Chapter One
Introduction

1.1. Overview:

Language is a way of communication thus it is a system of symbols and rules that enable us to communicate. This seems to be a very simple definition; however no single definition appears to be satisfactory. To define a language it could be described in a variety of ways: for example, we can talk about the sounds of the language, or the meaning of words, or the grammar that determines which sentences of a language are legitimate. These are very basic distinctions in linguistics, and these different aspects of language have been given special names. They are regarded as systems inside a main system this is why a human language has been described as a 'system of systems' and these systems are: phonetics (the study of raw sounds), phonology (the study of how sounds are used within a language), lexis (the study of the individual words), morphology (the study of the significant variations of forms of words), syntax (the study of the combination of words into significant patterns), sentences (the combinations of patterns) into longer utterances (cohesion), and semantics (the study of the association of words and word patterns with meaning). Then the pragmatics comes which is the study of language use.

Language is so integral part of the human life and activities that one does not realize the enormous complexities that are involved in the language learning process until one tries actively to either teach or learn a language other than one's own. "When we study human language, we are approaching what some might call the "human essence," the distinctive qualities of mind that are, so far as we know, unique to man and that are inseparable from any critical phase of human existence, personal or

social." (Chomsky, 2008:88) "It is clear that language learning involves not just a mastery of a sound system of symbols, but an amalgam of systems, all operating simultaneously at different levels, intricately as threads woven to form a single piece of fabric." (Fattish, 2000:2)

If one does not know a language this means that the word and sentences of that language are incomprehensible for him, because the relationship between the sounds of the language and the actual object is mostly arbitrary, this is why he is not capable of understanding the meaning represented by these sounds. (Fromkin, 2003:5) Psychologists believe that we are trying to learn a language we store representations of words in a mental dictionary. They call this mental dictionary the ***lexicon.*** It is hypothesized to contain all the information or pointers to all of the information that we know about a word, including its sounds (phonology), meaning (semantics), written appearance (orthography), and the syntactic roles it can adopt. Thus the recognition of a word is like looking it up in a dictionary; when we know the word, then we have access to all the information about it, such as what it means and how to spell it. (Harley, 2005:4).

When someone learns a language he or she learns which sound occurs in this language and how they are patterned. This is phonology the study of the ways in which speech sound forms system and pattern. The term phonology is used in two ways first as the mental representation of linguistics knowledge; this is representation of sounds and sound pattern in the speakers' mental grammar; and second as the description of this knowledge; this is the study of sound pattern in a language or human language in general. The phonology knowledge allows the speaker to produce sounds that form meaningful utterance, to formulate words, to notice a foreign accent and such things, thus the speaker knows the phonological rules of that language. (Fromkin,2003:273-274)

Intonation is used to put words and information in the foreground to signal ends and beginnings of conversations or to show whether a conversation is ‘open’ or ‘closed’. It is also used to convey emotion, involvement, and sympathy. For example an exaggerated intonation tone in a question shows that we are really surprised or frightened. But if the same question is said at a low pitch with a fairly flat intonation tune it suggests that the person is not very concerned at the answer he will get. Intonation is also a way of modifying the strength of what is being said. The same word can express agreement, acceptance, doubt, or disagreement depending on how we say it. Finally intonation is used to show how certain we are about what we are saying and to indicate what response we expect. (Harmer. 2002:28-29) ‘In English, intonation contours may reflect syntactic or semantic difference… A sentence that is ambiguous in writing may be unambiguous when spoken due to differences in the pitch contour.’(Fromkin,2003:322)

“Languages use pitch variation contrastively for the expression of dicoursal meaning and for making phrases.”(Gussenhoven, 2004:22) “To be linguistically significant, pitch variations have to be under speaker’s control and not for instance on physiological differences, for instance differences in physical size or activity can result in differences in a speaker’s pitch.” (Rogerson, 2011:179) This pitch variation is the music of speech, it is called Intonation which is part of phonology. Every language has its own music that distinguishes it from other languages.

As it has been explained in the above paragraph that intonation differs from language to language, further more it differs from dialect to dialect. Thus in Great Britain "The intonation patterns of many dialects of northern Britain are very different". (Cruttendent, 1997:88). Moreover one of the most outstanding differences between American and British English is intonation. Alego (2006:2) states that “the most important

difference between British and American is the tune of the language, that is, the intonation that accompanies sentences."

When infants begin to produce a small inventory of melody patterns in babbling or early meaningful speech, they seem to command for the first time a true communication system that is complete albeit limited in scope. The observed nonlinear shape of intonation development suggested a linguistically based pattern of regression and reorganization. However, the precocious expression of intonation in the youngest infants also pointed to the role of physiological universals and emotional experience. It is concluded that children's early intonation reflects biological, affective, and linguistic influences. This system brings together sophisticated pragmatic and effective communication skills, which begin to develop in the first months of life, and rudimentary grammatical skills, which emerge in a more elaborate form only later. (Snow,2006:281) This how native speakers acquire the language; this is why it is good to look into the problems of second language learner when trying to study a new language.

The basic problem in learning a second language especially in an artificial environment is that the language is learnt consciously in a contrived situation in contrast to the natural environment of the first language. This is manifested in the learning of supra segmental features and particularly intonation because in the mother tongue it is learnt unintentional, and unconsciously and naturally while in the academic environment it is not acquired in the same way.

There has been a technical progress in the last decade which leads to a wide access to inexpensive speech analysis, large data base facilities, video techniques for analysis, imaging techniques. This is why **"**In recent years, the intonational aspects of speech have become an important area

of study in phonetics, phonology, and speech." (Pisoni,2005:236) Moreover intonation is hoped to improve automatic speech synthesis of texts, speech recognition, and human machine dialogue systems as well as language identification and speaker recognition. Another point is that the last two decades have witnessed conceptual advance in formal representation in pitch contours. Finally, there has been a shift of interest from purely syntactic aspect to speech communication. (Pisoni, 2005: 236)

Thus, intonation is not only the rhythm of a language but it has many other functions. Some of these functions are: the attitudinal function, the grammatical function and the accentual function. A non-native speaker usually does not make clear distinctions in intonation to reflect these functions. It is an essential part of pronunciation. 'It is the movement of the level of the voice, i.e. the tune of a sentence or a group of words. We use intonation to express emotion and attitude, to emphasise or make less important particular things we are saying, and to signal to others the functions of what we are saying, e.g. to show we are starting or stopping speaking, or whether we are asking a question or making a statement.' (Mary Spratt, 2010:14). Intonation has different aspects i.e. pitch change and pause signal thought groups and the beginning and end of a massage, while pitch range signal the speaker's involvement, what does the speaker attitude or intention. (Rogerson 2005:64) As such, the significance of this research reveals itself.

