakers commonly pronouncing post-vocalic /r/ corresponding to orthographic <r> both at pre-consonantal position as in 'afford' and 'thorny' and pre-pausal position as in 'poor', 'here', 'for', 'car', etc. in sentences. This tendency is apparently different from how it is pronounced in standard English, e.g. RP in which /r/ is not pronounced at such 'non-prevocalic' positions (Trudgill and Hannan, 1984).

The point to make here is not that the Amharic subjects' pronunciation of /r/ may be different with that of the English one in terms of its phonetic quality; more concern rather is given to the pronunciation of /r/ while it is vocalic or silent corresponding to orthographic representation of <r>. In other words, it is the tendency of the Amharic speaking subjects to pronounce the letter <r> in post-vocalic positions that was more concern for the study. This tendency seems to be deserving due attention from the point of view that the spelling <r> in English may be taken as a sign indicating length of the preceding vowel (as in 'car' /ka:/) or the /ə/ element of the diphthong (as in 'poor' /puə/ (Gimson, 1980: 207).

One general point to make here is that this sound has different realizations in native English, too, having more phonetic variants than any other English consonants (Gimson, 1980:207). The picture is more complex as such some English accents are 'rhotic' or 'r-full' and thus actually pronounce /r/, corresponding to orthographic <r> at all positions (Trudgill and Hannan, 1984). Perhaps, for this reason, various realization of /r/ by non-native English speakers is often considered by writers of relatively lower importance to loss of intelligibility but generally as characteristics of a marked foreign accent (Gimson, 1980: 209).

While actual pronunciation of /r/ in all positions including post-vocalic /r/ may not harm communication in all cases, there is no guarantee regarding its bidirectional role during communication with those who adhere to 'non-rhotic' 'r-less' accents. Particularly, it may cause considerable problem of intelligibility if the pronunciation of non-prevocalic /r/ can be compounded with other segmental and suprasegmental errors such as lack of reduced forms of vowels in unstressed syllables. For example, it is not difficult to see that the pronunciation of functional words such as 'for'/fə/ by the Amharic speakers as /fʷorr/ may not be recognized so well by native English listeners without much adherence to context. Parallel to this view, Gimson (1980:209) advices foreign learners not to be misled by the spelling into pronouncing the letter <r> in non-prevocalic positions which is often associated with the use of vowels, stress and rhythm. Therefore, when vowels are spelt with +<r>, the learner should avoid pronouncing any kind of [r] sound, except when in final position where an /r/ is pronounced as a link to the following word beginning with a vowel (ibid).

While Amharic speaking learners should, therefore, try to abandon to imitate the typical native English retroflexed /r/, as most often heard casually in public speeches, a starting point priority for this phoneme should rather be on how to learn phonologically-governed /r/-less pronunciation. Given that English /r/ is the most variant consonant among native English accents (Gimson, 1980), learners should be made aware that what is important in learning pronunciation is not to produce retroflexed /r/ instead of contrastive origin flap /r/; yet it would be more sensible to learn when /r/ is pronounced and when it is not. To help speakers benefit from clarifying from this confusion, the deviant insertion or pronunciation of 'non-prevocalic' /r/ of the Amharic speakers should not be excluded in the final inventory of problems so that it would be integrated with other lists of problems for pedagogical priority.

5.2.4.4. Insertion of Velar Stops /k/ and /g/

Another problem in this list seems to be the insertions of /g/ and /k/, which account for 11% of all the insertions, after the pronunciation of the velar nasal /ŋ/ as in /rʸidiŋg/, /tĩŋk/, /dʷuriŋg/ and /loŋg/ instead of /ri:dɪŋ/, /ɵɪŋ/, /djʊarɪŋ/ and /lɒŋ/ for 'reading', 'think', 'during' and 'long'. Since this phoneme is represented in English orthography by the sequence <ng>, it is possible that most of these insertions originate from orthographic interference. Support for this assumption comes from the fact that this sound occurs in Amharic as an allophone of /n/ before the velar stops /g/ and /k/, and palatal affricates /ʧ/ and /ʤ/ (Taddese, 1966), rather than an independent phoneme by its own. While the

problem is considerable in terms of the strong foreign accent it gives to the Amharic speakers and can be avoided if the goal is to reduce foreign accent, it must be pointed out that this problem is not likely to cause intelligibility problem (Gimson, 1980:200) and hence it can be assigned relatively lower priority.

5.3. Speech Intelligibility Test

To measure the extent of the subjects' intelligibility and assess the perceptual consequences of pronunciation difficulties to Native English Speakers, a separate intelligibility test was designed as a third procedure of the study. The speech intelligibility data was collected from independent groups of 13 native English speakers who listened to and transcribed the full set of 40 sentences taken from 22 Native Amharic speakers selected from the general population of 60 undergraduate students at AAU (see the methodology section for details of the intelligibility stimulus preparation). The listeners were all residing in Addis Ababa at the time of the test. The sentences were presented in random order in a quiet room where the listeners heard each sentence at a comfortable listening level via a pc-based audio player over a good quality USB multimedia loud speaker. On each trial, the listeners heard the sentences and then orthographically wrote what they heard in the response sheet prepared. Each listener received a similar randomization of the 40 test sentences and completed the transcription task individually taking enough time as they needed.

The transcription task provided a means of investigating the effects of Amharic NL learners' English pronunciation on isolated sentence intelligibility as measured by native speakers' correct word transcription. Additionally, since all the native listeners as group transcribed the full set of 40 sentences by 22 Amharic NL talkers, these intelligibility data was also used to investigate whether listeners were affected by the pronunciation tendencies measured separately in the stimuli to the extent that intelligibility scores improved relative to the number and type of mispronounced phonemes in the items they heard. Moreover, this test compared transcription scores across listener groups based on such variables as age, sex, nationality, and length of residence in Ethiopia as a means of investigating if other factors of the listeners intervened for their intelligibility judgments of the Amharic NL speakers.

The complete set of all the 13 listeners' orthographic transcriptions for the 40 sample speech excerpts was coded for correct word match with the stimulus utterance transcription (Appendix H.3 presents the transcription data for each stimulus as provided by the listeners). In the data scoring, a word was counted as correct if the word denotes the same meaning with the intended word, where as incorrect

score was given if it is either deleted or substituted by a homophone having similar pronunciations but denoting different semantic category (e.g. 'whole day' for 'holiday'; 'excuse' for 'screws'), or a novel word which has neither phonetic nor semantic similarity (e.g. 'flower' for 'saw'; 'catch' for '(by) car'). In this process, however, minor modifications such as change of word order (as in 'I am not clever' instead of 'not that I am clever'), or spelling errors (as in 'garags' instead of 'garages'), regulations (e.g. 'for some long time' instead of 'for a long time'), and grammatical changes (e.g. 'screw' instead of 'screws') were considered as 'trivial' and hence considered as correct listeners' transcription. Adopting previous works such as Munro and Derwings' (1997, 99), this technique was preferred to 'the rigorous exact word match' technique to prevent both listeners and speakers from being penalized for transcription errors which are supposed to be unrelated to intelligibility.

Each of the 520 (13 listeners x 40 sentences) orthographic transcriptions was assigned a transcription score on the basis of the number of words that correctly match the corresponding transcription of the stimuli utterances. Then, for each listener's transcription, the percentage of words correctly matching the original transcription was calculated. Accordingly, overall intelligibility estimates were made for each speaker and the group as a whole based on the mean percentage of words the 13 native English listeners could transcribe correctly for each speech samples (sentences). Both listeners' transcription and over all intelligibility scores were indicated by means of percentage. Percentage was utilized rather than actual counts of words because each test sentence had a different number of words, as sentence length ranged from 4 to 15 words, with the average number of 9 words. Appendix G presents the total number of words the listeners heard and the mean correct word transcription score for each stimulus.

As can be seen in table 28 below, the majority of sentence transcriptions provided by the listeners (296 or 56.9%) received a score above 70% correct; while 68 or 13.1% of them received the lowest transcription score below 30%. On the other hand, 128 (24.6%) of the transcriptions received a score of 100% correct while 30 (5.8%) were totally incorrect receiving 0%.

Table 28: Distribution of transcription scores for the full stimulus set

Tran. Scores (%)	100 - 90	89 – 80	79 - 70	69 - 60	59 - 50	49 - 40	39 - 30	29 - 20	19 – 10	9 - 0
Freq.	156	76	64	49	63	33	11	21	15	32
% (N=520)	30.0	15.0	12.3	9.4	12.1	6.3	2.1	4.0	3.0	6.6

Taken as a whole, the intelligibility of the entire 40 utterance representing the 22 Amharic NL speakers as a group was computed based on the total number of correct word transcriptions by the 13 listeners

(i.e. 3163 words) from the total number of words they heard from the full 40 sentence stimulus set (i.e. 4446 words). At word level, therefore, each listener heard an average of 342 words from which the total number of words each listener could transcribe correctly was an average of 243 yielding the mean percentage correct transcription of 71%.

Overall intelligibility score was also computed for each of the 40 utterances by taking the mean of the 13 listeners' correct word transcription scores (Appendix G presents the number of words presented, correctly transcribed, and mean correct transcription results for each sentence stimulus). The mean intelligibility transcription score per utterance ranged from 99.0% to 12.8% with total mean score of 71.1%. Table 29 below shows the distribution of the total intelligibility scores per each sentence item revealing that the majority of the sentences the native listeners heard and transcribed (i.e. 24 or 60%) received above average (i.e. 70%) correct transcription score from which only 4 (10%) sentence items scored the highest intelligibility score above 90%. On the other hand, 16 (40%) of the sentences received below average (i.e. 70%) from which 5 (12.5%) received the least with less than 30% correct word transcription scores.

Table 29: Distribution of overall intelligibility scores across sentence items

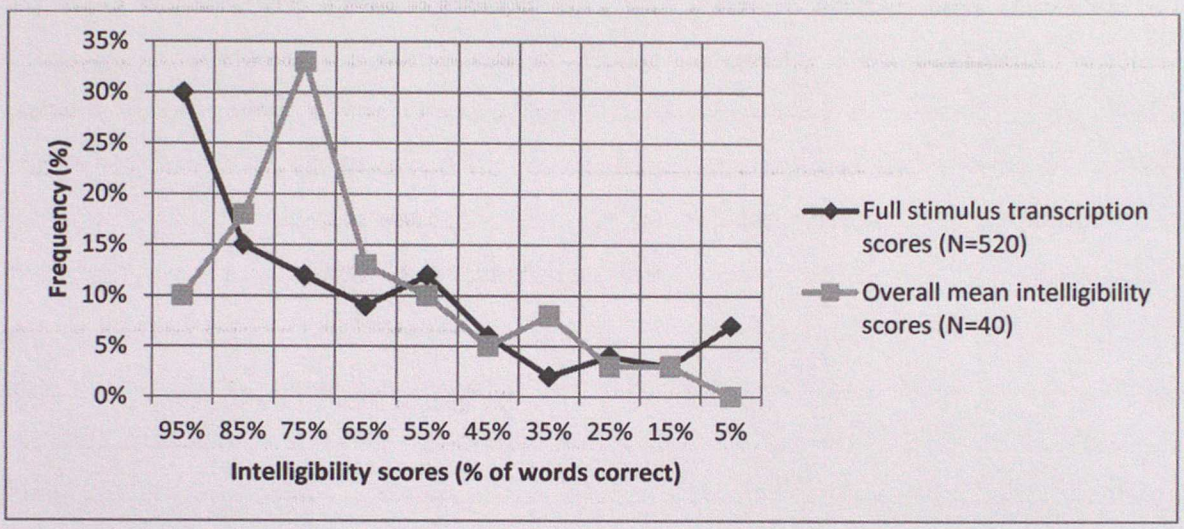
Intelly. score	**100-90**	**89 – 80**	**79 - 70**	**69 - 60**	**59 - 50**	**49 - 40**	**39 - 30**	**29 - 20**	**19-10**
Freq.	4	7	13	5	4	2	3	1	1
% (N=40)	10.0	17.5	32.5	12.5	10.0	5.0	7.5	2.5	2.5
Descriptive	**n**	**Range**	**Minimum**	**Maximum**	**Mean**	**SD**			
	40	86.2%	12.8%	99.0%	71.1%	20.3			

For university students whose sample speeches were heard by native English speakers, who reported their familiarity and frequent contact to Ethiopians speaking English, the mean intelligibility score (71.4% correct transcription) for the group as a whole is not impressive. From the full set 520 sentence transcriptions made by the 13 listeners, only 156 or 30% of them could receive above 90% correct word transcriptions. It is not difficult to assume the difficulty the native English listeners had to recognize the words for a good deal of the utterances they heard. Besides, with 16 or 40% of sentence items with mean intelligibility score below the mean 70%, it does indicate that the sentences produced by native Amharic speakers were not easily comprehensible for the listeners as a whole.

The results of the intelligibility test, as summarized in figure 3 below, indeed demonstrated that considerably large number of words in the speeches taken from university student subjects undesirably gained limited detection by native listeners. This may illustrate a problem for the speakers to get many

of their words easily recognized by speakers of English other than their fellow countrymen. Given that the native listeners, who stayed in Ethiopia more than a year on average, were all familiar to the way Ethiopians speak English, it is not difficult to imagine the severity of the intelligibility problem for our learners' spoken English if new comers with no previous experience of listening to Ethiopians speaking English had been involved. Since real life communication also involves such a situation - for example, a British or American volunteer visiting Ethiopia for the first time discussing about his/her job with the director in one of our schools - it is essential for future research to involve those native speakers who had no previous exposure to Ethiopians

Figure 3: Transcription and overall intelligibility scores for sentence stimulus



If we hold the view often surmised in most of previous studies on intelligibility such as Smith and Rafiqzad (1979), Munro and Derwing (1997), and Derwing and Munro (1999) that listeners' transcription measures (i.e. intelligibility of the speaker) presuppose the capacity to be understood or comprehended as intended by the speaker, it is felt that the degree of this capacity for the Amharic speaking subjects in this study was regrettably limited. A couple of examples from the listeners' transcriptions may suffice to show how listeners' misunderstandings for the intended meaning can be hampered; 'My friend is *so hurt*'; 'My friend also *heard it*'; 'My friend also *has it*' were some of the transcriptions given by listeners for the item no. 21 'My friend also helped'. Appendix H.3 provides interesting instances in the listeners' transcriptions that might affect listeners' level of understanding.

Spoken word and sentence recognition accuracy depends on a wide range of talker-, listener- and utterance-related characteristics, all of which can vary across communicative situations. A large body of

work on the area has provided us with important information regarding the speakers' pronunciation as a major factor (e.g. Jenkins, 2000) more than anything else. Listener-related factors have also been disclosed in the direction of improved recognition and accurate transcriptions apart from talker-utterance related characteristics (e.g. Munro and Derwing, 1999). Even though it is difficult to claim the exact source of unintelligibility and thus to answer the question fully, the next report could hopefully provide insights into some aspects of these characteristics in the transcription tasks performed in this study. In the next section, therefore, the intelligibility data are analyzed in terms of the extent to which pronunciation errors measured (consonants, vowels, epenthesis and vowel reduction or stress) in the speech of Amharic NL subjects affected their intelligibility to native speakers and which error types are likely to contribute to the transcription performance. Before that, some utterance and listener related characteristics and their respective relationships with intelligibility scores are discussed in the following sections.

5.3.1 Utterance/Talker Related Variability and Intelligibility

From the 40 utterances presented to the listeners, it was only one item, (no. 35) *'if you want to find a parking place'* with 8 words long, that all the 13 listeners could correctly transcribe with mean 100% accuracy. Likewise, item 36, *'I bought the wood at the local handicraft shop and I had plenty of screws'* was accurately transcribed by all listeners but only 2 made a couple of words incorrect (Appendix H.3). On the other hand, item 40 *'too much for poor folk like us'* and item 31 'book *shelves for a long time'* with 7 and 8 words long respectively received the least correct transcription score with 20% and 12.8% respectively. *'The rail fare is cheaper'* (item 30), was also one of the most difficult items for all the listeners. Yet, there was no item which all the listeners totally failed to transcribe. Given the difference in length between the items which received the highest and the lowest mean transcription scores (with 8 and 15 words long receiving the highest scores, and 5-7 words long with the lowest scores respectively), it can be said that length did not matter at least for the variation of the two extremes.

Including other sentence variables as well, the listeners' transcription scores for each stimulus was analyzed if there was a significant difference that was caused as a result of them. Pearson correlation was used to determine whether number of words, utterance duration (measured in seconds) or repetition of utterances for the listeners (as part or some items of the utterances were repeated in the stimuli with different arrangements) may have had an effect on intelligibility. Only a handful of listeners showed relationships between any of these stimulus properties and the mean correct word

transcription they could perform. As summarized in table 30 below, none of the Pearson correlation results between these properties of the utterances and mean intelligibility scores they received was significantly correlated.

Table 30: Number of listeners' significant correlation of utterance variables with transcription scores

Utterance variables	No. of listeners with significant correlations	Pearson correlation results with mean intelligibility scores
number of words	3 (23%)	.251
duration of utterance	5 (38%)	.385
repetition of utterance	1 (8%)	.223

One-way ANOVA with gender and NL dialect (depending on the place the speakers came from) was also conducted as the between-subjects variables to see whether any of sex or dialect groups' utterances differed from the others in intelligibility scores. There were no significant differences for intelligibility scores between female/ male groups, [F (1, 39) = 1.245], $p<0.05$; and Gojjam/Wello/Gondar groups [F (3, 39) =1.941], $p<0.05$.

Table 31: Analysis of variance among speech items

Category type	categories	N	mean	SD	RANGE	One-way ANOVA	Sig. (95%)
Sex of speaker	M	20	71.0	16.2	32.6-92.8	F(1,39)=1.245	P=.271
	F	20	63.8	23.6	12.8-99.0		
Place of birth	Gondar	16	73.1	22.4	12.8-99.0	F(3,39)=1.941	P=.140
	Gojjam	17	59.6	18.7	20.8-87.2		
	Wello	6	69.7	11.6	52.3-85.5		
	N. Shewa	1	93.2				
	Total	40	67.4	20.3	12.8_99.0		

The results of variability on utterance/talker characteristics of the stimuli used for this study did not affect intelligibility scores as exhibited in terms of length of sentences, duration of utterance, gender of speaker, and NL language dialect. It suggests then that the stimulus properties in this study have no relevance to intelligibility scores. In other words, the native speaker listeners transcribed the speeches exhibited by the subjects as a group very similar. For instance, utterance length in terms of words and duration did not correlate with intelligibility scores can be apparently interpreted as the stimuli were of suitable length for the listeners to make the required orthographic transcription. Had some of the utterances been too long, however, we would have expected some significant correlation with utterance length.

Previous studies on non-native speakers' intelligibility to native listeners (e.g. Derwing and Munro, 1997; Munro and Derwing, 1999) have shown that a number of utterance properties most likely affect L2 speakers perceived foreign accentedness and comprehensibility judgments by native speaker listeners. Although the data in this study did not provide evidence how specifically native listeners perceived each utterance and its property, it revealed that some of the properties such as length and gender of speaker did not affect native listeners' transcriptions and thus Amharic speakers' intelligibility.

5.3.2 Listener-Related Variability and Intelligibility

The native listener participants belong to different age groups and nationality, and differed in length of their stay in Ethiopia (see Appendix H.1 for full information of the listeners' profiles). Each listened to 40 sentences with mean length of 9 words and transcribed the words they heard for each sentence. Mean score of each listener was computed by dividing the total sum of correct word transcription for the 40 sentences with the total number of words they heard (i.e. 342). The listeners mean score ranges from 62.2% to 84.5% with mean 71.1 and SD 7.6. The result shows that variability existed between participants in their achievement of correct word transcriptions.

Table 32: Native English speaker listeners' correct word transcription scores (N= 342)

Listener ID	sex	Age (years	nationality	Length of residence in Ethiopia	Total word transcription (F)	Mean % score (N=342)	Rank
NS 01	F	31-40	Australian	1-2 years	216	63.1	11
NS 02	M	51-60	British	1-2 years	268	78.3	4
NS 03	M	51-60	British	1-2 years	270	78.9	2
NS 04	M	51-60	American	1-2 years	227	66.3	9
NS 05	M	20-30	British	five years	289	84.5	1
NS 06	F	41-50	British	Less than a year	207	60.5	13
NS 07	F	51-60	British	Less than a year	235	68.7	8
NS 08	M	41-50	American	4-5 years	270	78.3	3
NS 09	F	41-50	British	Less than a year	241	70.5	7
NS 010	F	31-40	British	3-4 years	260	76.0	5
NS 011	M	31-40	British	5 years	248	72.5	6
NS 012	M	20-30	American	Less than a year	213	62.2	12
NS 013	M	31-40	American	Less than a year	219	64.0	10
Total	-	-	-	-	3163	-	-
Mean	-	40.2	-	12.9 months	-	71.1	-
SD	-	-	-	-	26.3	7.6	-

The rank of the listeners based on their mean score of correct transcription (table 32) shows that the highest correct transcription was scored by a 29 years old male British listener (84.5%) while his 44 years old female fellow citizen scored the least (60.5%). The two listeners reported that they both had

frequent contact with Ethiopians in English and considered themselves familiar with Ethiopians' spoken English. The former listener, however, spent longer length of residence (5 years) in Ethiopia and hence his longer exposure to Ethiopians might have facilitated his performance. The highest and the least scorer also differed in their age with a range of 20 years and perhaps their age might have affected their perception and personal abilities. One more important difference between the two listeners was their ability to speak the speakers' NL Amharic. The younger listener (also the youngest of all listeners) speaks Amharic unlike that of the older one, and his familiarity to the language of the speakers he heard would probably made him capable of recognizing their utterances.

Further information to substantiate the assumption for length of residence making a difference in transcription achievement comes from the two American male and female listeners who spent less than a year in Ethiopia and scored the lowest transcription accuracy putting them at the last two ranks relative to the others. Mean while, the two American listeners also do not speak any Ethiopian languages including Amharic; and it is possible to tentatively say that the young British highest transcription scorer should have benefited from his knowledge of Amharic and familiarity to an Ethiopian language.

One more important point to note about the young British highest transcription scorer is his profile, as provided in the personal information questionnaire, showing that he had travelled across Asian and African countries and speaks some of their languages as well. This presumably witnesses that the individual is rich in his experience of speaking other languages and contacting foreign speakers around the world. It is worthy of mentioning that the researcher met the subject at the time of the test in an office where he was surrounded by many Ethiopian colleagues speaking to him in English, yet reasonably he wanted to take the opportunity to practice his Amharic while he responded to them. Obviously, the English fellow had regular contacts with Ethiopians and should be quite familiar to them speaking English, too.

Following the differences in correct word transcription scores among the listeners, further analysis of variance (a one-way ANOVA) was computed separately with some characteristics such as age range, native English accent, length of residence, perception of difficulty for Ethiopians' spoken English, ability to speak Ethiopian language, and gender, as the between-subjects' variables to see whether listener groups' transcriptions differed at significant level from the others accordingly. Table 33 below presents ANOVA results and group mean rating data pooled across all listeners.

Table 33: Listeners' between-group comparison (descriptive) on transcription scores

Grouping variable	Groups	n	Mean	SD	Minimum	Maximum	One- way ANOVA results	Significance (0.05% level)
Age of listeners	20 - 30	2	73.3	15.7	62.20	84.50	*F (3,12) =.229*	*P =.874*
	31 - 40	4	68.9	6.3	63.10	76.00		
	41 - 50	3	69.7	8.9	60.50	78.30		
	51 - 60	4	73.0	6.4	66.30	78.90		
native English accent	British	8	73.7	7.3	60.5	84.5	*F (2,12) =1.538*	*P =.262*
	American	4	67.7	7.2	62.2	78.3		
	Australian	1	63.1	-	63.1	63.1		
Length of residence	Less than a year	5	65.1	4.2	60.5	70.5	*F(2,12)=5.136*	*P =.029**
	1-2 years	4	71.6	8.1	63.1	78.9		
	3 -5 years	4	77.8	5.0	72.5	84.5		
Perception of difficulty	Very difficult	2	61.3	1.2	60.5	62.2	*F (2,12) =10.959*	*P =.003**
	Difficult	7	69.1	5.4	63.1	78.9		
	Not difficult	4	79.2	3.6	76.0	84.5		
Speaking Ethiopian language	Speaker	5	74.8	7.9	63.1	84.5	*F (1,12) =2.221*	*P =.164*
	Non-speaker	8	68.6	6.9	60.5	78.9		
Gender	Male	8	72.6	8.3	60.5	84.5	*F (1,12)= .855*	*P=.375*
	female	5	68.5	6.4	62.2	78.3		
	Total	**13**	**71.1**	**7.6**	**60.5**	**84.5**		

i. Age

To first assess if listeners differed in their transcription because of their age range, the average correct transcriptions provided by the youngest and the oldest listener groups was 73.3 and 73.0, relatively higher than the evaluations offered by the other two middle age groups. With range 62.5% and 84.5% mean scores, the youngest listeners (20-30) represented both the lowest and the highest scorers. Meanwhile, the difference of the overall performance between the four age groups as a whole, however, was not significant at 95% significant level, F (3, 12) = .229, p = .874. Thus, age did not affect native listeners' transcription tasks in this study.

ii. Length of Residence and Familiarity

One of the analysis on listener's group variability exhibited transcription performance improved as the listener spent longer period of time in Ethiopia and perhaps became accustomed somehow to the English spoken by people in the subjects' country. Descriptive comparison between groups in length of stay showed significant difference on listeners' transcription such that the longer the listeners lived in Ethiopia, the better the speakers' mean intelligibility scores, f(2,12) = 5.13, p (0.029) <.05]. The post hoc

tests revealed that those groups of native listeners who spent less than a year in Ethiopia received lower correct transcription score than did those who spent longer (both 1 - 2 years and 3 - 5 year groups). A possible explanation to this can be listener adaptation to Ethiopian accents in English might facilitate their understanding of the sample speeches and compensate for the processing difficulties that might be introduced by the speech of the subjects.

Additional qualitative information that can substantiate the role of familiarity on listeners' transcription in this study comes from the open-ended questionnaire the listeners provided for the item that required them to reflect if they have noticed any pronunciation variation in the way Ethiopians pronounce English (Appendix H.2). Among other things, the listeners interestingly listed a number of areas which they noticed sounding different, and perhaps difficult for them to follow as well, when spoken by Ethiopians. Just to mention some of them: 'th' sounds are usually difficult; in exact phonemes /p/, /f/ (they are often inflated); '-ed' ending on a word is over pronounced (e.g. mixed as mix - ed); words are often stretched (e.g. thi-ng-s); diphthongs (e.g. 'biscuit' as 'biscut); saying 'l" (e.g. calling me Abigail instead of Abeegail), stretching words longer and often enunciating they way words are spelt; additional vowel sounds to the end of the words (e.g. adding an "a"); vowel sounds/low, unusual rhythm and melody which is sometimes difficult to follow; emphasis on wrong places (like past tense "-ed") and unexpected words; strong accent and often talking very fast; etc. In fact, the questionnaire, which was administered before the transcription task, required the listeners' to reflect their observation to Ethiopian speakers in general, and their responses probably assume no specific speaker. It seems however that many of the pronunciation items pointed out also apply to the subjects of this study. Most of all, the information provided surmise listeners' familiarity and sensitivity on possible areas of English pronunciation they would foresee while speaking to Ethiopians. As the saying goes, 'to be forewarned is to be forearmed', and it is not surprising that those who lived longer and thus more familiar with the way Ethiopians pronounce English were better scorers in the transcription tasks. It is reasonable to appreciate the listeners' familiarity, and assume that the overall intelligibility score the subjects gained may be acknowledged to the listeners' as well who likely used their experience and familiarity to regulate and cope up with the subjects' pronunciation.

The result summarized above is consistent with what previous studies have often reported. For instance, Kennedy and Trofimovich (2008) undertook a study to determine if listener experience (extent of previous exposure to non-native speech) influence measures of intelligibility, comprehensibility, and

accentedness of non-native (L2) speech and found out that listeners with more experience understood more speech from the L2 speakers than listeners with less experience. Among other factors, Derwing and Munro (1997) examined whether familiarity affected transcription tasks and concluded that familiarity with a given accent and a particular speaker (group) had an effect on intelligibility, indicated that recognition of the a speaker's background associates with better understandings of the speaker's productions. By implication, pronunciation is not a matter of mere pronunciation accuracy of the speaker. In the same vein, Levis (2005) stresses the importance of context, "Intelligibility assumes both a listener and a speaker, and both are essential elements for communication" (p. 372).

iii. Native English Accent Variety

The native speaker participants varied in their native English variety namely British, American, and Australian. It must be noted here that the participants from England mentioned (in the questionnaire they responded) more specific local accents such as 'London, Northern accent, southern accent, Liverpool, etc. For this specific task (grouping listeners based on their accent variety), all native English accents spoken in England were categorized for this study as British accent. This, however, is by no means true for other parts of this study, for example the production test previously, which took what is called 'South Eastern accent' or (RP for short) as a reference among British accents. Each accent variety the speaker belongs to is presented in Appendix H.1, as provided by the participants themselves.

The difference of performance between the listeners based on their native accent variety based on mean rank shows that British speakers (M=73.7; SD=7.3) reported better transcription score than did the American speakers (M=67.7; SD=7.2) and the Australian (M=63.1). However, the ANOVA result revealed no significant difference based on accent variety, $f\ (2, 12) = 1.53$, $p\ (.262) < 0.05$. In other words, the intelligibility of the subjects was evaluated similarly by the native listeners no matter which native country they came from and thus what native accent variety they speak.

iv. Perception of Difficulty

Among the general commentaries forwarded by intelligibility researchers suggests native listener's attitude towards the speaker can affect communication. Holding to this assumption, in one of the close-ended questionnaire designed to the native speakers in this study (Appendix B.3), the participants were asked to rate, based on three scales of 'very difficult, difficult, and not difficult', the difficulty level of Ethiopian speakers in general to understand for native speakers. Based on their responses (Appendix

H.1), the listeners were grouped respective to their perception and assessed if it caused variation on their transcriptions.

Significant difference, f (2, 12) =10.959; p=0.003; p <.05, was found between the mean scores of overall transcription accuracy in terms of native listeners' perception on difficulty of Ethiopian speech. The post – Hoc test across the 3 groups confirmed that native listener groups perceiving Ethiopian speech as 'difficult' for native speakers to understand found the learners' speech samples more difficult to transcribe correctly than did those who reported as 'not difficult'.

In that case, native listeners' perception in this study reflected their actual transcription scores, just opposite to what Derwing and Munro (1995) concluded for no strong correlation between 'perceived comprehensibility and transcription performance'. There are more research findings from Fayer & Krasinski (1987) (cited in Munro & Derwing, 1995); Garcia Lecumberri & Gallardo del Puerto, (2003) indicating that listeners perception towards the comprehensibility (and degree of foreign accentedness) of L2/FL speakers does not necessarily correlate with transcription accuracy, suggesting that listeners' perception may not necessarily reflect the speakers' intelligibility.

Surprisingly, the result in this study, however, provided native speakers' perception of difficulty as the most significant factor for determining intelligibility. Such a different finding in the present study may be attributed to the procedure employed to measure the listeners' perception. Unlike most of the studies in the area which enquired perceived comprehensibility for each stimulus of intelligibility the listeners heard, the native listeners in this study did respond their perception towards Ethiopian speakers in general rather than what they just heard in the test. Thus, listeners' perception did not specifically presuppose the intelligibility stimulus they were exposed to; neither to the transcriptions they provided for the Amharic speakers.

It can be assumed, however, that all the native listeners had previous contact and experience of communicating with Ethiopians in English and thus their perception would potentially indicate the general status of Ethiopian speakers, which may also apply to the subjects of the study, to be easily understood by native listeners. Therefore, to automatically reject the result would be a disservice, though the information should be followed for more valid understanding. In fact, future research may specifically address whether or not native listeners' perceptions towards a speech they actually hear reflects the extent of their transcription performance and thus the intelligibility of the speaker.

v. Speaking Ethiopian Language

One of the questions the native listeners responded in the questionnaire (Appendix B.3) was whether or not they speak an Ethiopian language. The purpose of seeking this information was to consider if ability to speak the speakers' NL (at least certain knowledge about it) facilitated transcription performances of the native listeners and thus the subjects' intelligibility. The comparison between mean correct transcriptions scores of the native listeners between speaker and non-speaker groups showed no significant difference. Because the p-value is not less than 0.05, $F(1, 12) = 2.2$, $p = .16$, the two groups performed similarly.

A different result again comes from Derwing and Munro (1995) who found out that knowledge of a particular NL of the speaker facilitates native listeners' understanding of the speaker's productions, yet the result assumed the listeners' knowledge or awareness to the speakers' background (i.e. NL) corresponding to the stimulus they heard for transcription. Though there is not sufficient statistical evidence found to support the claim, the present study was interested in to show that whether or not the listeners speak the speakers' NL Amharic affected their transcription, and thus the intelligibility of the learners. The limitation of this study was that not only listeners discerned if they could speak any Ethiopian language that could be other than the subjects' NL Amharic but also they responded without the knowledge of what they would hear for the transcription session, and thus it did not provide adequate data if they had any knowledge about the speakers' NL.

vi. Gender

Finally, another one-way ANOVA was performed to determine whether the gender of the listeners affected the mean transcription scores. No significant difference based on gender was identified, $F(1, 12) = 2.221$; $p = .164$. The result suggests that both male and female native speaker participants who listened and transcribed the speeches produced by the subjects showed no significant performance variation because of their gender.

5.3.3 Correlation between Pronunciation Measures and Intelligibility

Just to recapitulate the major findings of the pronunciation measures presented in Section 5.2 of this chapter, among the 40 speech samples native listeners transcribed to measure the 22 speakers'

intelligibility, one item sentence was randomly selected for assessment of mispronunciations that made up a total of 22 speech items. The number of errors on vowels and consonants based on the difference perceived between the pronunciation of the subjects and the canonical Standard English pronunciation (RP) was calculated for each item. The overall mispronunciation for each item was indicated by means of percentage rather than actual counts of mispronounced sounds because each item sentence had a different number of vowels and consonants.

Total segmental pronunciation errors the subjects committed ranged from 43% to 92% per utterance with a mean of 58%. Defined under two major types of errors namely phonemic and phonetic, 60% of the total errors committed or 35% of the whole sounds the subjects produced were phonemic errors, while 41% of the total errors or 24% of the whole sounds produced were phonetic errors In relative terms, vowels and consonant phonemes did not receive the same amount of errors for the subjects, with vowel errors outnumbering consonant errors. From all the vowels the subjects produced, 73% of them were perceived as errors, while 51 % of the consonants produced were mispronounced.

Native listeners' correct word transcriptions for these 22 utterances that measured the speakers' intelligibility ranged from 13% to 87% per utterance, with a mean of 71%. Here, the individual contributions of characteristic pronunciation features of the Amharic NL speakers' in the stimulus were assessed in relation to native listeners' transcription scores. Interrelationships between stimulus measures themselves and the role of segmental errors in general and the relative impact of specific mispronunciations, vowel/consonant, and phonemic/phonetic errors, on subjects' intelligibility to native speakers are measured. Table 34 gives the correlations between the stimulus assessments and the listeners' transcription scores.