The question which arises is whether to teach intonation or not. That native speakers and fluent English language speakers can all put the system under function perfectly well and with ease. They do it without thinking about it. Thus, ironically the ideal approach when teaching intonation is not to draw too much attention to it but to teach the lesson while speaking naturally. This is why, not teaching intonation does not

mean that it should be ignored, but teachers have to find their own way in presenting intonation because most course books do not address intonation directly, and it is an area of pronunciation that that should be dealt with carefully. Good pronunciation skills are now increasingly being seen as important in a communicative approach to teaching English as a Foreign/Second Language. Intonation is an important part of communicative language learning but the complexity of most descriptions of intonation, and the lack of effective teaching methods, led the teachers to turn away from trying to teach it. Most teachers feel that it is an important aspect of language and were not comfortable about ignoring it but they find difficulties in teaching it.

From the above it can be concluded that if native speakers can operate the system of intonation with ease, then the system of intonation could be learnt. What is learnable is also teachable. When a non-native speaker does not follow intonation tones, this sometimes lead to an ambiguity and misunderstanding. So, it is indeed a necessity to have a research to deal with the main defects in the non-native speaker's intonation. The person who has an idea about intonation and its functions is supposed to be much better than the one who has not. But even this educated person makes mistakes when toning sentences. The researcher observed this among his students of third year. Even though they are well informed about intonation, they do not apply all the tones correctly. In this research the researcher intends to determine to what extent the person who has an idea of intonation makes mistakes; compared to those who have no idea about intonation.

1.2. Statement of the problem

Intonation is an essential part of communication in any language. Inappropriate use of intonation by non-native speakers does cause problems in speech which may lead to misunderstanding and cause communication breakdown. This is clear in the following statement:

> *"Intonation, the systematic patterning of prosodic features, is of course also a problem area-whereas native speakers have no difficulty using the system communicatively, they find it very difficult to introspect about the significance of the choices they make, and even to produce citation forms reliably and correctly"*
>
> *(Coulthard 1993: P 96)*

Thus native speakers do not face any problem toning sentences, but intonation is a problematic area for non-native speakers which needs more research to be done in it. When non-native speakers hear different tones they do not differentiate between them more over they do not understand the different connotations of these tones. On the other hand when trying to apply those tones they mis-use them. Both using and applying of different tones incorrectly may lead to great misunderstanding when native and non-native speakers are trying to communicate.

There has been general dissatisfaction, among teachers and linguists about the pronunciation problems of English language amongst students particularly on the lack of proper use of supra-segmental features in the speech of the students. Symposia, debates, discussions, and conferences are held every year in different parts of the Arab world with the objective to try and pinpoint the causes of weakness and find the best

methods to promote the students' performance and enhance their communicative competence regarding all aspects of language.

Sudan University of Science and Technology goes through this same matter. Most teachers if not all are dissatisfied with the proficiency of their students and the students themselves are not happy with their own performance. Linguists are divided in their attitude towards teaching supra-segmental features or giving the non-native speaker the opportunity to pick it up without teaching it to them, to acquire it just from being exposed to the language. So the problem of the research is to determine how much a third year student of English language applies his knowledge of intonation while speaking and listening; compared to non-native speakers of English who do not have an idea of intonation. This is done through examining their knowledge and application before teaching them intonation and again after intonation is being presented to them.

1.3. Significance of the study

The significance of this study stems up from the importance of English language itself as a global language. For a long period of time English has been regarded as the first international language amongst most of the non-English speaking countries, and it persists to maintain its place despite the universal changes. Sudan does not differ despite having Arabic as the official language of the country; English continues to be an important language to learn in order to work and study in Sudan and abroad.

Thus, it is important for the foreign language speaker to tone English language correctly; moreover to understand various tones when hearing them. Because intonation in any language serves many functions, so if the foreign language speaker doesn't know how to apply it, in

addition to what to understand from different tones, this may lead to tremendous misunderstanding. However, having knowledge about intonation of a certain language can be of a great benefit to the foreign language speaker.

Many researches concentrate on the phonology of different dialects of Arabic language some of these researches investigated all the phonological aspects while some focused on stress and intonation but without referring to the effect of this intonation on other languages if the speaker was trying to speak another language. There are researches which conducted a contrastive analysis between the phonology of their language and the phonology of English language pointing out the similarities and differences. Other researches written in this area concentrated on the intonation non-native speaker of English language as a whole, they didn't refer to non-native speakers who have an idea about intonation and whether they benefitted from their knowledge about intonation or not.

This research measures the standard of foreign English language learners; before being exposed to intonation; and then measures their standard after being taught intonation, more over looking into some aspect of the intonation in their dialect to find out the source of these problems. No other research tried to handle this area from this angle.

1.4. Objectives of the Study:

This study intends to achieve the following objectives:

1. To find out to what extent students (before studying intonation and after studying intonation) can distinguish various tones and the tonic syllable when hearing them? That is: whether they can identify different tones on the level of words and level of sentences, and if they can identify tonic syllables.

2. To find out to what extent students (before studying intonation and after studying intonation) are aware of intonation, in other words if they can tone various statements correctly, if they can produce different tones on the level of words and the level of sentences correctly. Moreover if they can produce the tonic syllables.

3. Examine the degree of students' exposure to the English language, at Sudan University of science and technology.

4. Investigate the Sudanese Arabic intonation closely and analyze it to find the differences and similarities between it and the English language.

5. Find out if there is any kind of transfer from the first language in the sample of the study.

1.5 Questions of the study

This study sets to answer the following questions:

1. To what extent can students distinguish the various tones and the tonic syllable when hearing them or when producing them?

a) On the level of words.

b) On the level of sentences.

c) On the level of tonic syllable.

2. To what extent can students (before studying intonation and after studying intonation) produce different tones and the tonic syllable correctly?

a) On the level of words.

b) On the level of sentences.

c) On the level of tonic syllable.

3. To what extent are the students well exposed to English language, at Sudan University of science and technology?

4. What is the intonation of the Sudanese Arabic language and how far does it differ from the English language?

5. To What extent does the first language intonation influence the learning of the second language intonation, in the sample of the study?