Table 34: Pearson correlations between stimulus measures and native listeners' transcription scores

Stimulus measures	% phonemic	% phonetic	% MPV	% MPC	% segmental total	Intelly %
% phonemic	1	-.016	.616**	.681**	.864**	.055
% phonetic	-.016	1	.026	.495*	.445*	-.291
% MPV	.616**	.026	1	.094	.501*	-.132
% MPC	.681**	.495*	.094	1	.841**	.005
% segmental total	.864**	.445*	.501*	.841**	1	-.122
Intelly %	.055	-.291	-.132	.005	-.122	1

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

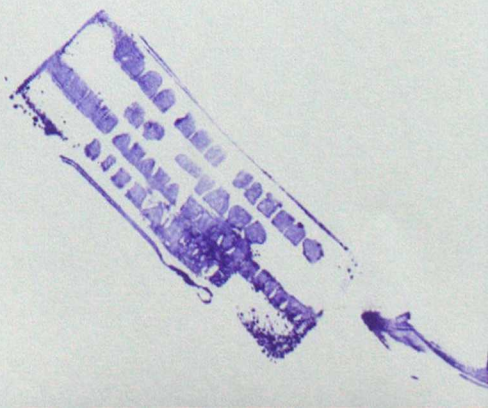
Inter correlation results between stimulus assessments shows significant positive correlations between percentage of total segmental errors with vowel errors (.501) and consonant errors (.841), and both phonemic error types (.864) and phonetic error type (.445). This indicates it is the mispronunciation of both vowels and consonants, and the phonemic and phonetic error types that distinguished the least mispronounced utterance from the most mispronounced one.

Another positive significant correlations occurred between vowel errors and phonemic errors (.616), suggesting that it is the mispronunciation of vowels that reflected much of the subjects' phonemic error types in this study. Consonant errors, however, were positively correlated with both phonemic errors (.681) and phonetic errors (.495) at a significant level showing that the mispronunciation of consonants reflected much of the subjects' phonemic and phonetic error types. One possible explanation for this finding has to do with the phonological difference between the target language English and the learners' mother tongue Amharic which lacks larger number of English vowels than that of consonants.

The lack of significant correlations in this study between vowel errors with consonant errors, and phonemic error types with phonetic ones suggests that the two error types, both vowel/consonant errors and phonemic /phonetic errors were independent to each other.

As indicated earlier, correlation was also computed to see if there is any relation between segmental pronunciation errors made by the subjects with their respective intelligibility scores for the items. Firstly a comparison between segmental errors in general and transcription correctness for the 22 speakers shows relatively better scores for transcription accuracy and thus the speakers' intelligibility (M=58%) than their segmental correctness (M=39% correct). Presumably, the large number of segmental errors (i.e. 61%) in this study did not completely intervened in listeners' transcription accuracy and thus the speakers' intelligibility.

Negative correlation between segmental error and transcription scores (-.122) indicates that there was a tendency of the native listeners to wrongly recognize words when the speakers committed segmental errors. Nevertheless, this relationship was not at the level of statistical significance. This may be partially attributed to familiarity of the listeners, having spent in Ethiopia longer than a year on average and all reported frequent contact with Ethiopians, might have competed deviant pronunciations in the subjects' pronunciations. This seems true if we particularly take into account the listeners' awareness and readiness on how Ethiopians pronounce English (Appendix B.3), most of which applies to the Amharic



speakers we identified in the stimulus measures. Moreover, the finding can also be explained for the presence of other factors, other than segmental errors, such as suprasegmentals which the study did not account for. Perhaps, prosodic aspects might have intervened in the listeners' transcriptions apart from segmental errors.

As to the contribution of specific error types in the stimulus measures to intelligibility scores, the strongest correlations were between phonetic errors and transcription scores (r= -.291), though it was only significant for a handful of listeners. This finding suggests that between phonemic and phonetic errors, it is phonetic errors that tended to distinguish high from low intelligible speakers. Table 34 also presents correlation results for vowels and consonants. The larger negative correlation between vowel and consonant errors with transcription scores occurred with the vowel errors, which is negatively correlated with native listeners' transcription scores (r=-.132), rather than with consonants (r=.005).

In the stimulus measures of pronunciation, frequency of mispronunciation was considered in the analysis so that some items which represented a few instances in the subjects' speech were excluded. A separate correlation was also computed to see the relative contribution of the most frequent error types to the listeners' transcriptions. The characteristic mispronunciations identified for vowel phonemes include (N=222): 1) absence of weak forms (schwa) in unstressed syllables (16%), 2) substituting novel short vowels such as /æ, ʌ, ɒ/ with their Amharic counterpart (17%), 3) the use of short vowels instead of long ones (16%), and 4) the use of short vowels instead of diphthongs , and deleting the second lightly sounded or reduced element of the diphthong or replacing it by semi-vowel consonants /w and j/ (23%). For the consonants (N=351): 5) substituting interdental fricatives with dental fricatives (4%), 6) pronouncing the post vocalic 'r' letter which is often a mark of length for the preceding long vowels (9%), 7) pronouncing consonants with fronting (10%) and rounding (10%) quality preceding front and back vowels, 8) tightening or geminating consonants (7%), and 9) the insertions of the Amharic mid-central vowel /ɨ/ within consonant clusters both at initial and final positions of words (4%) were among the customary tendencies in the pronunciation of the subjects.

Table 35: Pearson correlation b/n most frequent errors and intelligibility

Stimulus measures	Weak form	Short Vowel	Long Vowel	Diphthong	Interdental cons.	/ɨ/ in cluster	Post vocalic /r/	Palatalized cons.	Rounded cons.	Geminated cons.
Listeners' Transcription scores	-.158	-.202	.073	.051	.075	.297	-.013	-.136	-.206	-.010

Table 35 above presents the results of correlation analysis of frequent pronunciation errors with the native listeners' transcription performance. As a whole, there is no significant relationship between any of these errors and the intelligibility scores. In relative terms, however, there seems to be a tendency for weak forms, post-vocalic /r/, and palatalized, rounded, and germinated consonants to correlate negatively in the listeners' transcription performance.

As one would expect from the extensive literature depicting intelligibility as far more than segmental correctness, the correlation results between segmental measures and intelligibility scores in this study did not show significant interrelationships. From this result, it can be said that some of the segmental errors committed by the subjects led to intelligibility loss; nevertheless, there might be additional properties of pronunciation which were not readily measured in the auditory analysis of the study. Besides, suprasegmentals such as stress, accent, rhythm and intonation combined with other properties related to 'voice quality' – i.e. individual voice characteristic of the speaker - might have also intervened. Indeed, the result of this study is consistent with the most conceived notion that intelligibility is a cumulative effect rather than merely a matter of segmental correctness (Jenkins, 2000). The finding is not surprising given previous researches that sought if any one factor had a predominant role than the other hardly made firm conclusions possible (Munro and Derwings, 1997, 1999), and realized it as a result of cumulative interactions of many little departures irrespective of type (Jenkins, 2000). Perhaps future research should substantiate this study focusing on additional pronunciation properties, and if any one factor including suprasegmentals affects our learners' intelligibility more adversely than segmental properties.

CHAPTER SIX

6. SUMMARY, CONCLUSION AND PEDAGOGICAL IMPLICATIONS

This chapter summarizes the main findings of the study. First, a summary of the research along with a brief discussion of the results and the conclusions drawn will be presented. Then, the pedagogical implications of the research results will be addressed. Finally, the researcher will highlight the limitations of the study and give suggestions for further research in the area.

6.1. Summary

Research in L2 phonological acquisition has shown continued emphasis in contrastive analysis-based investigation of L2 pronunciation learning, and has influenced L2 pedagogy and teachers to sustain their belief in the important influence of the mother tongue on L2 pronunciation (Jenkins, 2004: 113). Furthermore, the interest in contrastive analytical research on learners' pronunciation has emerged nowadays complemented by an equally robust interest in other approaches to interlanguage phonology. The literature has documented a large body of research that incorporated actual perception and production constraints that also arise from a number of interlanguage factors including social, developmental, universal, psychological, instructional, etc. More recently, there is a reasonably growing interest in addressing pronunciation needs of L2 speakers to prepare them for real-life interaction with the target language. Refining and extending the area of inquiry, pronunciation research and pedagogy has moved away from an emphasis on native-like goals to one that gives greater priority to intelligibility from the listener perspective (both the native's and the nonnative's), with a focus on developing context-sensitive principles (Levis, 2005).

These three distinct but interrelated research directions - contrastive analysis, interlanguage and intelligibility- are already having an effect on L2 pronunciation teaching to develop context-sensitive principles towards greater prioritizing of specific pronunciation areas that are detrimental for intelligibility, with more focus generally being accorded to address the learners' interlanguage influences (including the NL) and the overall communication context learners are likely to take part in. Such pedagogical decisions, however, should be based on empirical studies, rather than intuition, as pronunciation tendencies and intelligibility presuppose diversity across L1 and social experiences (Munro and Derwing, 2005; Levis, 2005; Jenkins, 2004). Even though there is a large body of research in

the literature for L2/FL learners' production, perception and intelligibility of spoken English in a variety of social and interactional contexts, very little, however, is known in Ethiopia at this time about the specific pronunciation problem that arise when our learners use English language and communicate with speakers of English in the wider context beyond fellow countrymen.

Following the literature reflecting deeper understanding and concern towards the role of the native language and interlanguage factors in causing an effect in the learning of new pronunciation and its use in spoken communication (Jenkins, 2000), the present study was intended to synthesize typical trouble spots that Amharic NL learners have in learning English pronunciation and in their actual use and interaction with native English speakers. The study is hoped to play a preliminary role to initiate new directives and thoughts in EFL teaching in Ethiopia and to propose improvement for existing approach in pronunciation teaching towards offering systematic and directed pronunciation teaching on the bases of learners' needs as a way of ensuring better communication at global level.

The general objective of the present study is to closely examine Amharic native learners' oral/aural difficulties with English pronunciation, and the intelligibility of their spoken English to native English speakers. The study investigated pronunciation difficulties for the Amharic speaker subjects and the ways they encountered the problems in three interrelated dimensions: 1) contrastive analysis in highlighting the possible stumbling blocks that learners are likely to face because of their linguistic background; 2) identifying specific areas of English pronunciation that caused difficulty in listening and speaking the target language and verifying the type and extent of contrastively predicted problems in actual use; and 3) measuring the intelligibility of the subjects to bring to light the role of characteristic pronunciation features of the subjects as they interact with native English speakers.

Mixed approaches comprising phonological contrastive analysis, pronunciation error analysis and intelligibility assessments were conducted to provide comprehensive picture of the subjects NL-driven pronunciation problems, actual characteristic tendencies and their global effect on spoken communication. Phonological contrast between English and Amharic being the preliminary step, the study conducted diagnostic speech perception test, auditory analysis of speech productions, and native speakers' transcription of elicited speech.

The study primarily approaches the entire investigation with reference to Standard English pronunciation. In other words, contrastively-predicted problems identified for Amharic speakers, actual

phonetic and phonological forms the subjects characteristically exhibited in their perception and production, as well as the intelligibility status established in this study were all judged in reference to native English pronunciation standards and native English speakers. Given the foreign language context of English in Ethiopia, it seems conceivable to use native standards of English as a model (Dalton and Seidlhofer, 1994; Jenkins, 2000, 2004). However, in many countries around the world, English is learned to some extent for use in international contexts - as a lingua franca in which much of the interaction typically takes place between nonnative speakers from different first language backgrounds, often with no native speakers involved at all. In this second case, the role of native English pronunciation and native English speakers as a model or reference has recently received ideological and methodological resistance, particularly with reference to the context of English in the 'outer circle' (Kachru, 1992) in which English is learnt and used as a lingua franca (cited in Jenkins, 2000, 2004). There are some indications in Ethiopia to acknowledge the position of English at present time as an international language, or lingua franca, but still the native speakers continue to be the principal interlocutor for Ethiopians. The present study, therefore, followed exclusively the role of native English and its speakers as a model for evaluation of the learners' pronunciation and their intelligibility, and attempted to give an insight into and awareness of the area. It might also be useful to extend this study in light of the role of international contexts in the use of English pronunciation as a lingua franca between Ethiopians and other non-native varieties and their speakers.

6.2. Conclusions

Four research questions were formulated to facilitate the investigation. The results and the interpretations of the research findings will be presented below, by recapitulating each research question underlying the study, the procedures followed to collect the data, what evidence has been obtained in the study to formulate answers to the questions.

1. ***What are the problems native Amharic learners may encounter from the phonological difference between Amharic and English?***

The first question relates to the general issue of the influence of the native language exerting the most important influence in learning and using of the new pronunciation. Given that Amharic, a Semitic language, is not closely related to English, Indo-European, we would expect Amharic speakers to encounter considerable problems in learning and using English pronunciation. This leads to the question

what specific areas of English pronunciation can be predicted from a structural comparison of (i.e. disparate aspects) the sound system of Amharic and English (contrastive analysis).

Pronunciation difficulty areas for ANS were predicted at segmental and suprasegmental levels. Previous contrastive study by Taddese Beyene (1966) was extended for segmental aspects and a new prosodic contrast was made between stress, rhythm and intonation patterns of English and Amharic to supplement segmental level contrast. Those areas which are totally lacking in Amharic are predicted to be of 'High Priority' problems (HP) because of their functional importance and thereby used as preliminary focal points central for the design of the instruments used and the analysis of the data collected.

The resultant lists of HP difficulty features include: 1) voiced interdental fricative /ð/, 2) voiceless interdental fricative /θ/, 3) initial and final (more than two) consonant clusters, 4) low front vowel /æ/, 5) mid back vowel /ʌ/ 6) mid central vowel /ə/ , 7) low back vowel /ɒ/, 8) all five long vowels: /i:/, /a:/, /ɔ:/, /u:/ and /ɜ:/, 9) all eight diphthongs: /eɪ/, /aɪ/, /ɔɪ/, /aʊ/, /əʊ/, /ɪə/, /eə/ and /ʊə/, 10) reduction of vowels into schwa (weak forms) in unstressed syllables, 11) word and sentence stress patterns, 12) stress-timed rhythm, 13) accentual and attitudinal functions of intonation.

2. ***To what extent do contrastive-origin problems militate against learners' speech perception in spoken English?***

This research question accounted for the actuality and manifestations of segmental and suprasegmental areas of predicted problems in the subjects' actual perception. Native speaker recordings of words and utterances especially containing target pronunciation features were digitally selected form pronunciation audio materials to design the speech perception test used. The test comprised a series of identification and discrimination tasks which investigated the learners' perception of selected areas of English pronunciation which are novel to Amharic phonology. Four sets of audio stimuli were used each aiming at the subjects' ability in identifying and discriminating contrastive-based problem areas of English segmental (vowel and consonants), weak forms, nuclear stress, and intonation. The audio stimuli presented non-contextualized words and sentences in different arrangements to the subjects to hear and identify target phonetic and phonological features embedded in the words and sentences they heard.

The analysis of the data gathered allowed the researcher to conclude that words and sentences containing contrastive-origin problem areas of English pronunciations are not very easy for Amharic speaking subjects to recognize and comprehend. Therefore, in this study it was found that target pronunciations of English which are lacking in the learners' NL really continue to hinder the subjects' listening comprehensibility. Meanwhile, the study has demonstrated that not all novel English pronunciation features caused equal amount of perception problems for the subjects. The subjects had more difficulty perceiving some foreign areas of English pronunciation than they did others.

Turning more specifically to the results found for segmental aspect, the performance of the Amharic speaking subjects in perceiving novel English sounds was generally not impressive (with 42.4% inaccuracy). The Amharic speakers' ability to perceive non-native sounds exhibited different degree of difficulty depending on whether the sound belongs to consonant, short vowel, long vowel or diphthong (the former being more difficult). Among vowels, long vowels account for the most difficult vowel category followed by short vowels and diphthongs.

Interdental fricative consonants represent the first most difficult segmental sound for Amharic speaking subjects to perceive with mean 51% error score. With more than 50% of mean error score, most misrecognitions for /ð/ and /θ/ occurred at word final positions where the subjects confused them with /z/ and /s/ respectively as in the words such as 'breathe/breeze', 'close/clothe' and 'faith/face', 'mouse/mouth'. Even though the consonants /ð/ and /θ/ at word initial and medial positions were not as troublesome as word final position, there were still more than 46% of the subjects who made misidentifications on them. As indicated by Jenkins (2000), Schmidt (1987), and Gimson (1980), these consonants are inherently difficult and the reason for them being difficult for Amharic speakers is not only they are not found in Amharic but also they are the most difficult sound to learn for almost all L2 speakers and native children themselves. Extensive training on these sounds with greater awareness on their difficult nature may benefit the learners to improve their pronunciation from perceptual point of view.

From vowels, the first most difficult sounds were long vowels with mean 48% error score. In this study, it was the long vowels /ɔ:/ and /u:/ with 60% and 56% of the subjects hearing them as /ɒ/ and /ʊ/ respectively that accounted for the most difficult of all long vowels. Compared to other long vowels included in this study, these vowels were tenaciously difficult. Short vowels accounted for the second

most difficult for learners to perceive with 36% of error score. Perhaps, compounded by 'perceived similarity' with the vowels in the native language Amharic such as /a:/, /o/, and /e/, some target vowels such as /ʌ/ and /æ/ turned out to be the most difficult ones with mean 50% and 44% error scores respectively as compared to the other vowels. The target diphthongs which received 34% mean error score also posed considerable difficulty for the Amharic speaking subjects, with /əʊ, aʊ/ (54% mean error score) surfaced in this study as the most misperceived one as compared to the other diphthongs. The particular difficulty the subjects had with diphthongs was also explained in relation to 'perceived similarity' the subjects might have felt when they heard /əʊ-ɔ:/ contrasts as in words 'boat/bought' which might have caused confusion for the learners. Further evidence in this study for the determinant role of 'perceived relationships' for the learners' perception performance comes from variation of scores for target vowels as a function of the contrasting vowel the subjects heard; for instance, more error scores for /əʊ - ɔ:/ in *'boat/bought'* (77%) than /aʊ - ɜ:/ in *'doubt/dirt'* (32%); /ɒ - ɔ:/ (60%) in *'cot/caught'* than /ɔɪ - ɔ:/ in *'coin/corn'* (15%) and /ɒ- ʊ/ in *'cod/could'* (13%); /æ - ʌ/ in *'fan/fun'* (72%) than /æ - a:/ in *'lad/lard'* (37%) or /æ - e/ in *'mass/mess'* (33%), /ɒ - ʌ/ in *'dog/dug'* (20%), /ʌ - ɜ:/ in *'ton/turn'* (15%); /ʊ - u:/ (56%) in *'soot/suit'* than /ɒ - ʊ/ (13%) as in *'cod/could'*.

Interestingly, these findings seem to correspond to the most cited study of Flege et al. (1997) who found that English vowels which have 'perceived similarity' with vowels in the NL stock are most difficult for learners to discriminate; "Both production and perception accuracy varied as a function of native language (L1) background in a way that depend on the perceived relation between English vowels and vowels in the L1 inventory" (p.437). The learners' perception results therefore shows the importance of giving due attention to such perceived similarity between English vowel contrasts in different arrangements during classroom instruction than mere focus on foreign vowels independently so that the learners would benefit in discriminating one from the other.

The results of this study confirm what had been hypothesized in interlanguage phonology, that all non-target phonemes do not exert equal amount of difficulty to the learners (Brown, 1997). For priority reasons, a total of 18 sounds are ranked from the most misperceived to the least. The following sounds fall into the top 10 most misperceived sounds: the two consonants /ð/ and /θ/, four long vowels /ɔ:/, /u:/, /a:/, and /i:/ (from 6 in total); four diphthong /əʊ/, /aʊ/, /aɪ/ and /eɪ/ (from 7 in total); and two short vowel /ʌ/ and /æ/ (from 5 in total). Of these, long vowels /ɔ:/ and /u:/, diphthong /əʊ/, and consonants /ð/ and /θ/ fall into the top 5 most misperceived sounds and thus need to be given higher

priority in teaching segmental sounds. Among all novel sounds examined in this study, the sounds which fall in to the last 5 ranks are two short vowels /ɒ/ and /ə/, two long diphthongs /ea/ and /ɔɪ/, and the long vowel /ɜ:/.

Regarding how well the university-level Amharic NL EFL learners in this study performed on the speech perception test of English suprasegmental, a total of 69% error scores the group as a whole received implies that the subjects encountered a considerable problem from English suprasegmental included in this study. By far the most difficult task (mean score of 74.7% incorrect) was marking weak forms in unstressed syllables of sentences. The other three aspects, identifying intonation (68.9%), distinguishing meaning based on nuclear stress (66.9%), and identifying sentence focus based on nuclear stress (59.4%) were the next most problematic. Identifying the meaning of a sentence based on its intonation, was moderately difficult for most students, mean score of 47.9% incorrect.

Based on the findings, several suggestions are put forward. First, the majority of the students found it difficult to identify the most familiar and frequently used English words when pronounced in their weak forms; to recognize, and to comprehend the emphatic meaning conveyed through the word in an utterance which carries maximal prominence, usually due to a major pitch change (the tonic stress); and the contrasting intonation patterns (of falling and rising) that highlight the intended meaning of the speaker. These findings demonstrate that the majority of the Amharic native learners even after many years of English study still need practice in the basic skills of English suprasegmental assessed by this test.

Nevertheless, although some sections and some test items were for the group as a whole more or less difficult, the variation among individual learners both in total scores and subsection scores point to the fact that there is a room for improvement. For instance, learners overall were aware that rising and falling intonation in English sentences they heard had meaning differences. Nevertheless, they could not explain the impression or meaning contrast they actually understood. The students found it difficult to discriminate between rising and falling intonation that they had clearly been conscious of their difference in meaning. This suggests that though the students sensed rising and falling intonation contrasts convey meaning difference in English, they neither explained the particular meaning contrast nor discriminated perceptually sentences with rising intonation from that of falling intonation. This result may reflect their NL background knowledge in Amharic which employs rising and falling intonation

contrast for grammatical functions; nevertheless, the ways English speakers employ intonation for attitudinal function was evidently difficult for the students to recognize and to comprehend.

Given the magnitude of misperceptions it generated and the central functions of weak forms, nuclear stress, and intonation in spoken discourse of the target language, it seems imperative to consider novel suprasegmental features of English pronunciation as high priority problem for Amharic speaking learners. In relative terms, different from all other aspects of English pronunciation covered in this study, the weak form was shown to be by far the most difficult to recognize (74% mean error score). Because they were not familiar with this pattern of English, the subjects had serious difficulty in recognizing the words which were pronounced in their weak forms. We can infer that so much information and communication can be constrained and thus understanding speakers who do use weak forms may be difficult for the subjects.

If that is the case, then, weak forms must be the central focus where learners should be made aware of and where the teachers should pay more attention and readiness to train learners. Learners, therefore, need to make themselves familiar to this pattern of English if they are to understand what they hear. It is important to remember that there are certain contexts where only the strong form is acceptable and others where the weak form is the normal pronunciation (Roach, 1993).

3. ***To what extent do contrastive-origin problems militate against native Amharic learners' speech production in spoken English?***

In this study, utterances taken from 22 speakers were assessed impressionistically for the extent to which their pronunciation deviated from Standard English. Perceptually salient segmental errors of Amharic speaking university students were identified. Based on the frequency of the errors occurred, the most frequent mispronunciations were analyzed for their functional role in the target language to tentatively select more important problems that might hamper communication in the context of EIL. Analysis of the data reveals a number of salient, frequent and important problems in the pronunciation of English phonemes by Amharic NL speakers. On the basis of this analysis, a list of target phonemes that should receive priority for Amharic NL speakers has been produced.

On the whole, from the whole phonemes the subjects produced, segmental pronunciation errors committed ranged from 43% to 92% with a mean of 61% per utterance. One possible explanation for such large amount of errors may be related to the corresponding number of English sounds and

phonological features that are not found in Amharic which the learners have not yet internalized in their interlanguage grammar.

Global examination of the segmental errors committed, showing that erroneous vowels outnumbered erroneous consonants, provided evidence that vowel phonemes caused more problems for the Amharic speakers in this study than consonants. Further results on the production of vowel errors relative to the other, short vowels with 47% error scores were the most difficult vowel phonemes followed by diphthongs (32%) and long vowels (22%). The largest proportion of errors on short vowels goes to the most frequent error of all target vowels, the mid-central vowel schwa /ə/, which received 23% errors where the subjects consistently used strong forms [á/a/u/o/ ɨ/ ẽ /e] instead of weak forms in unstressed syllables. Among the eight diphthongs, the subjects characteristically replaced (17%) one of the fronting diphthongs /aɪ/ with different realizations such as [a, ȧ] of its first element followed by semivowel /j/ for the second weak gliding element. Among the six long vowels, the majority of errors (19%) referred to the use of short vowel counterparts [o, ɪ, ʊ] having no quantity of the target length of English long vowels /ɔ:, i:, and u:/.

Out of the total number of consonant errors (n=133), the majority (97 or 71%) were phonetic errors which involved the production of a consonant in such a way that the intended category could be recognized but the segment sounded noticeably different from Standard English pronunciation. It involved fronted, rounded, and geminated consonants. 27% of consonant errors were phonemic errors whereby target phonemic consonant were substituted by another consonant that was clearly interpretable as an English phoneme but different from the correct one. This included the preference of the subjects to use dental fricatives [s and z] in place of interdental fricatives /θ/ and /ð/, and voiceless fricative [s] and voiced dental [d] instead of plural marker /z/ and past marker /t/ respectively.

Apart from errors in terms of substitutions and deletions, insertions were also a characteristic feature which revealed a structural problem of the Amharic speakers with certain phonemes in specific contexts. One of the typical preferences in the production of the Amharic speakers was to insert the high central unrounded vowel /ɨ/ within consonant clusters. Another frequent insertion found is that of the 'postvocalic' /r/ occurring immediately after a vowel. The insertion of the voiced and voiceless plosive /g/ and /k/ also occurred in syllable or word-final position after the velar nasal /ŋ/. Semi-vowel

/w/ and /j/ were also inserted to replace long vowels /ɔ:/ and /u:/ and diphthongs /əʊ/, /aʊ/ and /aɪ/, which were changed to their short counterparts [o, ʊ, a].

So far as vowels are concerned, vowels were clearly more problematic than consonants for all speakers. This tendency is in accord with the data available in the literature (e.g. Italo, 1988) and is most likely attributable to a structural characteristic of the English language, which presents a relatively higher number of vowel phonemes than consonants, as demonstrated in the read aloud text used for the study as well. Taken together, these initial indications have important implications for compiling a list of errors to target in pronunciation training: vowels clearly deserve priority over consonants.

Each target error was analyzed for its relative function in the target language and its importance for communication. The following phonemes, listed according to their priority, should be addressed first because they are frequently mispronounced by learners and might hamper communication for their relative important function in the target language. For the monophthongs /ə/; for the long vowels /ɔ:/, /u:/ and /i:/; for the diphthongs /əʊ/, /aʊ/, and /aɪ/; for the consonants, /ð/, and /Θ/ including /ɨ/ epenthesis in consonant clusters should be included in the inventory of high priority (HP) errors for Amharic speakers. To a lesser degree, and thus optional alternative (OA) problems are vowels such as /æ/ and /ʌ/, pronouncing the post vocalic /r/, geminating (pronouncing of consonants with noticeable release or lengthening effect in general and that of /r/ in particular), and devoicing of /z/ and voicing of /t/ should be addressed by focusing on the context in which they occur. On the other hand, targeting segmental such as /ɒ/, /j/ and /ŋ/, fronting and rounding of consonants before front and back vowels may only be relevant for a limited purpose (e.g. for accent reduction) and thus are low priority (LP) problems..

The results of the segmental pronunciation errors in this study verified contrastively predicted problems in the sense that several English sounds for the Amharic subjects still continue to cause considerable problems in their production. The majority of mispronunciations of the subjects represented in this study may be explained in terms of phonological transfer from Amharic which has a different phonemic and phonological structure from English. However, it is important to note that all novel phonemes of English did not exert equal amount of problem for the subjects.

Since the speakers involved in this study had received a certain degree of instruction in English for more than ten years, we can conclude that the errors identified also represent either 'fossilized' problems that persist over time or that sit uncomfortably to the amount and focus of the existing instruction.

4. To what extent are Amharic native learners intelligible to native speakers of English?

The final research question the study tried to answer is the extent that Amharic speakers' spoken English was intelligible and if NL-driven phonological problem areas militate against their intelligibility. The reading aloud (RA) speech material used for pronunciation assessment in the production test was designed and used as stimulus for the intelligibility test.

Intelligibility of the Amharic speakers was tested by determining how well listeners recognized the words they uttered as intended by the speaker in meaningful isolated sentence stimulus with moderate length of 9 words on average. In order to understand important factors that determined native listeners' transcription performances, and thus the speakers' intelligibility, inter-speaker and inter-listener variability tests were also conducted based on certain grouping variables.

First, overall intelligibility status of the speakers was established based on total average scores of correct word transcriptions by all the 13 native English speakers who willingly participated as listeners for the experiment. Overall, the 13 native English listeners' correct word transcriptions for a set of 40 speech sample sentences produced by 22 Amharic undergraduate students showed moderate intelligibility of the Amharic NL speakers whereby 71% of the words they produced were correctly recognized by the native listeners. In fact, more than 10% of the transcriptions received intelligibility scores of 100%, and many others 17% contained only minor errors with above 90% intelligibility scores. The utterances overall range of intelligibility scores was however quite wide from 100% to 13% with a noteworthy proportion of more than 40% intelligibility scores under the 'moderate intelligibility range' (i.e 71%). For university students whose sample speech was heard by native English speakers, who reported their familiarity and frequent contact to Ethiopians speaking English, the mean intelligibility score (71% correct transcription) for the group as a whole is not inspiring.

A number of findings are in place regarding the effects of talker-, listener- and utterance-related characteristics on listeners' transcriptions and thus on the subjects intelligibility in this study. One of these findings suggested that length of items in terms of word numbers and duration considered in the study as utterance characteristics of the stimuli did not affect intelligibility scores as none of them

correlated significantly with native listeners' transcription scores. This finding can be apparently interpreted as the stimuli were of suitable length for the listeners to make the required orthographic transcription. Based on the personal information questionnaire the subjects responded, the speakers involved in the study came to Addis Ababa University, where they were attending their undergraduate studies at the time of the study, from different dialect area of Amharic namely Gojjam, Gondar, Wello and N.Shewa. Variance test (i.e. one-way ANOVA), which was conducted with caution hope of learning if speakers' L1 dialectical variation affected their intelligibility scores, yielded no significant correlation. It was possible to conclude that the speeches taken from the subjects who came from the four dialectical areas of Amharic received similar intelligibility scores. Meanwhile, correlation analysis between transcription results for male and female speakers showed no relevant influence of gender on intelligibility results.

Some interesting listener-related variability was found among the thirteen native speaker listeners of different age group, native English accent, and different length of residence in Ethiopia. Based on separate one-way ANOVA results from the analysis made between transcription scores in terms of their age, gender, native English accent they speak, it was found out that age range, gender and accent variety of the native English listeners did not affect their transcription tasks in this study. However, one of our analyses that compared transcription scores with length of residence in Ethiopia shows evidence that native listeners' transcription performance improved as the listener spent longer period of time in Ethiopia and perhaps became accustomed somehow to the English spoken by people in the subjects' country.

The individual contributions of characteristic pronunciation features of the Amharic NL speakers' in the stimulus were assessed in relation to native listeners' transcription scores to see the role of segmental errors identified in pronunciation assessment on subjects' intelligibility to native speakers. In this regard, the relative impact of vowel/consonant, and phonemic/ phonetic errors in determining native listeners' transcription tasks was measured. The results of the correlation analysis between the stimulus assessments and the listeners' transcription scores provided no significant evidences to claim Amharic native speakers' NL-driven pronunciation errors intervened in their intelligibility to native listeners.

There are a number of reasons to suppose that the two types of scores: segmental measures and intelligibility scores under consideration here correspond to related but partially independent dimensions. Evidence for a relationship between the two comes from one of the results that showed

negative correlation, though to a much less extent, between segmental error and transcription scores, presumably indicating tendency of the native listeners to wrongly recognize words when the speakers committed segmental errors. Nevertheless, this relationship was observed for a small minority of pronunciation aspects.

However, we found a number of important differences as well. First, the distribution of pronunciation measures and transcription scores were noticeably different. First, the listeners tended to transcribe more correctly (71%) when transcribing utterances with large pronunciation errors (61%) suggesting the large number of segmental errors identified in the stimulus did not necessarily intervened in the speakers' intelligibility. Second, only few listeners showed significant correlations between intelligibility and pronunciation measures under consideration. For instance, listeners sometimes transcribed utterances which received the highest segmental errors better than they did for relatively of lower error scores. For example, an utterance with 92% segmental error was transcribed better with 67% transcription score than the one with much lesser segmental error score of 43% which was rather transcribed lower with 52% correct word transcription score. This indicates that listeners' recognition of the speech they heard (i.e. transcription scores) was also determined by other factors in addition to segmental errors.

It must be noted that intelligibility scores were the most direct test of what the listeners actually understood, because they indicated which words in each utterance that listeners had correctly identified. The lack of complete congruence between intelligibility and pronunciation measures was probably due to a number of factors that need to be in consideration. One of the reasons for the lack of complete relationships between intelligibility and segmental errors may be partially attributed to familiarity of listeners and their length of residence in Ethiopia as well which might have led them to competing accent features in the subjects' pronunciations. It is also fair to presume that the presence of NL-driven segmental errors in the Amharic NL speakers does not necessarily result in reduced intelligibility.

Another possible explanation would be segmental level pronunciation measures of the stimulus may be poor reflection of the listeners' actual transcriptions in the sense that factors the listeners took into account when transcribing were not addressed in the pronunciation measure. Among a number of other factors, some can be related to prosodic features, individual speakers' voice quality or other phonetic areas that were not readily quantified in the assessment that might have more detrimental effect on

listeners' transcriptions. Meanwhile, it seems reasonable to speculate that processing difficulty may also have played a role. For instance, two utterances may both be fully understood and therefore be perfectly transcribed, but one may require more processing time than another. Alternatively, special top down processing may have played a role as well in understanding the utterances. For instance, the listener might have guessed initially unintelligible words after making meaning out of the whole utterance which probably helps the listeners to find some unintelligible words transparent.

In all of these possibilities, however, the listeners' familiarity may occupy the most reasonable account for lack of congruent correlation between the stimulus measures and the intelligibility scores. Qualitative information from open-ended questionnaires the listeners responded for their awareness and readiness on the way Ethiopians pronounce English surprisingly provided substantial evidence to assume that the listeners have benefited from their familiarity to compete deviant pronunciations from the subjects. If that holds true, the intelligibility estimates the subjects gained may not necessarily reflect their pronunciation accuracy, but rather the listeners' familiarity with the way Ethiopians pronounce in English.