1.6. Hypotheses

The study sets out to test the following hypotheses

1. Students cannot distinguish various tones and the tonic syllable when hearing them. They cannot identify different tones on the level of words, on the level of sentences and on the level of tonic syllable.

2. Students mis-tone words and sentences, thus they cannot produce them correctly. They cannot produce different tones on the level of words, on the level of sentences and on the level of tonic syllable.

3. The students were not exposed to English language, at Sudan University of science and technology.

4. Sudanese Arabic intonation is not unique and it does not differ greatly from English intonation.

5. The intonation of the first language does not transfer to the second language, in the sample of the study.

1.7. Parameters

From the title of this study it shows that it is concerned with the student's awareness of the functions of intonation. Thus it is limited to the examining and analyzing the intonation of the sample then evaluating how much knowledge they gained after studying intonation.

This research is carried out on a sample of a third year students, of the department of English language, college of languages at Sudan University of Science & Technology on the academic year 2013-2014.

1.8. Methodology:

The researcher adopted two methods to tackle this study namely, the descriptive approach and the experimental approach. The descriptive approach is very suitable when there is content analysis. The descriptive approach is the method which deals with a phenomenon or an event or a cause existing at present, from which the researcher can gather information to answer the questions of the research, without the interference of the researcher. The descriptive method is regarded as one of the simplest scientific approaches adopted. (Abu Hatab etal, 1991:112).

The descriptive method concerns itself with collection of data and facts and their classification, analysis, and interpretation. So as to project its bearing and identify it qualitatively and quantitatively to achieve ultimate results. (Shafeeq,1996:108). This method is employed to prove certain hypothesis to facilitate answers for specific questions, concerning current phenomena and existing events at present, for which data are collected during the study. (Aga etal, 1999:73).

The researcher used the experimental method when dealing with a group who do not know intonation before teaching them and after teaching them, and striving to discriminate between their statistical significances.

The experimental researcher does not stop at describing a situation or determination of a case or stating the history of past events. Instead of restricting his activities on observing and describing what already exist, the researcher proceeds to tackle certain factors, under controlled conditions. (Deobold, 1977:377)

1.9. Tools

Various tools are going to be adopted to meet the hypotheses of this study.

First, the use of tape-recorded material of Sudanese Arabic and English.

Second, conducting interviews with the educators and with students

Third,pre- and post tests for both listening and speaking.

Chapter two
Theoretical Framework (1)
Literature Review

2.1. Tonality, Tonicity, Tone and Pitch:

To go over the characteristics of intonation it is very important to cover certain terms like tonality, tonicity tone and pitch.

Tonality refers to the' division of speech into its separate individual 'tone groups' or intonation units. Each intonation unit contains a single unit of information and represents the speaker's perception and management of the whole message. (Halliday, 1994: 36)

Tonicity refers to the assignment and realization of the most prominent word in an intonation unit indicating the focus of information. The system of tone, the contrasting pitch movements in each unit of intonation, is associated with the expression of different speech functions and the status of information (Tench, 1996: 80-86). Another definition of tonicity is: "the placement of the nuclear syllable. It is unpredictable and can vary according to the context and speaker intention." (Rogerson 2011:180)

Tone refers to significant (i.e. meaningful, contrastive, phonemic) contrasts between words signaled by pitch differences. Tone may be lexical, as in Mandarin Chinese or grammatical tone, or as in many African languages. However, as with stress, there may also be non-pitch aspects of tone. Lexical tones are often related to durational, phonatory and vowel quality distinctions as well as frequency distinctions. (Soltani, 2007:11). Another definition of tone is: "The pitch pattern that begins on this nuclear syllable and continues through the rest of the thought group is called the nuclear tone." (Rogerson 2011:181) The system of tone, the contrasting pitch movements in each unit of intonation, is associated with

the expression of different speech functions and the status of information (Halliday, 1994: 36).

"Pitch refers to our perception of how 'high' or 'low' the voice sounds based on the 'fundamental frequency' (speed of vibration) of the vocal folds: the higher the frequency the higher the perceived pitch and vice versa." (Rogerson, 2011:179)

The pitch of the human voice is continuously variable. Nevertheless, phonologists often assert that any language uses only a small set of different patterns to control intonation-variation in pitch, whose primary acoustic correlation is fundamental frequency or *f*0_. Intonation in English, for example, is said to behave this way. Similar claims have been made for numerous other languages. (Braun,2006:406)

2.2. Tone languages accentual languages, and stress languages:

The variation of pitch plays an important role in languages by adding meaning to words or sentences. The type of meaning that pitch movement conveys varies among languages. This variation leads us to call some languages tone languages and other stress languages where intonation plays a big role in it.

2.2.1 Tone languages

There are some languages which are considered as a tone language, where the meaning of a word depends on the tone used when pronouncing the word. "A language is a 'tone language' if the pitch of the word can change the meaning of the word. Not just its nuances, but its core meaning." (Yip, 2002:1) In Cantonese, for example, the syllable [yau] can be said with one of six different pitches, and has six different

meanings. In longer words, it matters *where* the tones go. In other languages, the only thing that matters is that the lexical tone of a word appears somewhere in that word, but its exact location may change depending on the morphology of the complex word, and the surrounding phonological context. (Yip, 2002:2)

Rogerson (2011:180) explained the concept of tone language by stating: “Changing the pitch level (e.g. high, mid, low) or contour (falling or rising) on a particular word can change the meaning. Each word or morpheme has its tone and in supra-segmental analysis the main phonological unit would be the syllable.” This is called a tone language. This scholar gave examples from the Mandarin Chinese that “‘ma’ with a high level tone means ‘mother’ while ‘˧ma’ with a low rising tone is ‘hemp’ and ‘˩ma’ with a low falling tone is ‘scold’.”

“The earliest distinction within the group of tone languages is between those that just have level tones, which require the syllable to reach a certain pitch height and those that also have a contour tones, which require the syllable to be said with a pitch movement.” (Gussenhoven, 2004:26). “It is not entirely straightforward to decide when a language is a tone language and when it is not. Many languages have occasional uses of pitch to change meaning. In American English, if one says ‘Uh-huh’ with high pitch on the first syllable and low pitch on the second, it means ‘No’. If one says it with low on the first syllable and high on the second, it means ‘Yes’.” (Yip, 2002:3) Thus these words are close to a minimal pair can only be distinguished by tone. Nevertheless, American English could not be called a tone language, because in the overwhelming majority of tones of pitch does not change the core meaning of a word, so that ‘butter’ means ‘butter’ whether it has a high-low or a low-high pattern. (Yip, 2002:3) Thus English language is not a

tone language but it has different intonational patterns which serves different functions in it.