6.3. Pedagogical Implications

The study described, identified and evaluated pronunciation difficulties learners speaking Amharic as NL have in perception, production and interaction (with native English speakers). Even though the result of this study has imperative pedagogical implication for Amharic NL learners, the general suggestions made here also apply to all Ethiopian learners of English in general and perhaps other groups of learners in any EFL context. The first line of statements to be made assume the results of this study will create awareness on the role of NL in learning and using English pronunciation for the majority of Ethiopian learners irrespective of their NL and hence provides some general suggestions noteworthy for EFL program in the country. The second line of pedagogical implications to be made particularly focuses on Amharic native learners due to the direct and specific commentary made on the treatment of specific pronunciation areas in learning and teaching of English pronunciation. Thirdly, the researcher strongly believes that this study, particularly the results drawn from the intelligibility of the Amharic speakers to native English speakers, is grounds for concern for the growing number of organizations in Ethiopia that expect their workers to use English comfortably and efficiently at international context.

The results of the study in general indicate a need to revise the learning and instruction of English pronunciation in Ethiopia. First, the study has verified that learners face serious problems from English pronunciation because many of the features in it are different from what their NL has. It is important that teachers be aware that the learners' NL is an important factor in pronunciation learning and ready to help learners cope up with its effect in their learning and use of pronunciation. Teachers therefore need to be aware of the abilities and the limitations of their learners and devise priorities accordingly. Second, the speech perception test in the study has shown that the learners' pronunciation problem is compounded on the reception side in which the learners face serious problems in recognizing and understanding novel English pronunciation features. Therefore, parallel to the production side, the major proficiency goals to be aimed at should keep the balance on the receptive skills as well to help learners recognize and make meaning from English pronunciation in spoken communication. It is also important that teachers explain to their students unequivocally the importance of improved pronunciation in their listening as well as speaking for effective communication in the target language.

Third, rather than presenting to the learners' novel English phonetic and phonological forms separately, language learners may need to practice certain contrastive patterns that distinguish novel English sounds from NL counterparts so that learners can clearly perceive and articulate troublesome and confusing words similar to those presented in this study.

Fourth, the majority of the learners in this study seem to have faced far greater problem, at least perceptually, from suprasegmental features of English pronunciation than segmental. Therefore, pronunciation teaching for Ethiopian learners should integrate suprasegmental features of English phonology, problematic syllable structures and prosodic patterns with particular focus on those stemming from the influence of NL phonotactic and phonological constraints.

In their study of remedial pronunciation instruction for L2 learners, several writers, for example, Kenworthy (1997), O'Connor, (1980), and Gimson (1980) have long been suggesting that pronunciation teaching should take care of those differences between NL and TL which, as also proved in this study, most often cause articulatory and perceptual difficulties for the learners. In this case, the Ethiopian EFL programme seems to have some basic flaws. Not only does the pronunciation component receive negligible status at all levels, the textbooks used and those available lessons are generic, assuming all learners with no consideration of NL background (Geremew, 2003; Anegagregn, 2007). In other words, phonetic and phonological forms specific to NL groups of learners in multilingual Ethiopia remain

unattended to. Because segmental and suprasegmental constraints between different languages vary, and that the study of pronunciation difficulties within the domain of phonological patterns in one language may not transfer to another one, so the possibility of including all the various phonological patterns in one instruction book may be slim. However, it is important for researchers, material writers, and teachers to work on how pronunciation teaching should be approached in Ethiopian cross-linguistic classrooms. For the present writer, a couple of suggestions merit attention.

Universities in collaboration with regional education bureaus should have greater responsibility to help primary level teachers establish awareness and readiness to help their learners cope with novel phonetic and phonological forms that are likely to cause problems. With extra attention paid toward the influence of NL constraints, systematic and directed pronunciation teaching can be designed for children at primary schools at regional level. It seems therefore to be of the essence that the Ministry of Education should encourage and support regional educational bureaus to design new syllabi that integrate the teaching of problematic structures due to language differences. At higher levels of education which often involves cross NL learners, self study materials and supplementary text books can be designed to facilitate extra support for the learners out of classrooms.

Similar to the suggestions made above for the general EFL context in Ethiopia, a fundamental step in pronunciation teaching for Amharic NL learners need to be to raise teachers' and students' awareness of pronunciation difficulties that could go beyond segmental and articulatory problems. For pupils who have only received no or very little instruction on pronunciation (Anegagregn, 2007), and/or those who are not conscious of their segmental and suprasegmental pronunciation problems, diagnostic tests like the one used in the study may be an explicit intervention tool that can direct their attention to such problems that have not yet been noticed. In this study, many students were surprised to discover that they had problems with recognizing words that they had been learning for years. Diagnostic tests, like the one developed in this study, can be used to serve such an awareness-raising purpose.

Even though contrastive analysis between English and Amharic have shown a large number of potential pronunciation problems for the learners, the assessment made on the extent of actual errors made has identified critical areas which the learners still could not cope with after long years of instruction in schools and showed evidence that some novel phonetic and phonological forms of English exert more problems for the learners relative to the others. The intelligibility test conducted has also provided evidence that native listeners may find utterances from Amharic speakers of limited intelligibility though

specific non-target pronunciation feature may not necessarily lead to loss of intelligibility. Therefore, since this study did not concern itself with all kinds of errors, it may be better for teachers to focus on phonetic and phonological features of English pronunciation that are functionally significant in the target language with more focus on those features which are characteristically problematic for the majority of Amharic NL learners. In that case, this study exhibited that there are some pronunciation areas that merits due attention in the teaching of pronunciation for Amharic NL learners.

The speech perception test and the assessment of pronunciation on learners' production of the study demonstrate that vowels clearly deserve priority over consonants in pronunciation training for Amharic native learners. Based on the extent of difficulty each vowel type presented to the Amharic NL learners in this study, it seems that the majority of learners may benefit if pronunciation instruction pays more focus in helping learners identify how English vowel sounds functionally differ in length and quality from Amharic vowels. To use minimal pairs of words that only differed in vowel phonemes like the ones used in this study which contrasted English long vowels and diphthongs from short vowels may be overwhelming.

For the consonants, interdental fricatives /ð/ and /ϴ/ should be addressed adequately for almost all Amharic NL learners likely encounter systematic problem from them. Amharic native learners may also benefit from wide-ranging minimal pairs illustrating how these sounds functionally differ in pronunciation with dental fricatives /s and z/ that learners are likely to confuse them with. To present these sounds at all positions of words would help learners become familiar with the pronunciation of these sounds. It is also important to pay due consideration and effort for teachers and learners towards the pronunciation of interdental fricatives, at least from perceptual point of view, in their combinations with each other and dental fricatives /s/ and /z/ which are speculated by writers as pausing far greater problem for foreign learners (Gimson, 1980). In that case, it may benefit learners if such combinations involving 'rapid tongue glides' may be included as proposed by Gimson (1980: 185): /s + θ/ 'this thing', /k + θ/ 'sixth', /z + θ/ 'his thumb', /s + ð/ 'pass the salt', /z + ð/ 'is this it?', /θ+s/ 'fifths', /θ + s + ð/ 'smith's here', /ð + z +ð/ 'soothes them', /s, z/ preceding /θ,ð/ in sequence like 'what's that?'.

It is also important that pronunciation teaching for Amharic speakers should have particular focus in training learners to improve both perception and production of some prosodic aspects of English pronunciation such as weak forms, tonic stress patterns and attitudinal functions of intonation. The

majority of learners may benefit from explicit and hyper-training on the use of weak form in unstressed syllables as the majority of learners are likely to find it the most problematic feature of English pronunciation. Weak form refers that the vowel quality is modified and the length reduced, generally resulting in the sound schwa, itself the most frequent sound in native English pronunciation (Jenkins, 2000; Roach, 1993; Brown, 1997). "The theory is that through the speakers weakening...., the listeners' attention is able to focus on the more important (in terms of the speaker's message) [stressed] word" (Jenkins, 2000: 147). Weak forms are an important feature in English suprasegmental such as connected speech, rhythm, word stress, and intonation (in particular, pitch movement, nuclear stress, and word groups) (ibid). The fact that the Amharic speakers in the present study predominantly failed to correctly pronounce and perceive English schwa or weak form seems to be conversely related to the highest frequency of its occurrence and the critical function it plays in meaning (Gimson, 1980). Helping Amharic NL learners become familiar with weak form seems essential for almost all are likely to have difficulty in it. Moreover, learners may be in acute difficulty in understanding and be understood by speakers who do use weak forms, particularly native speakers since practically all native speakers use them (Roach, 1993). It is also important to help learners be aware that there are certain contexts where only the strong form is acceptable and others where the weak form is the normal pronunciation.

Another major concern to note here is the concept of intelligibility and the implications of speaking with a foreign accent. Parallel to what pronunciation experts have long believed, it is not appropriate to aim at native-like pronunciation because not only that it would be achieved by relatively few learners but also the majority of learners may not need it. If we assume that our learners will have very limited practical purpose for using English as a language of communication with their fellow countrymen, pronunciation may not be an issue. However, it must be accepted that the great majority of our learners are likely or may need to work on growing number of organizations which require them to use English as a language of international communication with people beyond fellow countrymen. If there are occasions, which are likely the case, for our learners to use English for international communication, pronunciation will be a critical factor to understand and be understood, as previous studies have consistently confirmed (Jenkins, 2000). At least this study has provided evidence that utterances taken from Amharic L1 speakers have limited comprehensibility to native English speakers. Had native speakers listened to these utterances for the first time, the intelligibility of our learners might have got worse. Therefore, a far more reasonable goal to set for our learners should be to help them become

'comfortably intelligible' in wider international contexts. If we accept that our learners may need to be comfortably intelligible in their spoken English in the wider context, the focus of our instruction should be on those aspects of the learners' speech that appear to interfere with listeners' understanding.

These raise two problems for teachers. First, at present, like many other studies, the present study was not able to provide empirical evidence that indicates which particular aspect of Amharic NL speakers' pronunciation characteristics is most detrimental for native listeners understanding, and thus for the learners' intelligibility. The study argues that in addition to segmental features it measured, native listeners understanding of the utterances from Amharic NL speakers might have been affected by a number of other pronunciation features that are not readily quantified for pragmatic reasons. Besides, it was also demonstrated that listeners' familiarity with the way Ethiopians pronounce English might have facilitated native English speakers' transcription performance where the intelligibility estimates were taken from. Reasonably, it is important to give due precedence to prosodic proficiency of the learners than with a sole focus on phonemic errors.

To sum up, even though it is difficult, or even undesirable to aim at, for the learners to speak without a foreign accent, it is necessary to practice to pronounce both novel segmental and suprasegmental pronunciation features that are functionally significant in the target language and to establish awareness on how native speakers use them so that communication can occur without problems. Learners may also benefit from being exposed to recordings of native English speech that represents meaningful discourse to help them become familiar with how native speakers use pronunciation and convey meaning.

One final point to make for Ethiopian speakers in general would be the need to work on improving their pronunciation on features of English pronunciation that are likely to have functional role in the TL - such as not to use strong forms in unstressed syllables - rather than making strenuous and perhaps, undesirable efforts to sound native-like on certain fine-grained phonetic features. That is to say there are many other features necessary to work on for successful communication rather than striving to pronounce, as often heard in public speech as well, for example, 1) flap [t] or [d] instead of true [t] or [d] as in words such as 'biting', 'water', 'butter'; or 'body', 'ladder', etc.; 2) dark [l] for clear [l] as in words such as 'film', 'help', 'hill'; etc. Likewise, learning not to pronounce /r/ in post vocalic positions corresponding to spelling <r> in all environments would be easier and more important than struggling for retroflexed [r] instead of flap [r] as in words such as 'red', 'arrive' and 'for', 'four', and 'car', etc.

Trying to pronounce 'accented' [r] in their right positions would be more logical than using 'native-like' [r] in the wrong positions (Roach, 2002).

6.4. Limitations of the Study and Suggestion for Further Research

This study did provide a practical exhibition and explanation that English phonemic and phonological features which are not allowed in the learners' native language Amharic, for which the learners are assumed to be supported to cope up with, still exert considerable constraints on both the production and perception of the learners' use of the target language with noticeable restrictions on their effective global communication in understanding and being understood by native speakers. Given the scope of this study, the approach it followed, and the procedures employed to collect and analyze the data where the findings just described above stem from, the following limitations can be noted.

This study exclusively used contrastive analysis as a frame of reference for investigating learners' actual difficulties of English pronunciation in perception, production, and global interaction they may have at wider context of use of the target language. Accordingly, phonological features which are totally lacking in Amharic are used as pre-defined target of investigation for this study due to relatively higher role and function they may have in the TL (Kenworthy, 1987). In this regard, subtle phonetic and allophonic precision on the part of the subjects (e.g. aspiration for initial consonants; dark /l/ vs. clear /l/) was not targeted. For instance, the speech perception test of this study generally focused on pre-defined sounds and features which are not found in the learners' NL. In that case, the result was limited to see the difficulties learners might have in perceiving foreign English sounds. However, the literature has shown that pronunciation problems in an L2/FL may also arise from English sounds and features which are also shared by the learners' NL due to the difference in how the sounds which are said to be shared are realized in English and the learners' NL (Flege et al. 1997). It may therefore be important to consider including more aspects of English pronunciation that are common in both the NL and the TL but may be realized differently because of phonetic and phonological varieties. In this regard, future research can extend this study by considering the role of pronunciation problems at allophonic and phonetic levels in the learners' perception and production, and intelligibility as well.

The scope of the present study does not allow including interlingual factors in the examination of pronunciation difficulties for the learners under consideration. Both of the speech perception test and the pronunciation assessment conducted on the subjects' production generally demonstrated

contrastive-based assessment for the phonetic and phonological forms of English pronunciation that created problems in the use of the English language. Though the present study did not focus on interlingual factors in its analysis, a review of the literature on research that is conducted on interlanguage framework and the underlying phonological theories has shown an understanding and explanation of the complex process of L2 phonological learning and its difficulties due to other processes interacting with NL phonological transfer. Also in this study, while the discussion of the results has not focused on individual differences, some inter-subject variability does exist. Studies have shown the significant role of interlanguage factors in the learning and use of the TL, and that variability even among the same NL group arise from a complicated interaction between native language interference and a number of interlingual factors such as psychological and social variables including proficiency level, exposure to the TL, motivation and attitude, previous instruction, etc. (Brown, 1997; Jenkins, 2000). If we are to fully understand pronunciation learning and the difficulties and problems learners have in a comprehensive manner and to make full-fledged suggestions for effective pronunciation teaching and learning, future research on the pronunciation of Ethiopian learners should not disregard these natural processes of transfer, but must take account of them.

The perception test in this study required the subjects to discriminate or identify target pronunciation features presented in de-contextualized words and sentences. Besides, it did not examine the learners' ability in understanding meanings. With more test items that include contextualized dialogues that can also test the learners' understanding of meaning would help to reach at more comprehensive picture on the role of pronunciation in spoken English.

The number of test items in some section of the speech perception test may be too small to accurately reflect the variety of suprasegmental (stress and intonation) patterns that learners need to know. By improving the test items, future research may address the role of English prosody on the ability of the students in their perception of spoken English with more test items displaying a greater variety of prosodic patterns and their function in conveying meaning.

Another important issue that should be considered at this point is the way the speech of the subjects was elicited. The production data used for the pronunciation assessment and the intelligibility stimulus stem from a recording of read aloud text, which has sometimes been criticized for several reasons as an artificial basis for assessing pronunciation quality. Firstly, pronunciation elicited with a formal reading task as opposed to the oral production may not truly reflect the actual production of a learner engaged

in a real-life speaking task. Moreover, read speech may be influenced by orthography to a larger degree than spontaneous speech and this influence is likely to differ among speakers with different proficiency in English. For instance, a speaker with no or little familiarity of a word may entirely depend on orthography in reading and thus may be liable to frequent mispronunciation of a language like English. University students involved in this study were provided with ample time to get themselves familiar with the texts used, and thus are assumed to have faced no difficulty in their readings for the recording. However, there is no guarantee that reading aloud proficiency did not affect the result.

It should also be noted that the read aloud text constructed to elicit speech is limited in type and number of sentences, words and thus the sounds required to pronounce them. Particularly, the requirement the study followed to assess the learners' pronunciation and intelligibility in terms of frequency with in such limited number and type of phonemes involved and the phonological environment they occurred, within a relatively small portion of speech samples, makes it to some degree marginal. Consequently, to achieve greater robustness in the selection and propositions of pronunciation problems of our learners and the roles they would have on intelligibility, an analysis of spontaneous speech would also be desirable.

The phonetic transcription and the annotations of differences on pronunciation of the speeches produced by the subjects with Standard English pronunciation (i.e. with the canonical phonetic transcription used as reference) were made by the researcher himself. It must be noted, however, that phonetic transcription or even annotation of mispronunciations is a relatively subjective task and if it happened in the present task, it could challenge the strength of the inventory of pronunciation problems produced for the Amharic speaker subjects, and thus it can be taken as a limitation of the study. In order to minimize it, however, the researcher invested as much time and effort as needed to transcribe and annotate as objectively as possible. While an analysis of pronunciation as perceived by the human ear might be more realistic from pedagogical points of view, future researchers may consider including computer-aided acoustic analysis in their procedures for greater robustness and precision in their measurements.

The intelligibility test in the study builds an insight on the status of Amharic speakers' spoken English intelligibility to native speaker listeners, but there are a number of limitations that should be addressed. First, the utterances used here were relatively short with mean length of 9 words, and in the experimental setting the intelligibility data stem from, listeners had far more time to process the words

they heard than is ordinarily available in natural discourse situations. Studies that incorporate assessment of intelligibility of longer stretches of speech from the subjects, preferably at the discourse level, are necessary to extend our understanding in the area. Meanwhile, because this study measured intelligibility only from 'correct word transcription', it may be essential to look at the issue further from the view of 'comprehension' than mere transcription scores.

Secondly, although the subjects' speech contained a larger number and wider range of segmental errors, the overall intelligibility scores showed lower correlations with both phonemic and phonetic error types identified in the pronunciation assessment. Among the explanations given for the lack of complete congruence between intelligibility measures and segmental error measures was that segmental errors committed by the subjects had very little impact on listeners' transcription and thus on the speakers' intelligibility, the listeners competed them and managed to understand the message despite their presence, or other factors beyond segmental errors that are not addressed in the pronunciation assessment might have played more detrimental role for the listeners to understand or not to understand the utterances. Accordingly, pronunciation errors measures conducted here needs to be extended to more features including prosody, voice quality features, phonetic features, processing time in listeners comprehension, the role of top-down processing of information, etc.

As stated during the discussion of the results, the listeners in the study were all familiar with Ethiopian speakers and spent considerable time in Ethiopia. This prevented the study from yielding actual transcription performances from listeners who would not otherwise be influenced from the familiarity effect. Therefore, involving more listeners with no or very little degree of familiarity with Ethiopians (e.g. a new comer to Ethiopia for a conference or tourism) would reveal more information on the intelligibility problem than learners would have and thus actual comprehensibility difficulties native listeners might have while communicating with Ethiopian speakers for the first time. Such situations are found, for instance, when an Ethiopian airline pilot has to communicate in English with the control tower at an air port in London; or an Ethiopian receptionist at Sheraton Addis or a taxi driver at Bole International Airport has to communicate in English with a group of Canadian or Australian tourists.

Ethiopia being the home of the African Union and several continental and international organizations and welcoming a large body of investors and professionals from the whole world including Asia and Latin America, it is clear that English in the country has developed into a 'lingua franca' used as a main tool for Ethiopians to communicate with a variety of non-native English speakers for trade, commerce,

politics, infrastructure, science and technology, etc. Research that could address 'mutual intelligibility' between Ethiopian speakers and non-native English speakers coming to Ethiopia from different parts of the world are likely to be of interest to improve Ethiopian speakers intelligibility in the context of English as lingua franca, rather than mere focus on communication with native English speakers. In order to have fuller picture of mutual intelligibility in the use of English as lingua franca, it is urgent to extend this study involving non-native listeners. Preferably, researches on actual communications held between foreign English speakers with Ethiopian professionals working at different areas such as air port, international hotels and tourism, diplomatic divisions, etc are worthy of mentioning.

Finally, one general point to note regarding the study as a whole is that there was the limitation of having only one native language group of learners and samples were all from undergraduate university students. Studies that include other NL groups in the country, with differing level of English proficiency would help to elucidate comprehensive understanding and insight on the area.

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APPENDICES

A. Materials used for students

A.1 Personal Information Questionnaire

ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES
FACULTY OF LANGUAGE STUDIES

Dear students,

The purpose of this questionnaire and the sessions that follow is for a PhD study intended to investigate issues related to English language teaching and learning in Ethiopia. You are thus kindly requested to participate by filling in the questionnaire and attending to a short session in which you will (a) listen to native English speech extract and respond to some recognition and understanding questions, and (b) read aloud some given written texts for recording (Each script took approximately 2 minutes to read aloud).Your written responses and recordings are confidential and will only be used for the purpose of the research. Please respond first to the following questionnaire which aims at gathering participants' personal information relevant to the study.

Thank you in advance

Please answer the following questions about yourself. Check (√) in the box, or fill in the space provided.

1. Name: _____(optional)
2. Age: _____ years (optional) 3. Sex: male ☐ female ☐

4. Faculty/ school _____ Department _____ year _____
5. Place of birth _____
6. What language do you speak as a mother tongue? _____
7. What language(s) do you speak other than your mother tongue? _____
8. Provide information on the place (city or town) you learnt before university.
   a. primary school (grade 1 – 8) _____
   b. Secondary school (grade 9 & 10) _____

c. Preparatory school (grade 11 & 12) _____

9. Provide information on the kind of schools you learnt before university.

(a) Primary school: ☐ government ☐ missionary ☐ private

☐ Other (please specify: _____)

(b) Secondary school: ☐ government ☐ missionary ☐ private

☐ Other (please specify_____)

(c) Preparatory school: ☐ government ☐ missionary ☐ private

☐ Other (please specify _____)

A.2 Students worksheet for speech perception test

A.2.1 Dictation /Listen and write/

General Instruction: **You are about to hear three different tapes consisting of groups of very short words and sentences. (Don't worry; they will last for few minutes). Please listen to each carefully and write down what you hear from the tape as directed. There will be pauses at some places in each tape and also in between the tapes.**

➢ ***Track 1***

Direction 1: You will listen to words now. When you hear to the number, listen to the word and thick the one you hear from the two words given in the worksheet below. ***You will hear each item only once.***

		head_____	12. dirt_____	doubt_____
1.	ahead _____			
2.	dog _____	dug_____	13. feared_____	feed_____
3.	mess _____	mass_____	14. bear_____	beer_____
4.	flash _____	flush_____	15. poor_____	paw_____
5.	been _____	bin_____	16. these_____	zizz_____
6.	cord _____	cod_____	17. sing_____	thing_____
7.	wood _____	wooed_____	18. hazer_____	heather_____
8.	bud _____	bird_____	19. twelfth _____	twelfths_____
9.	mate _____	met_____	20. breathe _____	breeze _____
10.	pie _____	pay_____	21. faith _____	face _____
11.	bore_____	boy_____		

➢ *Track 2*

Direction 2:

You are about to hear pairs of words in the tape. Read the words below for each item and tick one of the two options given in front of it for the order you heard it in the tape.

1	Pack	1. _____	2. _____	**12**	coin	1. _____	2. _____
2	fan	1. _____	2. _____	**13**	boat	1. _____	2. _____
3	stuck	1. _____	2. _____	**14**	stare	1. _____	2. _____
4	cod	1. _____	2. _____	**15**	dour	1. _____	2. _____
5	bead	1. _____	2. _____	**16**	then	1. _____	2. _____
6	lard	1. _____	2. _____	**17**	thought	1. _____	2. _____
7	caught	1. _____	2. _____	**18**	teething	1. _____	2. _____
8	suit	1. _____	2. _____	**19**	fourths	1. _____	2. _____
9	turn	1. _____	2. _____	**20**	clothe	1. _____	2. _____
10	sale	1. _____	2. _____	**21**	mouth	1. _____	2. _____
11	pike	1. _____	2. _____	**22**	coin	1. _____	2. _____

➢ *Track 3*

Direction 3:

You are now to hear ten sentences (1-10). For the first five sentences (1-5), fill in the blank spaces for what is missing in the given script. For the rest (6-10), write the whole utterance said by the speaker in the spaces provided. You will hear each utterance only once.

1. ____ ____ wait ____ ____ bus.
2. How ____ ____ lights work?
3. ____ ____ ____ new books I ____ read.
4. ____ took ____ aunt ____ ____ drive.
5. ____ basket ____ full ____ things ____ eat.
6. _____
7. _____
8. _____
9. _____
10. _____

A.2.2 Comprehension: Listen and respond

General instruction:

Under this session, recordings of groups of sentences will be played. Directions and the written form of each sentence that you will hear are given in your work sheet. Each item will be played for you to listen and give your responses as directed. The researcher will help you in explaining each direction at each stage. There will be pauses in between directions until you will be ready for each task.

- ***Track 4***

Direction 4: In English, speakers change their tone of voice in their pronunciation to highlight one word as most *'attention focusing or important'* as opposed to the rest of the words in a sentence. Listen to the utterances (1-3) below given on column 'A'. Match them to the possible meanings (a-c) given on column 'B'. The words given particular emphasis by the speaker when pronouncing are underlined for you.

A	B
Utterances	**Possible Meanings**
1. I'd like a cup of herbal **tea**.	**a.** Not any other sort of tea.
2. I'd like a cup of **herbal** tea.	**b.** A simple request for tea not coffee.
3. I'd like a **cup** of herbal tea.	**c.** Not a mug (a kind of larger container)

- **Track 5**

Direction 5: You are about to hear the following utterances (1-3) on column 'A' two times. In the first play, underline the words which are said by the speaker with longer and louder voice to give particular emphasis than others. In the second play, match them to the possible meanings (a-c) given on column 'B'.

A	B
Utterances	**Possible meanings**
1. He lives in the house on the corner. _____	**a.** John lives in the house not in the shop on the corner.
2. No, he lives in the house on the corner.____	**b.** The house where john is living is nowhere but on the corner.
3. He already lives in the house on the corner. ____	**c.** John is not buying the house on the corner; he rather lives in it.

➢ ***Track 6***

Direction 6: Listen to the utterances (1-5) below. The speaker will say the same sentence five times changing his tone or voice on a different word across the sentence to give it particular emphasis as opposed to the rest. In the first play, underline the words given particular emphasis by the speaker when pronouncing the sentences. In the second play, write the intention or meaning you understand from the speaker's pronunciation.

4. I'll walk with you to the station. _____
5. I'll walk with you to the station. _____
6. I'll walk with you to the station. _____
7. I'll walk with you to the station. _____
8. I'll walk with you to the station. _____

➢ ***Track 7***

Direction 7.1: In English, speakers may use *intonation* – the *rising* and the *falling* in the voice – to imply special meaning or impression to their listeners. In the following utterances (1-12), you will listen to a speaker saying one sentence two times changing the pronunciation in each case with the rise or fall of the voice. Listen to each carefully and write (*F*) if you hear the voice falling and (*R*) if you hear the voice rising.

1. What is your name? ☐
2. What is your name? ☐

3. What color is your car? ☐
4. What color is your car? ☐

5. You are French, aren't you? ☐
6. You are French, aren't you? ☐

7. Where do you live? ☐
8. Where do you live? ☐

9. What time does your train leave? ☐
10. What time does your train leave? ☐

11. Why don't you come to my party? ☐
12. Why don't you come to my party? ☐

Direction 7.2: Now you will listen to the above pairs of sentences again. Listen to each and write (*S*) if you understand the same meaning or impression in both cases, and (*D*) if you understand them differently.

1. What is your name? ☐
2. What is your name?

3. What color is your car? ☐
4. What color is your car?

5. You are French, aren't U? ☐
6. You are French, aren't U?

7. Where do you live? ☐
8. Where do you live?

9. What time does your train leave? ☐
10. What time does your train leave?

➢ ***Track 8***

Direction 8: And finally, a speaker will say a sentence two times changing his pronunciation with rising or falling voice. Listen and decide whether the direction of the voice is rising or falling. Does the way the speakers says the sentence mean any special meaning to you? Please write your answer on the spaces provided.

1. Why don't you come to my party? _____
2. Why don't you come to my party? _____

Thank you very much!

B. Materials Used for Native Speaker Participants

B.1 Consent form

ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES
DEPARTMENT OF ENGLISH LANGUAGE

Dear Sir/Madam,

I would like to invite you to participate in the data collection of a PhD study of teaching English as a foreign language (TEFL) that I have been carrying out in Addis Ababa University under the supervision of *Dr. Berhanu Bogale* (tele - ***0911206780***) and *Dr. Awol Endris* (tele - ***0911670825***). The research is intended to investigate difficulties of English pronunciation for Ethiopian learners in learning and use of English as a foreign language. One of its focuses is to closely look into the intelligibility of Ethiopian learners' spoken English to listeners of native English speakers.

From the results of the study, I hope to learn major areas of English pronunciation that cause some difficulties for Ethiopian learners in spoken English. The study also hopes to come up with some important areas of English pronunciation that require due attention in teaching and learning of English pronunciation for Ethiopian learners so as to increase effective communication skills with English in the international context.

If you agree to participate in this study, you will be asked to attend a session (***at a place and time of your convenience***), in which 1) you will listen to 40 very short speech samples (***ranging in length from 02 to 10 seconds***) extracted from Ethiopian learners' spoken English and write down every word you hear; and 2) provide your demographic information on a short questionnaire prepared. ***The whole session will last for approximately 40 to 50 minutes.***

The reason that you are selected as a possible participant in this study is because you are a native speaker of English. Participation is entirely voluntary. The information from participants will be completely confidential. There is no way to identify you by name.

If you are willing to participate or have any questions about this research, I can be contacted at (mobile) telephone number ***+251- 0913297920***; or you may leave an address of your preference so that the researcher would contact you to arrange the session.

Sincerely,
Anegagregn Gashaw, The researcher

CONSENT FORM

I, _____, agree to take part in this research study and I allow the researcher to use the data I will provide. Signature _____Contact Address _____

B.2 Transcription booklet for native listeners

Today's date: _____

Subject number: _____

Directions:

You are about to hear 40 short speech samples selected from different speakers. Please listen to the samples carefully and write down every word you hear as much as you can. You will hear each sample *only once*. You may guess a word or sequence of words if you are not sure of what you hear. If you are unable to guess, you may leave a space.

When you hear the number, listen to each item and give your responses in the spaces provided. Any question at any stage of the session is welcome.

1._____
2._____
3._____
4._____
5._____
6._____
7._____
8._____
9._____
10._____
11._____
12._____
13._____
14._____
15._____
16._____
17._____
18._____
19._____
20._____

1._____
2._____
3._____
4._____
5._____
6._____
7._____
8._____
9._____
10._____
11._____
12._____
13._____
14._____
15._____
16._____
17._____
18._____
19._____
20._____

PAUSE THE CD

B.3 Personal information Questionnaires

Today's date _____
Participant ID _____

I) Personal Data:

(Note: personal information contained here will not be released).

1. Name (optional):_____
2. Age: _____
3. Gender: Male ( ) Female ( )
4. Place of Birth (city, state, and country): _____
5. Current job _____
5. Nationality _____
6. What native English accent variety do you speak? _____
7. Where is this accent mostly spoken (city, state or country)? _____

II) Education:

8. Highest Level of Education completed (please thick one):

( ) Less than high school
( ) High school grad
( ) Tech school grad
( ) College or university grad
( ) Post graduate: (please specify) _____

9. Do you speak other languages besides English? ( ) **Yes** ( ) **No**

10. If your answer is *yes*, please list them below in the order you have learned them:

1. _____ 3. _____ 5. _____
2. _____ 4. _____ 6. _____

11. If one of the answers for the previous question was an Ethiopian Language, for how long have you been speaking this language? _____

III) Familiarity with Ethiopians and Ethiopians' accent in English:

12. How long have you been living or staying in Ethiopia? _____

13. Have you ever heard an Ethiopian native speaker talking in English? ( ) Yes ( ) No

**If your answer is 'yes', please go on and answer the rest of the questionnaire.*

14. Can you rank your experience of hearing an Ethiopian speaker in English?

( ) very limited ( ) limited ( ) occasional ( ) frequent

15. Do you consider yourself familiar with the Ethiopian accent in English? ( ) Yes ( ) No

16. Do you notice a difference in the way that Ethiopian speakers pronounce in English and the way that native English speakers do? ( ) Yes ( ) No

17. How difficult do you think is Ethiopian accent in English to understand for native speakers?

( ) very difficult ( ) difficult ( ) not difficult

18. In your opinion, what are the main pronunciation problems that you noticed Ethiopians have when speaking English? Can you give examples?

Thank you very much

C. Audio stimuli used for speech perception test

1. Forced word discrimination /identification task/

- ***Track 1***

1. ahead
2. dog
3. mass
4. flush
5. been
6. cord
7. wooed
8. bird
9. mate
10. pie
11. boy
12. doubt
13. feared
14. bear
15. poor
16. these
17. thing
18. heather
19. twelfths
20. breathe
21. faith

- **Track 2**

22. peck/pack
23. fan/fun
24. stuck/stock
25. cod/could
26. bead/bid
27. lard/lad
28. caught/cot
29. suit/soot
30. turn/ton
31. sale/sell
32. pike/park
33. coin/corn
34. boat/bought
35. stare/steer
36. dour/door
37. zed/then
38. sought/thought
39. teasing/teething
40. force/fourths
41. close/clothe
42. mouse/mouth

2. Listen and write task (transcription)

- **Track 3**

43. we can WAIT for the BUS
44. HOW do the LIGHTS WORK
45. there are some NEW BOOKS I must READ
46. she TOOK her AUNT for a DERIVE
47. the BASKET was FOOL of THINGS to EAT
48. WHY should a MAN EARN MORE than a WOMAN
49. you OUGHT to HAVE your OWN CAR
50. he WANTS to COME and SEE us at HOME
51. HAVE you TAKEN them from THAT BOX
52. it is TRUE that he was LATE but his CAR has BROKEN DOWN

3. Sentence stress identification and comprehension

a) Stress (identify)

➢ **Track 4**

53. he lives in the house on the CORNER
54. NO, he lives in the HOUSE on the corner
55. he already LIVES in the house on the corner
56. I'LL walk with you to the station
57. i'll WALK with you to the station
58. i'll walk with YOU to the station
59. i'll walk with you TO the station
60. i'll walk with you to the STAtion

b) Stress (Comprehend)

➢ **Track 5**

61. i'd like a cup of herbal TEA
62. i'd like a cup of HERBAL tea
63. i'd like a CUP of herbal tea
64. he lives in the house on the CORNER
65. NO, he lives in the HOUSE on the corner
66. he already LIVES in the house on the corner
67. I'LL walk with you to the station
68. i'll WALK with you to the station
69. i'll walk with YOU to the station
70. i'll walk with you TO the station
71. i'll walk with you to the STAtion

4. Intonation identification and comprehension task

a) Intonation (identify)

➢ **Track 6**

72. ↘what is your name?
73. ↗what is your name?

74. ↗what color is your car?
75. ↘what color is your car?

76. ↘you're French, aren't you?
77. ↗you're French, aren't you?