Because of all this tone languages are most recently defined much more broadly than before: following Hyman (2001: 1368), “a language with tone is one in which an indication of pitch enters into the lexical realization of at least some morphemes”, regardless of the density of lexically contrastive tones on words; lexical tonal marking, after all, has been noted to be of gradient nature.

When surveying the world languages it is found that “many of the world languages, especially in South East Asia (e.g. Chinese, Thai and Vietnamese) and Africa (e.g. Bantu) are tonal. Most European languages are not tonal languages such as Serbian, Croatian, Swedish and Norwegian do have a tonal element.” (Rogerson 2011:180) Another scholar agreed that “Most African languages … are tone languages, in which tone serves a lexical and/or grammatical function.” (Clements, 2005:29)

2.2.2. Accentual languages

“Accentual languages typically have a lexical contrast between tone and no tone, with each morpheme having a maximum of one tone or tonal complex whose location must be lexically specified, and even morphologically complex words often allowing only one tone to surface.” (Yip, 2002:258)

They have been analysed in two main ways in the literature. One tradition identifies accented syllables with an asterisk, suggesting various rules that insert and delete asterisks. This makes accentual languages look like stress languages, where the stresses are lexical, and the melodies are assigned to the eventual winner. The other, more recent, approach concentrates on the underlying tones, and has the phonology operates

directly on a tonal representation. Accented morphemes are those that have tones, unaccented morphemes are those that do not. This makes accentual languages look like tone languages. (Yip, 2002:258)

Thus the differences between tone languages and stress languages are not that obvious it could be said that the accentual languages are just a subclass of tone languages. (Yip, 2002: 4)

2.2.3. Stress languages

In stress languages pitch does not stay constant for words. Instead, what is held constant is that in each word one of the two syllables which is more prominent than the other, and attracts the intonational pitch, whether it is the statement‘s high fall, or the incredulous response’s extra low-rise. Stress languages have one other common property, the stressed syllable does not usually have to be identified in the lexicon, but is generally picked by a counting algorithm that starts from one end of the word, and selects, for example, the second-to-last syllable, or the first syllable, as the stressed one. Other factors, such as syllable size and morphological structure, may also affect stress placement, but in the typical stress language it is not lexically marked. (Yip, 2002:3-4)

English then is what is termed a stress language, not a tone language, but intonation plays a great role in it. Rogerson (2011:180) went further by calling English an intonation language instead of stress language he said: “Intonation languages like English, tones are only found on small number of prominent syllables in connected speech. They do not, generally, change the lexical meaning of a word, but can affect the interpretation of an utterance in terms of the speaker’s intended meaning.” In tone language some words are differentiated not by their segments, which they may all share, but by tonal structure, thus in tone language tones differentiate lexical meaning while in stress and

intonation languages like English it gives the functional or emotional meaning of the utterance. (Roca, 2005:394) It can be differentiated between tone languages and intonation languages by staying that “tone languages can be perceived as a series of changing levels or pitch (i.e. from syllable to syllable); intonation languages can be perceived as dynamic pitch glides (i.e. from one prominent syllable/s to the next)” (Rogerson, 2011:180)

However some scholars have rejected this view of grouping the languages as tone, stress or accentual languages. Lim (2009:230) said “the traditional view of English as a stress/intonation language needs revising. As is increasingly recognized, distinguishing between so-called stress languages, accent(ual) languages and tone languages is in fact not clear-cut.” She argued that some traditionalists may insist to use the classic divide; but on the other hand many other scholars have become more convinced to regarding these categories as being more loosely or broadly defined, especially when considering the position that the so-called accentual languages are just a subclass of tone languages This opens up possibilities for more fluid considerations of tone languages, and of “combinations” of characteristics of what traditionally are considered stress languages and tone languages. Concluding that it has, after all, been noted that tone and stress are two separate phonological dimensions but drawing a dividing line between languages with contrastive tone on (almost) all syllables and languages with tone contrasts in more restricted locations in the word is difficult. (Lim, 2009:230)

2.3. Intonation:

What is intonation? When saying the same sentence in English language, for example the sentence "*He doesn't lend his books to anybody*." The sentence could mean that he doesn't lend his books at all, or that he is rather particular to the persons who borrow his books. How could this be attended, it is not attended through difference of stress or emphasis because in regarding both meaning the stress falls on the last word *anybody*, but there is a difference in the pitch movement-the musical tone, this difference of intonation has changed the meaning of the sentence. This is intonation in English. (Palmer, 1924:1)

When trying to define intonation "No definition is completely satisfactory, but any attempt at a definition must recognise that the **pitch** of the voice plays the most important part. Only in very unusual situations do we speak with a fixed, unvarying pitch, and when we speak normally the pitch of our voice is constantly changing."(Roach, 2005:150) "On its own, pitch is not very subtle, conveying,…, only the most basic information about mood and emotion. But once we start altering the pitch as we speak, changing the 'tune' we are using, we are able to convey a much subtler range of meaning. The music of speech, that is the intonation we use, is a crucial factor in speaking." (Harmer 2002:28) O'Connor (2007:108) nearly gave the same definition saying that a word group can be said in different ways definitely, or hesitantly, or angrily, or kindly, with interest or without interest and this can be obtained though the tunes of our voices. The meaning of the words does not change but the tunes add something to the words, this way of using tunes is called intonation.

Another definition of intonation is: "**intonation** is another important part of pronunciation. It is the movement of the level of the

voice, i.e. the tune of a sentence or a group of words. We use intonation to express emotion and attitudes, to emphasise or make less important particular things we are saying, and to signal to others the function of what we are saying, e.g. to show we are stopping to speak, or whether we are asking a question or making a statement ”(Spratt, 2010:14)

Another scholar defined intonation differently: intonation “refers to the stress or emphasis placed on consonants, vowels and syllables by a speaker to give colour to their words and help listeners better understand their meaning and significance.”(Mallett, 2008:) A very short definition is: “intonation is ‘the use of pitch fluctuation for non-lexical purposes’.” (Collinge, 2005)

A different short definition of intonation is: “The intonation of a sentence is the pattern of pitch changes that occurs. The part of sentence over which a particular pattern extends is called an intonational phrase. ” (Ladefoged, 2001:99)

Most commonly also is to connect intonation to music; Jackson (1982:48) defined intonation as “the musical or melodic accompaniment of speech.”