78. ↘where do you live?
79. ↗where do you live?

80. ↗what time does your train leave?
81. ↘what time does your train leave?

82. ↘why don't you come to my party?
83. ↗why don't you come to my party?

b) Intonation (distinguish meaning)

➢ **Track 7**

84. ↘what is your name?
    ↗what is your name?

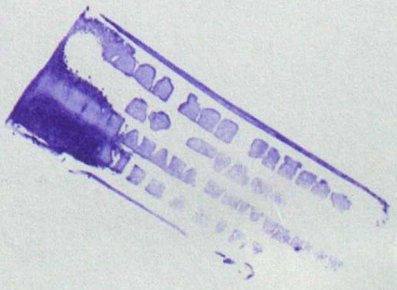
85. ↗what color is your car?
    ↘what color is your car?

86. ↘you're French, aren't you?
    ↗you're French, aren't you?

87. ↘where do you live?
    ↗where do you live?

88. ↗what time does your train leave?
    ↘what time does your train leave?

89. ↘why don't you come to my party?
    ↗why don't you come to my party?



D. Materials used for speech elicitation

I) Passage one

I don't usually come here by car. The train's a good deal more convenient when we're spending a few hours in town with the boys. You have to be so early if you want to find a parking place. I think most garages charge far too much for poor folk like us. The rail fare's cheaper. So shall we meet at the station?

II) Passage two

I have needed some new bookshelves for a long time. So during my holiday, I decided to tackle the job myself. Not that I am very clever with my hands but it did not seem too thorny. Besides, as I had already said that we could not afford to go away I thought it would be prudent not to spend money having it done professionally. I bought the wood at the local handicraft shop and I had plenty of screws, but I found that my old saw was not good enough and I decided to buy a new one. My friend also helped me to find a book on wood work for school boys and I've been reading it with great interest. The next time I am on holiday, I shall start on the shelves.

E. Speech stimuli designed

no	transcription of the stimulus
1	I had plenty of screws
2	So shall we meet at the station
3	My friend helped me to find a book for school boys
4	Too much for poor folk like us
5	I had already said we could not afford to go away
6	I don't usually come here by car
7	I shall start on the shelves
8	My old saw was not good enough and i decided to buy a new one
9	I think most garages charge far too much for poor folk like us
10	Not to spend money having it done professionally
11	The rail fare's cheaper, so shall we meet at the station
12	I have needed some new book shelves for a long time
13	Not that i am very clever with my hands
14	And i have been reading it with great interest
15	I thought it would be prudent not to spend money having it done professionally
16	The next time i am on holiday i shall start on the shelves
17	Besides, we could not afford to go away i thought
18	The train's a good deal more convenient
19	I bought the wood at the local handicraft shop
20	Reading it with great interest
21	My friend also helped
22	So during my holiday decided to tackle the job my self
23	It would be prudent not to spend money
24	Poor folk like us
25	Not that i am very clever with my hands but it did not seem to thorny
26	But i found that my old saw was not good enough
27	You have to be so early
28	Find a book on wood work
29	We could not afford
30	The rail fare's cheaper
31	Book shelves for a long time
32	It didn't seem too thorny
33	I don't usually come
34	I decided to tackle the job my self
35	If you want to find a parking place
36	I bought the wood at the local handicraft shop and i had plenty of screws
37	I decided to buy a new one
38	When we were spending a few hours in town with the boys
39	My old saw was not good enough
40	You have to be so early if you want to find a parking place

F. Transcriptions of speech samples for pronunciation Assessment

Orthographic (O), Canonical pronunciation (C), and as pronounced by subjects

no.	type	transcriptions
1	O	Poor folk like us
	C	/ˈpɔː ˈfəʊk laɪk ˈ əs/ laɪk ˈ əs/
	S	pur ˈfwolk layk ás layk ás
2	O	Not that I am very clever with my hands
	c	/*nɒt ðət aɪm*verɪ*klevə wɪð maɪ hændz
	s	nwot zát áy ám vʸerʸɪ klʸevər wɪz máy hándɨs
3	O	My friend helped me to find a book for school boys
	c	/maɪ*helpt miː tə* faɪnd ə *bʊk fə*skuːl*bɔɪz
	s	may xəlpɨd mi tu*faynd e *bʊk f ʷo r ɨskul*boys
4	O	Too much for poor folk like us.
	C	tuː ˈmʌtʃ fə ˈpɔː(r) ˈfəʊk laɪkˈəs/
	S	twu ˈmȧtʃ fʷor .. pʷurr fʷolk layk as
5	O	I thiought it would be prudent not to spend money having it done proffessionally
	C	/aɪ*Θɔːt ɪtəd bɪ *pruːdn̩t *nɒt tə *spend *mʌnɪ *hævɪŋɪt *dʌn prə*feʃənəlɪ
	S	ay towt ɪt wuldbi prudən t nʷottʷu ɨspʸend mənʸɪ _aviŋgɨt dənn pɨroffʸeʃnal i
6	O	I don't usually come here by car
	C	/aɪ ˈdəʊnt ˈjuːʒuə.li ˈkʌm hɪəʳ baɪ ˈkɑː r /
	S	ay dwont yʒalʸi kamm xɨr bay kkarr
7	O	Not to spend money having it done proffessionally
	C	/*nɒt tə *spend *mʌnɪ *hævɪŋɪt *dʌn prə*feʃənəlɪ/
	S	nwotwu ɨspʸend mənʸi xavʸ iŋgɨt dənn proffiʃnalʸi
8	O	My old saw was not good enough and I decided to buy a new one.
	C	/maɪ*əʊld *sɔː *wɒzn̩t *gʊd ɪ* nʌf ənaɪ dɪ *saɪdɪd tə*baɪə *njuːwʌn/
	S	may oldɨ saw wəz nʷott gʷudd ɪnaf endd áy disayd--tu bayenʸiwwan
9	O	I think most garages charge far too much for poor folk like us.
	C	/əɪ ˈΘɪŋ məʊst ˈgær.ɑːʤz ˈtʃɑːdʒ fɑː(r) tuː ˈmʌtʃ fəˈpɔː r ˈfəʊk laɪk ˈəs/
	S	áy t ĩŋk mwost garaʤɨs tʃardʒ fʷor tu matʃ fʷor pur fʷolk layk ás
10	O	But I found that my old saw was not good
	C	/bət ai*faʊnd ðət maɪ *əʊld *sɔː *wɒzn̩t *gʊd/
	S	bətt áy fawund zat may ... oldd sow wəz nʷo-- gʷudd
11	O	The train's a good deal more convenient
	C	/ðəˈtreɪnz ə ˈgudˈdɪəl mɔːr kənˈviːniənt/
	S	zə tr yenɨs e gʷuddʸɪl mʷorr kʷonvʸinant

12	O	And I have been reading it with great interest.
	C	/ənaɪvbi:n *ri:dɪŋɪt wɪð *greɪt *ɪntrəst/
	S	ẽnd ay hav byin r^{ʸ}idŋgit wiz gr^{ʸ}et intərəst
13	O	The rail fare's cheaper
	C	/ðə ˈreɪlfeərz ˈtʃi:pər/
	S	zə ryel f yers tʃ ^{ʸ}ippərr
14	O	My friend also helped
	C	maɪ*frend *ɔ:lsaʊ *helpt/
	S	may fryendd ols^{ʷ}o xəlppɨd
15	O	So during my holiday I decided to tackle the job myself.
	C	saʊ *djʊarɪŋ maɪ *hɒlədɪ aɪ dɪ*saɪdɪd tə*tækɨ ðə *ʤɒb maɪ*self/
	S	swo dwuriŋg may holɨdəy ...ày dɨsaydɨd t^{ʷ}u takkɨl zəʤ^{ʷ}ob^{h} maysəlf
16	O	Not that I am very clever with my hands but it did not seem to thorny
	C	*nɒt ðətaɪm *klevəwɪð maɪ *hændz bətɪt *dɪdn̩t *si:m *tu: *qɔ:.nɪ/
	S	nwot zàth ayam kl^{ʸ}evərr wiz may handɨs bət it...dɨddnot s^{ʸ}imm t^{ʷ}u t^{ʷ}orn^{ʸ}i
17	O	We could not afford
	C	wi: ˈkʊd. ə nt əˈfɔ:d/
	S	wikwudd nott aff^{ʷ}orɨdd
18	O	Book shelves for a long time
	C	/*buk *ʃelvz fər ə *lɒŋ *taɪm/
	S	b^{ʷ}ok ʃ^{ʸ}elvɨs fworr e loŋg taym
19	O	It did not seem to thorny
	C	ɪt *dɪdn̩t *si:m *tu: *qɔ:.nɪ
	S	i:t didnoth ... syim tuw torn^{ʸ}i
20	O	i don't usually come here by car
	C	/əɪ ˈdəʊnt ˈju:.ʒuə.li ˈkəm/
	S	ay don't uʒalyi kamm
21	O	When we were spending a few hours in town with the boys
	C	wen wi:r ˈspen.dɪŋ ə ˈfju: ˈaʊərz ɪn ˈtəʊn wɪð ðə ˈbɔɪz/
	S	xwenwyiwyer ɨspindiŋg e f^{ʸ}iw xaworɨs in tawun w^{ʸ}iz zə bb^{ʷ}oy_
22	O	I decided to buy a new one
	C	/aɪdɪ *saɪdɪd tə *baɪ ə *nju: wʌn/
	S	ay .. ddisaydɨd t^{ʷ}u bay e n^{ʸ}iwu wan

G. Mean correct word transcription score for intelligibility stimulus

Item	Sentence stimulus	Words (Total) (n=13)	Correct transcripn. (Fr.)	Correct transcripn. (M %)
1	I had plenty of screws	65	49.00	75.3
2	So shall we meet at the station	91	68.00	74.7
3	my friend helped me to find a book for school boys	143	101.00	70.6
4	Too much for poor folk like us	91	19.00	20.8
5	I had already said we could not afford to go away	143	122.00	85.3
6	I don't usually come here by car	91	32.00	35.2
7	I shall start on the shelves	78	68.00	87.2
8	My old saw was not good enough and i decided to buy a new one	195	111.00	56.9
9	I think most garages charge far too much for poor folk like us	169	126.00	74.5
10	Not to spend money having it done professionally	104	46.00	44.2
11	The rail fare's cheaper, so shall we meet at the station	143	88.00	61.5
12	I have needed some new book shelves for a long time	143	84.00	58.7
13	Not that i am very clever with my hands	117	83.00	70.9
14	And i have been reading it with great interest	195	101.00	51.7
15	I thought it would be prudent not to spend money having it done professionally	182	154.00	84.6
16	The next time i am on holiday i shall start on the shelves	169	132.00	78.1
17	Besides, we could not afford to go away i thought	130	98.00	75.3
18	The train's a good deal more convenient	91	39.00	42.8
19	I bought the wood at the local handicraft shop	117	107.00	91.4
20	reading it with great interest	65	50.00	76.9
21	My friend also helped	52	45.00	86.5
22	So during my holiday decided to tackle the job my self	143	87.00	60.8
23	It would be prudent not to spend money	104	97.00	93.2
24	Poor folk like us	52	36.00	69.2

25	Not that i am very clever with my hands but it did not seem to thorny	195	139.00	71.2
26	But i found that my old saw was not good enough	130	92.00	70.7
27	You have to be so early	78	70.00	89.7
28	Find a book on wood work	78	27.00	34.6
29	We could not afford	52	35.00	67.3
30	The rail fare's cheaper	52	17.00	32.6
31	Book shelves for a long time	78	10.00	12.8
32	It didn't seem too thorny	65	34.00	52.3
33	I don't usually come	52	37.00	71.1
34	I decided to tackle the job my self	104	89.00	85.5
35	If you want to find a parking place	104	103.00	99.0
36	I bought the wood at the local handicraft shop and i had plenty of screws	195	181.00	92.8
37	I decided to buy a new one	91	65.00	71.4
38	When we were spending a few hours in town with the boys	156	113.00	72.4
39	My old saw was not good enough	91	60.00	65.9
40	You have to be so early if you want to find a parking place	182	148.00	81.3
	Total sum	4446	3163.00	71.1

H. Native Speakers' Data

H.1 Personal Information Profile as Provided by the Participants

ID	Age	SEX	Place of Birth	L1 Accent	Education	L2 they speak
NS01	34	F	Australia	Australian	Post Grad	Amharic, Japanese,
NS02	53	M	Liverpool, UK	N. English	Post Grad	French, Spanish
NS03	58	M	London, UK	S. English	Post Grad	French, Italian, Hungarian, Chinese
NS04	55	M	Lebanon, USA	American	Post Grad	Amharic, Japanese, Spanish, Chinese
NS05	29	M	London, UK	S. English	Post Grad	Amharic, Gujarat, German, Spanish
NS06	49	M	Buckingham, UK	London	University Grad	Spanish, Chinese
NS07	58	F	Berkshire, England	S. English	Post Grad	French, German
NS08	41	F	Louisiana, USA	American	Post Grad	Spanish
NS09	41	F	Bedford, UK	S. English	College Grad	Amharic
NS010	39	M	London, UK	S. English	Post Grad	No
NS011	40	M	London, UK	London	Post Grad	No
NS012	30	F	Santiago, USA	American	Post Grad	Amharic
NS013	36	M	West Cost, USA	American	Post Grad	Amharic
ID			**Duration In Eth**	**Familiarity**	**Frequency of Contact**	**Perceived Difficulty**
NS01			18 Months	Yes	Frequent	Difficult
NS02			2 Months	Yes	Frequent	Not difficult
NS03			2 Years	Yes	Frequent	Difficult
NS04			1 year and 9 months	Yes	Frequent	Not Difficult
NS05			5 years	Yes	Frequent	Very Difficult
NS06			Almost a year	Yes	Frequent	Difficult
NS07			11 Months	Yes	Frequent	Difficult
NS08			4 5 Years	Yes	Frequent	Difficult
NS09			7 Months	Yes	Frequent	Not Difficult
NS010			4 Years	Yes	Frequent	Very Difficult
NS011			5 years	Yes	Frequent	Difficult
NS012			11 months	Yes	Frequent	Not Difficult
NS013			11 months	Yes	Frequent	Difficult

H.2 Personal opinions on English pronunciation difficulties for Ethiopian speakers

Q.item **In your opinion, what are the main pronunciation problems that you noticed Ethiopians have when speaking English? Can you give examples?**

Topic	Point of difficulty
NS01	*Some English sounds are difficult so they sound odd when spoken by an Ethiopian. Also, many Ethiopians learn English from teachers with limited English experience so they copy the same problems, repeat them. The cycle continues! Other problems - strange phrases such as 'are you fine? How is the weather?". We don't say these phrases. Another example on pronunciation is, my Ethiopian husband often say "plumber" pronouncing /b/ which is silent. He also says "biscut" for '"biscuit". Perhaps, he copied it from his previous teachers or another wrong model.*
NS02	*/th/ sounds, short vowels, stress, and rhythm. I notice the use of diphthong-like vowels instead of vowels. Ethiopians pronunciation in English sounds for me like Indians. If an Ethiopian does not tell me where from, I will probably consider from the accent he/she is from India*
NS03	*In exact phonemes, e.g. /p/ and /f/ (sound like inflated?). Different pattern of intonation, rhythm, and stress. Unless one is familiar, understanding may be quite difficult for native speakers. For example, many of the sentences I wrote for you were facilitated by the context. I mean, I guessed what might have intended to say many of the words were unrecognizable for me.*
NS04	*Usually difficulties with the "th" sound.*
NS05	*Speed of speech - sometimes very quick. Additional syllables (vowel sounds) - e.g. adding an "a" sound to the end of words. Some differences in grammar makes it difficult to follow - e.g. order of words in sentence AND also past/present tense used in wrong places. I used to read mouth movement when speaking with Ethiopians. I think I am now OK.*

NS06 Often talk very fast in English. Vowel sounds/low. Many do not usually speak loudly and confidently But this is not big problem for I often ask them to repeat.

NS07 Strong accent. Incorrect use of words/sentence constructions. New comers might be uncomfortable. I was not good during my arrival. Many do not understand me quickly. May be they are not familiar with me. This must be improved. When I learnt French, our teachers exposed us to French native speakers in classroom. Sometimes native speakers should be invited here as well. Otherwise, students would follow wrong models from local teachers.

NS08 Emphasis in the wrong place - like past tense '-ed' and on unexpected words.

NS09 Saying 'I' - e.g. my name Abeegail, not Abigail. Usually the melody is different.

NS010 Unable to pronounce 'th' -as Ethiopians pronounce it as 'z'

NS011 The words are stretched; e.g. Thing/s. "Therefore" will sound like- "there four"

NS012 The /-ed/ ending on a word is over pronounced. For example, 'mixed sounds like 'mix-ed'.

NS013 Stretching words longer. Also '- ed' at the end of a word should sound like a 't', but they enunciate it the way that it is spelled.

H.3 Native Speakers' sentence transcription for the intelligibility stimulus

Item	1	2	3
Lis ID	I had plenty of screws.	So shall we meet at the station?	My friend helped me to find a book for school boys.
NS01	I had ---------- ?	So shall we meet at the station?	My friend(s) also always work school
NS02	I had plenty of screes.	so shall we move at the station?	My friend told me to find a work.
NS03	I had plenty of screws.	So shall we meet at the station?	My friend asked me to find a book at the school....
NS04	I had plenty of screws.	social	My friend ..... find ...boook for school.
NS05	I had plenty of screws.	So shall we meet at the station?	My friend helped me to find a book for school ....
NS06	I had...	So was at the station.	My friend has me to find a book for school.
NS07	I had plenty of screws.	So shall we meet at the station?	My friend helped me to find a book for school.
NS08	I had plenty of....	so shall we meet at the stadium?	My friend helped me to find a book for school with
NS09	I had....	So shall we meet out the station?	My friend has asked me to find a book at the school....
NS010	I had plenty of screw.	So shall we meet out the station?	My friend has asked me to find a book at the school....
NS011	I had plenty of excuse	So shall we meet at the stable?	My friend has helped me to find a book for ...
NS012	A had plenty of....	... at the station	My friend helped me to find a book for school twice
NS013	I had.... Of skills	So shall we meet out the station?	My friend... work for
Item	4	5	6
Lis ID	Too much for poor folk like us.	I had already said we could not afford to go away.	I don't usually come here by car.