Intonation is used to put words and information in the foreground to signal ends and beginnings of conversations or to show whether a conversation is ‘open’ or ‘closed’. It is also used to convey emotion, involvement, and sympathy. For example an exaggerated intonation tone in a question shows that we are really surprised or frightened. But if the same question is said at a low pitch with a fairly flat intonation tune it suggests that the person is not very concerned at the answer he will get. Intonation is also a way of modifying the strength of what is being said. The same word can express agreement, acceptance, doubt, or disagreement depending on how we say it. Finally intonation is used to

show how certain we are about what we are saying and to indicate what response we expect. (Harmer. 2002:28-29)

"Intonation, then, is crucial in communicating meaning. Indeed, listeners frequently get the wrong messages from intonation when foreign speakers use it in idiosyncratic way. That is because intonation tells us what someone means and how he feels about it." (Harmer. 2002:29)

2.4. Functions of intonation

Many scholars have recognized the relationship between intonation form and function from very early times. Pike (1972: 56) mentioned the communicative importance of intonation by stating that "we often react more violently to the intonational meanings than to the lexical ones; if a man's tone of voice belies his words, we immediately assume that the intonation more faithfully reflects his true linguistic intentions." He tried to give more explanation by mentioning "If one says something insulting, but smiles in face and voice, the utterance may be a great compliment; but if one says something very complimentary, but with an intonation of contempt, the result is an insult."

Another scholar comment on the communicative importance of intonation, describing changes in it as "the most efficient means of rendering prominent for a listener, those parts of an utterance on which the speaker wishes to concentrate attention". (Gimson, 1980: 264)

The grammatical and attitudinal importance is also not neglected by the scholars. "Intonation is often important grammatically in distinguishing one type of sentence from another, it is important in signaling the attitude of the speaker in what he is saying." (Jackson, 1982:48)

The acknowledged importance of intonation in communication is very obvious; there still are formidable obstacles in the way of a clear-cut analysis of the relationship between the form and function of intonation, not to mention its presentation to the non-native speaker of English.

2.4.1. Accentual function:

The following topics are going to be tackled under this title:

A) Primary and Secondary tones:

B) Types of Nuclei

C) Intonation Group

D) Nucleus Placement

The term accentual is derived from "accent" which is a word used by some writers to refer to what is called "stress". Roach (2005:143) criticizes the view that says stress is determined by intonation, because the word stress is independent and prior to the choice of intonation. He said "However, one particular aspect of stress could be regarded as part of intonation. This is the placement of tonic stress within the tone unit".

The researcher agrees with this view, because it is on one hand shows the relation between accent and stress and therefore accent and intonation, and supplies us with a very obvious definition of ‘accentual intonation’. Accentual intonation can be defined as the placement of stress-unit or tone-unit. But on the other hand, accentual intonation does not cover only the tone-unit; it does cover all other parts of the sentence.

A) Primary and Secondary tones:

Primary tones are the basic contrastive pitch movements on the tonic, i.e. whether the pitch of the voice moves up (rises) or moves down (falls) or combines movement of down and then up 'fall-rise' (Tench, 1996:73). It can also be defined as "a change of pitch direction, with the

nucleus on the appropriate syllable of the word on which attention is particularly to be concentrated (Gimson, 1967:268).

Some scholars referred to primary tones as “Referring tones (rising intonation) are used in the first case and proclaiming tones (falling intonation) in the second case. The falling or rising tone is determined by the change in pitch at the tonic syllable (the last prominent syllable in the tone unit).” (Chapman, 2007:4) Moreover “The fall-rise tone is also a referring tone; the difference between the rising tone and the fall-rise tone is one of speaker dominance.” (Chapman, 2007:4)

Secondary tones are the finer distinction of the primary tone i.e., the degree to which the pitch of the voice rises, falls, or combines a fall and rise. It also covers the pitch movement on the pre-tonic segment (Tench, 1996:73).

Gimson (1967: 272) spoke about secondary accent as pitch prominence on the syllables preceding a tonic syllable. The first definition is more likely than the second; it comprehends the degree of pitch as well as its movement of the syllables preceding the tonic syllable.

Primary tones of English function in the organization of information. While secondary tones role is mainly in the expression of attitudes.

When considering pitch movement we find that it is not strict, as for example in music, it is rather a relative matter. The actual range of pitch differs from men to women and children. It also differs from person to person. That is, what it may be a low level for one person, may be a high level for another. But generally we speak about men, women and children pitch range. So, the child's low level of pitch is measured within the scale of the child's full range of pitch, and this, also applies for men and women. However, it is quite useful to think of pitch as having a high level, a low level and a mid-level, and it should be possible to imagine an

intermediate range of pitch between high and mid and another between mid and low (Tech, 1996:75)

B) Types of Nuclei

1. Falling Nucleus sign (ˎor `):

The pitch of the speaker's voice falls from the highest point to the lowest pitch in the high fall, or from the mid pitch to the lowest pitch in a lowest fall,

Or from mid-high to low or mid low (Tench, 1996:75) this is called the neutral tone because no other meaning is added to that of "plain statement".

The falling glide is most perceptible when it takes place on a syllable containing a long vowel or diphthong or a voice continuant (e.g / m, n, ŋ, l, z, etc.) e.g. (Gimson, 1967:269)

No. He `Couldn't be seen.

It was `raining.

When a fall occurs on a syllable containing a short vowel with its limits formed by forties, voiceless consonant (especially the stops /p, t, k/), the glide, particularly of a low fall, is so rapid that it is not easy perceptible, or may be realized merely as a low level pitch in relation to a preceding higher pitch, e.g.:

What have you `got?

but What have you ˎgot? Or

What have you ˌgot?

Again, when syllables follow the nucleus-the tail-the fall may be realized as the juxtaposition of relatively high pitch on the nuclear syllables and low pitches on the syllables of the tail e.g.:

It'll `rain in a ˌminute.

I'd for`gotten. Or

I'd forˌgotten.

Statements are generally accompanied by a falling-tone. The yes and no questions are accompanied by a rising tone. The commands have a fall, and so do interjections. The questions-tags have either a fall or a rise. Wh-questions are usually accompanied by a fall. (Tench, 1996:86).

2. The Rising Nucleus: sign (˛ or ´).

The beginning point is low (or mid-low); then the pitch rises to mid or mid-high, and this is the natural rise.

High rise start from low to high, while a low-rise, start from low and finished in mid-low.

The rise is more easily perceptible when it occurs on a syllable containing a long vowel or diphthong or a voiced continuant consonant, e.g.: -No. ˈCan you ˛see? He's not ˛ill.

When a low rising glide occurs on a short syllable, it must necessarily be accomplished much more rapidly, or may merely consist of a relatively high level pitch in relation to a preceding low pitch, or even of a slightly lowered level pitch in relation to a proceeding mid or high pitch. e.g.

ˌCan she ˛cook? ˈCan she ˛cook?

Or with a tail, the rise is achieved by means of a relatively low pitch on the nuclear syllable with an ascending scale on the following syllables (Gimson, 1967:270).e.g.

'It is ˛raining. Are you comfortable?

“Another meaning associated with a rising intonation is that of incompleteness. A rising intonation at the end of a tone-group may indicate that what is being said is not finished that there is more to come.” (Jackson, 1982: 50)

e.g. First she went to the ´cupboard, then she tried the ´sideboard, and finally she found it in the `table drawer.

In offering a list of items a falling intonation on the last item implies that the choice is limited to those items mentioned while arising intonation implies that the list is open to further suggestion. (Jackson, 1982:50) Moreover “if the speaker is offering to help then the dominant form, the rising tone, is used.” (Chapman, 2007:5)

It could be concluded that “The use of the rising tone indicates that the speaker holds a dominant position in the discourse. It is sometimes not especially important whether the speaker uses the dominant form of the rising tone or not, but there are certain occasions where a distinction is significant.” (Chapman, 2007:5)

3. The Falling-Rising Nucleus (sign v):

It comprises a sequence of fall and rise. It may occur on one syllable as in yes and no. It starts about mid level and ends at the same level.

In the case of a short syllable, the dip in pitch is made extremely rapidly and may be realized as an instant of 'creaky' voice or even of cessation of voice, (Gimson, 1967: 270) e.g.:

vNo. It's ˇ true.

When a tonic-syllable is followed by a tail the fall occurs on the tonic-syllable and the tail carries the rise.

4. Rise-Fall

A fall may be reinforced by an introductory rise, especially on a long syllable containing voiced continuant consonants: (Gimson, 1967:27).

It was ^raining.

In a running dialogue, more than half of the nuclear tones may be expected to be of the falling type, followed infrequently by the fall –rise

or divided fall-rise, and finally the rises. The actual proportion of tone types will, of course, depend to a certain extent upon the style of the conversation and the emotional attitudes of the speakers.

But one of the uses is: “If you are making sure of something for your own benefit the fall-rise tone is more suitable” (Chapman, 2007:5)

C) Intonation Group

Intonation group is called by some scholars ‘tone group’ or ‘tone unit’. “Each tone group represents a unit of information, which is to say that intonation has the function of dividing an utterance up into information unit.” (Jackson, 1982:48) Jackson explained that “phonetically, tone groups consist of a series of rises and falls in the pitch of the voice.” (Jackson, 1982:48)

“The information conveyed in the tone units of speech can serve a speaker’s purpose in one of two ways: either the speaker is saying something that the listener is already aware of through the context of interaction, or the speaker may be introducing something that is not yet shared between the speaker and listener.” (Chapman, 2007:4)

There are four methods to make intonation groups as Alan Crunttenden (1997:68-71) discussed:

1. We can give every syllable a separate intonation group. But this is not common.
2. Each full-voweled syllable can be a beginning of a new intonation unit. But this is also not common.
3. Intonation group align with large syntactic constituents. This is more common.
4. The most common way of all is that intonation group correspond with clauses. The clause may be just a simple sentence or may be part of a compound or complex sentence.

Intonation group very often correspond with adverbial which modify a whole clause. But this does not mean that clause-modifying adverbials must have a separate intonation group. It depends how prominent the speaker wishes the modification to be. One very common situation in which a clause modifier is given a separate group is where the remainder of the clause is itself subdivided into more than one intonation-group (Tench, 1996: 69-70).

A subject may have a separate intonation-group. Separate groups for subjects seem common under two circumstances: firstly, where the noun-phrase subject is long and secondly, where the subject is 'topiclised'. The subject is the main topic "theme" while other part of the sentence is merely a comment. (Tench, 1996:70).

A number of other grammatical structures which are parenthetical in nature commonly involve a separate intonation-group. Parenthetical clauses themselves will, of course, generally have a separate group.

e.g. The 'Fact ˌis / and there are now books and articles on /the fact is / that an increase . . .

D) Nucleus Placement:

There are three ways of showing focus in speech, by using lexical or grammatical means or both of them and the third is by using intonation. In English the use of nucleus placement to indicate focus is more pervasive than the use of lexical and grammatical means. Nucleus is "A term used by some intonation analysts, particularly those working within the British tradition, to refer to the syllable in a tone unit which carries maximal prominence, usually due to a major pitch change."(Crystal, 2008:334) "Every tone group has a nucleus, which is its most prominent part. The nucleus is, in other words, the most heavily

stressed syllable in a tone group, and the one which has associated with it in a pitch movement." (Jackson, 1982:48)

Lexical focusing in English involves the use of words like *a lone, only, especially, even,* and *too* and some of these words, as might be expected to, have a fixed relationship with nucleus placement. For example, *even* regularly requires the nucleus to be on the constituent governs, e.g.:

Even JANE wouldn't be so stupid.

Too on the other hand must take a nucleus itself, e.g.

He can do it Too

The principal grammatical means of focusing in English involves the use of passive cleft and pseudo-cleft constructions and it is of course also no accident that the items brought into focus by the use of these constructions frequently, take the nucleus. e.g.

The station was hit by a MOR tar bomb.

It was the DOG that died.

What we want is a WIN.

Nucleus placement is then the principal means of focusing in English. (A. Cruttenden, 1997:73).