NS01	.....	I had already said we could not approach to go away	I .... big cat
NS02	??? Work ???	I had a red? Could not afford to go away	I don't usually come
NS03	Too much.... poor work...	I had already said we cannot afford to go away	I ... cat
NS04	.....	I had already said .. Could not afford to go away	I don't usually
NS05	Too much....	I had already said, we could not afford to go away.	I don't
NS06	Too much...	I had already said people... away.	I going to run
NS07	.....	I had already decided we could not afford to go away.	I want rate ..... he's.....?
NS08	too nice	I had already decided we could not afford to go away.	I don't usually come here
NS09	.... make up ...	I had already decided we could not afford to go away.	I don't usually wear make up.
NS010	Too much for poor work like us	I had already said people do not afford to go away.	I don't usually come home at this time.
NS011	....	I had already said people could not afford to go away.	I don't usually come... catch...
NS012	Too much for ... work	I ... 3:30 not ..... to go away.	I ...
NS013	To much for work.... makes us	I had already said we can not afford to go away	I don't really ...
Item	**7**	**8**	**9**
Lis ID	**I shall start on the shelves.**	**My old saw was not good enough and I decided to buy a new one**	**I think most garages charge far too much for poor folk like us**
NS01	I shall start on the shelves	that I might the sound was not good and I said to anyone	I think garages charge too much for ... like us
NS02	I shall start on the shelves	My ... was not good enough I	I think most garages charge for poor

		decided a new one	work like us
NS03	.... on the shelves	My old ... was not good enough and I decided to buy a new one	I think most garages charge too much for poor like us
NS04	I shall .. on the shelves	My ... was not good enough and I decided to buy a new one	I think most garages charge far too much for people folk like us
NS05	I shall start on the shelves	My old saw was not good enough and I decide(d) to buy a new one	I think most garages charge far too much for poor folk like us
NS06	I shall .... on the	My ..... to bu a new one.	I think most garages charges ... too charge to much for gass.
NS07	I shall start on the shelves	My	I think garages charge too much for poor people like us.
NS08	I shall start on the shelves	My old ... was not good . In the end I .... to buy a new one	I think most garages charge ... too much for poor folk like us
NS09	I shall start on the shelves	My old ... was not ...buy a new one	I think too many garages charge for poor work .... us
NS010	HR staff on the shelves	My old ... and I said I would buy a new one	I think that most garages charge too much for poor like us
NS011	I shall start on the issues	.... we said I would buy a new one	I think Gorges chared too much for poor people like us
NS012	I shall start on the shelves	My old ... was not ... and I...	I think .... charge too much for ... like us
NS013	I shall start on the shelves	My old flower ...to buy a new one.	I think most garages charge too much ... like us
Item	**10**	**11**	**12**
Lis ID	**Not to spend money having it done professionally.**	**The rail fare's cheaper, so shall we meet at the station?**	**I have needed some new book shelves for a long time.**
NS01	.....	where is...?/so shall we meet at the station	I have had some new book shelves for a long time
NS02	Not spend money having done professionally.	... so shall we meet at the station	I have needed some new book shelves for a long time

NS03	Not to spend money ... professionally.	... so shall we meet at the station	I have ... The new book shelves for a long time
NS04	Not to spend money ...	... shall we meet at the station	I have om time
NS05	Not to spend many having done professionally.	... so shall we meet at the station?	I have need some new book shelf for a long time
NS06	.....	...shall we meet at the station	I have re-examined you for ...
NS07	Not spend money ... professionally.	... shall we meet at the station.	I have ... you ..... ?
NS08	Not to spend money having ... professionally.	The rain has pattern cheaper so should we meet at the station?	I have .... on time for you.
NS09	... spend money ... professionally.	.... so shall we meet at the station?	... made new book shelves for ...
NS010	Not to spend money having done professionally.	... so shall we meet at the station.	I have less than you, I have worked for a long time.
NS011	Not its being done professionally.	There is the chapter, so shall we meet at the station	I have ...book shelf ... I don't try.
NS012	No spend the money ... professionally.	... shall we meet at the station.	I have ... some new bookshelf for some long time
NS013	.... professionally.	the rain so shall we meet at the station,	i have needed some new book shelves for some long time
Item	**13**	**14**	**15**
Lis ID	**Not that i am very clever with my hands.**	**And I have been reading it with great interest.**	**I thought it would be prudent not to spend money having it done professionally.**
NS01	No sir, I am very clever with my hands	And I have been reading ... with great interest	I thought it would be prudent to spend money on professionally
NS02	Not ... I am very clever with my hands	And I have been reading good with great interest	I thought it would be prudent having it done professionally
NS03	No sir, I am very clever with my hands	And I have been reading it with great interest	I thought it would be prudent not to spend money having it done professionally
NS04	Not sir, I am very clever with	And I have been reading with	I thought it would be prudent not to

	my hands	great interest	spend money having it done professionally
NS05	Not sir, I am very clever with my hands	And I have been reading books with clear ...	I thought it would be prudent not to spend money having it done professionally
NS06	... flavor with my country	And I have been eating ... with ingeera	I thought it would be prudent not to spend money ... professional
NS07	no sir, I am very clever about ...	And I have been reading it with great interest.	I thought it would be prudent not to spend money having it done professionally.
NS08	Note that I am very clever with my hands	And I have been reading it with great interest	I thought it would be prudent not to spend money having it done professionally
NS09	... , I am very clever with my hands.	And I have been reading ...	I thought it prudent not to spend money having it done professionally
NS010	No sir, I am very clever with my hands	And I have been reading it with great interest	I thought it was prudent not to spend money having it done professionally
NS011	No sir, I am very clever with my ...	And I have been reading it with clear ...	I thought it would be prudent ... having it done professionally
NS012	... I am very clever with my ...	And i have been reading this book with great interest	I thought it would be prudent not to spend money ... professionally
NS013	No sir, I am very ... with my hands	And I have been reading it with great interest	I thought it would be prudent not to spend money ...
Item	**16**	**17**	**18**
Lis ID	**The next time I am on holiday I shall start on the shelves.**	**Besides, we could not afford to go away I thought.**	**The train's a good deal more convenient.**
NS01	... I shall start on the shelves	... we could not afford to go ...	... a good deal more ...
NS02	The next time I am on holiday I shall start on the shelves	Besides, we could not afford to go away a card.	The ... is a good deal more ...
NS03	The next time I am ... on already, I shall start on the	Besides, we could not afford to go for a work out	.... a good deal more ...

	shelves		
NS04	... I am on holiday, I shall start on the shelves	Besides, we could not afford to go... without...	... a good deal more...
NS05	For the next time I am on holiday, I shall start on the shelves	Besides, we could not afford to go away abroad	...
NS06	The time I am... for the shelters	Besides, we could not afford to go right out	... is a good deal more for
NS07	The next time I am on holiday I shall start with the ...	Besides, we could not afford to go...	...
NS08	The next time I am on... I shall start on the shelves	Besides, we could not afford to go away abroad	There is a great deal more congrat.
NS09	The next time I am on holiday I shall start on the shelves	Besides, we could not afford to go away ...	... a good deal more confident
NS010	The next time I am on... I shall start on the shirts	Besides, we could not afford to go... out	The trays were a good deal...
NS011	The next time I am on holiday, I should start from the shelves	Besides, we could not afford to go away, I thought.	... there could be more....
NS012	The next time I am on holiday, I shall start on the shelves	Besides, we could not afford to go away ...	... a good deal more than
NS013	The ... time I shall start on the ...	This adds, we could not afford to go...	Lot is a good deal more convenient
Item	**19**	**20**	**21**
Lis ID	**I bought the wood at the local handicraft shop**	**Reading it with great interest.**	**My friend also helped.**
NS01	I bought the wood at the local handicraft shop	greetings, this is...	My friend also has it.
NS02	I bought the wood at the local handicraft shop.	Reading it with great interest	My friend also heard it.
NS03	I bought the wood at the local handicraft shop	Reading it with great interest	My friend also heard it.

NS04	I go to the the local handicraft ship	… it with great interest	My friend also helped.
NS05	I bought the wood at the local handicraft shop	Reading it with great interest	My friend also helped.
NS06	I bought the wood at the local handicrafts shop	Treating it with cream first	My friend also helped.
NS07	I bought the wood at the local handicraft shop	Reading it with great interest	My friend also helped.
NS08	I bought the wood at the local handicraft shop	Reading it with great interest.	My friend also helped.
NS09	I bought the wood out the local hand-craft shop	Greeting it with … First.	My friend also helped.
NS010	I bought the wood at the local handicraft shop	Reading it with great interest	My friend also helped.
NS011	I got the wood at the local handicrafts shop	Reading it with great interest.	My friend also helped.
NS012	I bought the wood at the local handicraft shop	Bringing it with great interest	My friend also heard it.
NS013	I bought … the locker hand craft shop	Eating … with great interest	My friend is so hurt.
Item	**22**	**23**	**24**
Lis ID	**So during my holiday I decided to tackle the job my self.**	**It would be prudent not to spend money.**	**Poor folk like us.**
NS01	… my whole day and I said it to ….	It would be prudent not to spend money.	… like us.
NS02	Suddenly my holiday, I decided to tackle the job my self.	It would be prudent not to spend money.	… work like us.
NS03	Suddenly …. I decided to … the job my self.	It would be prudent not to spend many.	Poor folk like us.
NS04	… my holiday decided to …	It would be prudent not to	Poor folk like us.

		spend money.	
NS05	So during my holiday decided to tackle the job my self.	It would be prudent not to spend money.	Poor folk like us.
NS06	... I decided to tackle the job my self.	It would be prudent not to spend money.	Poor folk like us.
NS07	... I decided to tackle the job my self.	It would be prudent not to spend ...	Poor folk like us.
NS08	Sudden my whole day decided to ...myself.	It would be prudent not to spend money.	Poor folk like us.
NS09	... I decided to tackle the	It would be prudent not to spend money.	Poor folk like us.
NS010	Suddenly, my worry I decided to tackle the job myself.	It would be prudent not to spend money.	Course work like us.
NS011	So during the holiday decided to tackle the job myself.	It will be prudent not to spend many.	Talk like us.
NS012	... my birthday and I decided to ...myself.	It would be prudent not to spend money.	...
NS013	So... holiday, I decided to... myself.	It could be problem not to send money.	For .... like us.
Item	**25**	**26**	**27**
Lis ID	**Not that I am very clever with my hands but it did not seem too thorny.**	**But I found that my old saw was not good enough.**	**You have to be so early.**
NS01	Know that I am very clever with my hands	But I found that ... Old, it was not good/wood.	You have to be shop early.
NS02	Not that I am very clever with my hands but it did not seem good	But I found that my old shoe was no good ...	You have to be so early.
NS03	Not that I am very clever with my hands, but it is true	But I found that ... was old, so not so good.	You have to be so early.
NS04	Not that I am clever with my hands but it seemes ...	Then I found that ...	You have to be ... early.

NS05	Not that I am very clever with my hands but it did not seem to deter me.	But I found that that old song was not good enough.	You have to be so early.
NS06	Not that I am very clever on using my hands but ... for me	That I found that old song was no good.	You have to be ... early.
NS07	Not that I am very clever with my hands but it did not seem to...	Then I found that my old ... was not good enough.	You have to leave so early.
NS08	Note that I am very clever with my hands but it did not seem ...	That I find that my old song was not good enough.	You have to be ... early.
NS09	Not that I am very ... with my hands but it did not seem ...	... found ... was not good ...	You have to be so early.
NS010	Not that I am clever with my hands but it is not working.	Then I found out that my old saw was not good .	You have to be so early.
NS011	Not that I was not clever with my hands but it did not trow me.	Not that I found that my old was not wood.	You have to be so early.
NS012	Not that I am very clever with my hands, its just....	But I found that ... was not good.	You have to ... Only.
NS013	Not that I am very handy with my hands	But I found that the ... was no good.	You have to be so early.
Item	**28**	**29**	**30**
Lis ID	**Fnd a book on wood work.**	**We could not afford.**	**The rail fare's cheaper.**
NS01	When it will ... work.	....	The ... super.
NS02	When you book on ward to work.	We could not afford.	The day fails supper
NS03	When a book ... to work.	We could not afford.	The very first cheaper.
NS04	...	We could not afford.	The rail fare's cheaper.
NS05	...	We could not afford.	...

NS06	Fnd a book on your work.	... not a ...	The ...
NS07	Fnd a book on wood work.	We could not afford.	The red ....
NS08	plan a book onward.	We could not afford.	The day fare's cheaper.
NS09	When ... a book.	We could not afford.	...
NS010	When a book that will work.	We could not afford.	The ... cheaper.
NS011	My ... book ... work.	We could not afford.	... cheaper.
NS012	...	Not good not at work.	...
NS013	Fnd a book ... with work.	Not good....	The Air fare's cheaper.
Item	**31**	**32**	**33**
Lis ID	**Book shelves for a long time.**	**It didn't seem too thorny.**	**I don't usually come.**
NS01	walk ... but I don't paid.	It didn't seem to ...	I don't know/have a car.
NS02	What shall we give work a long time.	Didn't seem to.	I don't really come.
NS03	...	It didn't seem to turn	I don't usually come.
NS04	....	It didn't seem to ...	I don't ...
NS05	... for a long time.	It didn't seem to ...	I don't own a cow.
NS06	... shall ...	It didn't seem to ...	I don't knoe how.
NS07	What shall we ...	It didn't seem to ...	I don't know ....
NS08	We shall ... the Doctor.	It didn't seem to come.	I don't usually come.
NS09	....	It didn't seem to ...	I don't usually come.
NS010	Work a long paid.	It didn't seem to come.	I don't usually come.
NS011	Walk ...a day.	It didn't seem to come.	I don't usually come.
NS012	...	It did not seem to ...	I didn't ...
NS013	Work shall be	It didn't sink hole for me.	I don't own a car.
Item	**34**	**35**	**36**
Lis ID	**I decided to tackle the job myself.**	**If you want to find a parking place.**	**I bought the wood at the local handicraft shop and I had plenty of screws.**
NS01	I decid to ... joke myself.	If you want to find a parking place.	I bought the wood at the local hand craft shop and I had plenty of screws.

NS02	I decide to tackle the job my self.	If you want to find a parking place.	I bought the wood at the local handicraft shop and I had plenty of screws.
NS03	I decided to take the ... myself.	If you want to find a parking place.	I bought the wood at the local handicraft shop and I had plenty of screws.
NS04	I decided to tackle the job myself.	If you want to find a parking place.	I bought the wood at the local handicraft shop and I had plenty of screws.
NS05	I decide to tackle the job myself.	If you want to find a parking place.	I bought the wood at the local handicraft shop and I had plenty of screws.
NS06	I ... the joke myself.	If you want to find a parking place.	I bought the wood at the local handicraft shop and I had plenty of screws.
NS07	I decide to joke the job my self.	If you were to find a parking place.	I bought the wood at the local handicraft shop and I had plenty of screws.
NS08	I decided to tackle the job myself.	If you want to find a parking place.	I bought the wood at the local handicraft shop and I had plenty of screws.
NS09	I decided to tackle the job myself.	If you want to find a parking place.	I bought the wood at the local handicraft shop and I had plenty of screws.
NS010	I decide to tackle the job myself.	If you want to find a parking place.	I bought the wood at the local handicraft ... and I had a lot of screws.
NS011	I decide to tackle the job myself.	If you want to find a parking place.	I bought the wood at the local handicraft shop and I had lots of screws.
NS012	I decide to ... to ... myself.	If you want to find a parking	I ... the wood of the local handicraft

		place.	shop and I had plenty of …
NS013	I decided to tackle the job my self.	If you want to find a parking place.	I bought the wood at the local … I had …, short screw.
Item	**37**	**38**	**39**
Lis ID	**I decided to buy a new one.**	**When we were spending a few hours in town with the boys**	**My old saw was not good enough.**
NS01	I decided to buy a new one.	When we are spending a few hours in town with the boy	My … was not good enough.
NS02	And we decided to buy over one.	When we are spending a few hours in town with the boy	My …was not good enough.
NS03	I decided to buy everyone.	When I spending a few hours in town with the…	My old town was not good enough.
NS04	… to buy a new one.	When we were spending a few hours in time with…	… was not good enough.
NS05	I decided to buy only one.	When we spending a few hours in town with the boy.	My old cow was not good enough.
NS06	I have decided to buy a new one.	When we were spending a few hours in town with a friend	My … was not ….
NS07	And he sent us to buy a new one.	When I was spending a few … with friend.	My work was not good enough.
NS08	I had decided to buy a new one.	When we are bringing a few … in town with the boy	My workshop was not good enough.
NS09	I decided to buy a new one.	… a few hours … in town with…	My … not good enough.
NS010	I thought you saidbuy only one.	When we were spending a few hours… with a friend	My work house was not good enough.
NS011	I decided to buy a new one.	When I was spending a few hours in town with the boy.	… was not good enough.
NS012	…	my … is spending a few hours in town with the…	My hotel was not …
NS013	Iid decided to buy a new one.	… spending a few hours in town with a friend.	My old … was not … enough.