The location of the tonic syllable is of considerable linguistic importance. The tonic syllable will tend to occur on the last lexical word in the tone unit, but may be placed earlier in the tone unit if there is a word there with greater importance to what is being said (Roach2005:143-144). In other words "In a tone- group without contrastive or emphatic stress the nucleus falls on the primary stress syllable of the last lexical word… e.g. The cat chased the MOUSE." (Jackson, 1982: 48-49) He gave more explanation by giving more examples. "Where there is contrastive or emphatic stress, the primary

stressed syllable with such stress is the locus of the nucleus, e.g. the cat CHASed the mouse, The CAT chased the mouse." (Jackson, 1982:49)

Structure words are usually unaccented, except when they are emphatic. Any word may be a focus word when there is a contrast intended to be shown, for example in the sentence "on the table" the focus word should be *table* if there is no contrast, however *on* may become a focus word if the speaker wanted to contrast it with for example *under*.(Commissioners,1844:9)

2.4.2 The Attitudinal Function

The accentual function has been dealt with in the previous section. There is another intonation functions, intonation also serve to indicate the emotional attitude of the speaker. This attitude can be conveyed in an utterance consisting of one word or more than one word. Examples for attitudinal function is 'It's all right' (a plain statement of fact), 'its' all-right' (a grudging or petulant agreement). (Gimson, 1967: 277). It can be said that attitudinal function "facilitate the expression of emotions and attitudes… In its narrowest sense, the attitudinal function of intonation relates the use of a particular tone to the expression of a particular attitude." (Rogerson 2011:192)

There is an intonational function labeled discoursal function in which whether information is new or old or contrastive is seen to be the most obvious factor in decisions about nucleus placement, discoursal effects will also be shown to be important in the notion of key. A discourse approach to the meaning of tones deals with concepts concerning speaker and listener(s). For instance the knowledge they have, the desire of the speaker to convey his meaning to the listener (s), and what the speaker expect of the listener reply. It is not easy to separate

between a discoursal approach to tones from an attitudinal approach which involves labels like 'protesting' 'detached' , 'interested' , 'impressed' and 'encouraging' (Cruttenden, 1997:89). For the researcher it is obvious that they do not have great difference, so for the sake of this research they will be taken (attitudinal function and discoursal function) as one body.

It has been said that attitudinal function indicates the emotional feelings of the speaker. Roach said that: The notion of expressing an emotion or attitude is itself a more complex one than is generally realized. Firstly, an emotion may be expressed involuntarily or voluntarily. If I say something in a 'happy' way, this is may be because I feel happy or because I want to convey to you the impression that I am happy. Secondly, an attitude that is expressed could be an attitude towards the listener (e.g. if I say something in a "friendly" way), towards what is being said (e.g. If I say something in a "sceptical" or "dubious" way) or towards some external event or situation (e.g. "regretful" or "disapproving"). (Roach 2005: 139)

Roach also discussed the problem of suprasegmental and paralinguistic's features. That intonation transcription is not able to represent the different performance person do while speaking. Person may use variation in loudness, speed or he may have different voice qualities for different attitudes. Or he may use his pitch range in different ways, the pitch of his voice may be a narrow pitch range, or a wide pitch range. Person may also use different facial expressions and even gestures and body language. All these have a greatest importance in conveying attitudes and emotions, yet it can't be transcribed. (Roach 2005: 139-140)

When dealing with attitudinal function then the type of nucleus employed must be considered, whether A) a fall, B) a rise-fall, C) a rise, D) a fall-rise E) or mid level is used.

A) Falls:

We have two simple falling tones, low-fall sing (') and high fall sing ('). When the pre nuclear syllables are on a very low pitch, the voice cannot help but go up in pitch to have a fall. So it is not easy to determine when it is a high fall or a low fall, it is only clear-cut when preceding syllables are around the middle or high part of speaker's range. (A Cruttenden, 1997:91).

Both falling tone involve a sense of finality, of completeness, definiteness, and separateness. Thus the falling tone shows “that a massage is ‘closed’, i.e. final or certain” (Rogerson,2005:66) No explicit appeal is made to the listener, yet the pattern is not necessarily impolite. "Both tones are more common on sentence final intonation-groups than on sentence non-final intonation-groups. The low fall is generally more uninterested, unexcited, and dispassionate where as the high fall is more interested, more excited, more involved". (Cruttenden, 1997: 91.)

Falling tones are not associated with dependent units of intonation but with independent units. This benefits its designation of bearing major information. This particular status of the fall is bolstered by the observation that usually between half and two-third of all tones are falls. (Tench, 1996 :87).

1. Low falling nucleus:

Exemplifications (Gimson, 1967 : 278)

a. ˎNo. ˎyesterday (detached , unexcited).

b. ˎWhen? (curt) ˎhow are you ˎgoing to ˎdo it?

c. ˎAre you ˌcoming? Does he ˌwant to? (curt, impatient, testy)

d. (He ˎdoes) ˎdoesn't he? (ˎlovely) , ˎisn't it ?

(calmly presupposing agreement)

With high-head:

a. The ˈparcel ˈarrived on ˌThursday. (matter – of-fact, but interested).

b. What do you want to ˌdo? (blunt to strangers, a common unemotional form amongst intimates')

c. Are you ˌgoing? (peremptory, impatient).

d. Put it over there (polite, neutral).

With low head:

a. It's ˌall we could exˌpect (surly uninterested).

b. ˌWhat are we ˈgaining to ˌdo? (resigned, bored).

c. ˌHave you ˌgot the ˌtickets? (uninvolved).

d. ˌLeave it ˌon the table. (pre-occupied, expecting to be obeyed as a matter of fact).

2. High-falling nucleus

Strongly contrastive or contradictory; often showing strong indignation or excitement; very common in ordinary colloquial speech (Gimson, 1967: 279).

a. `No. It ˈwas. Of`course it isn't. (vigorous agreement or tradition).

b. `Why? `How ˌcan she?(surprise, indignation, incredulity).

c. Do `you ˌlike it? You're ˈsure? (insistence, demands an answer).

d. (She `doesn't), `does she? (he `does) `doesn't he? (demands agreement).

Low heads

A high falling nucleus usually depends for its effect on a relatively low pattern of any preceding syllables. All the accentual force being concentrated in the nucleus, the following sentences, said with high heads

and bodies would have less contrast associated with the nuclear word. (Gimson, 1967: 279)

a. ˌNot at ˏall. I ˌquite `agree.

b. ˌWhy do you `want it?

c. ˌCan we ˌhave it `now?

d. ˌGo and `find it.

B) Rise-fall

The rise-fall tone can be grouped semantically with the two simple falling tones, because it also involve a sense of finality, completeness, definiteness and separateness (Cruttenden, 1997: 92). The initial rise may reinforce the meaning of any high fall, often with additional warmth indignation, sarcasm. A preceding head will usually be relatively low (Gimson, 1967: 279),

Examples (Gimson, 1967: 280)

a. ˄yes . It was a ^palling. About time (all may show enthusiastic agreement or enthusiasm , but ^yes, said slowly, express doubt. /^pɔ:l/, prolonged, shows horror, and '^time' may reveal sarcasm or indignation).

b. ˌWhat does his ^father ˏdo? (suspicious, indignant interest).

c. ˌCan you be ^sure? (mocking, knowing suspicious).

There are two rather different meanings which are additionally characteristic of the rise-fall (Gimson, 1967:92).

The first is 'impressed' e.g.:

(He got a first) ^Did he / At ^Cambridge, /^too/.

With this sort of meaning, breathy voice is also involved and the effect is one of 'gossip, e.g:

Have you heard about ^Jane? / she's ^pregnant/

It is particularly used with yes/ no interrogatives of the response tag sort seems to produce a sentence function of an exclamation type; indeed the meaning is also common with exclamation grammatical marked as such e.g.: I enjoyed the whole concert but what a ^final!

The second meaning commonly associated with rise-fall is "challenging". This may occur with clauses of any syntactic type.

- (I don't like to keep reminding him) But you damn we ^ought to!
- (They're emptying the dustbins) they always empty them on Fridays.
- (I couldn't find any adverbs) But there are^alot of them in the text.
- (I need a nice holiday) Don't we ^all !

These two meaning appear to be different, but even when a more general meaning is been added to the fall-rise, it will only fall under one or the other of these two meanings. (Cruttendent, 1967:93).

The explanation of rise-fall's 'two meanings' seems to depend on speaker-listener relations. While the "challenging" is more like a response, the speaker is disagreeing with the listener, while impressed meaning may not be a response.

C) Rises:

Cruttenden divided rises into dependent and independent. The independent rises meanings so not depend obviously on their relation with the tone of another intonation group. The researcher find no reason for this division because there is no great difference in meaning, so it will be tackled as rising tones only without referring to dependent, or independent rising tones. (Cruttenden 1997: 93-102)

In rises tones there are four kinds of rising tones, low-rise, high-rise, fall-rise, and mid-level. Mid-level also has to be grouped with the

rising tones because it is generally commutable with them in similar contexts and with similar meanings.

All rises tones are common on sentence non-final intonation-groups. Sentence non-final intonation groups are principally of three kinds; non-phrase subjects, adverbials, and subordinating and co-ordinating clauses. In all these cases the use of rising tones signals dependency or non-finality. (Cruttenden, 1997:94) In other words rising "showing that the message is 'open', i.e. incomplete or uncertain". (Rogerson,2005:66)

"The difference in usage between low-rise, high-rise, and mid-level in non-final position is best characterized as one of styles the low rise is the most oratorical and is also typical of a formal reading style, the high rise is more casual, and the mid-level seems to carry no meaning other than that of non-finality; which is perhaps way it alone of these three tones occurs only in non-final position". (Cruttenden, 1997:94). Here Cruttenden tried to sum up the uses of rises tones which the researcher will try to explain much better by using examples.

1. **Low-rising nucleus**

Essentially unfinished and continuative, often with over tones of politeness, encouragement, pleading, suspicion. (Gimson,1967: 280-281).

a. ˏNo . ˏpossible (tentative guiding, encouraging).

b. ˏHow did you, ˌdo it? (insistence on 'How' – the lower the starting point of the rise the greater the insistence)

c. (It isn't `there), ˏis it? (doubtful – asking for information).

d. ˏwell (introducing a topic, or an uninterested question form).

- With high head:

Give an effect of fresh thought, interest, appeal, and encouragement.

a. It's ˈall ˌright. It ˈdoesn't ˌmatter. She ˈwon't be long (reassuring statements).

b. ˈWhat's the ˌtime (polite inquiry).

c. ˈSit ˌdown . ˈCome ˌover here (pleasant, encouraging invitation).

- With low head:

Often signifies complaint suspicion, threat, lack of interest or enthusiasm.

a. ˌWhat have you been ˌdoing? (unsympathetic, menacing threatening).

ˌWhat is your, ˌname? (peremptory, routine, cross examination).

b. ˌCan you , ˌcame , ˌnext , ˌweek? (uninterested, disgruntled, bored).

c. ˌDon't ˌleave the ˌdoor ˌopen (long-suffering. complaining).

2. High-rising nucleus.

This is associated essentially with questions. (Gimson, 1967:281)

i. An elliptical questions (showing eagerness, brightness, enthusiasm, or asking for a repetition).

´Coffee ? (= 'Will you have some more coffee?' or 'Did you say coffee').

´Like it ? (= 'Do you like it?').

ii. A question showing great eagerness, excitement, concern, indignation.

It ´is ? 'you ´did (surprise, incredulity).

ˌCan you ´come? (eager expectancy).

ˈYou actually ´saw him? ˌWhat ´me? (indignation, surprise, horror).

Can we ´afford it? (concern, expectancy apprehension).

It ˈwasn't ˈyours ! (dismay, surprise, indignation).

D) Fall-rise and fall-and-rise

1. Fall-rise

The fall-rise nucleus combines the dominant effect of the fall (contradictory, contrastive) with any of the emotional or meaning full (not expressed verbally) associated with a rise, fall-rise may occur within one word (Gimson, 1967:282).

Non-phrase subject given a separate group frequently have a fall-rise, particularly when the contrastive nature of the subject is being emphasized. (Cruttenden, 1997:94).

- Private enterprise /is always eˇficient/ whereas public, ˌownership /means `ineff-iciency.

In this example the subject of the first clause has a fall-raise signaling non-finality and contrast whereas for the subject of the second clause the speaker chooses a simple low-rise, which means that he chooses not to repeat the contrastively.

More specific exemplification (Gimson, 1967:282).

a. ˇNo (doubtful or encouraging) ˇSeme-times (encouraging).

I ˈhaven't much ˇappetite ('but I'll join you to be polite'; if the pre-nuclear pattern is low, the effect is less agreeable-disagreeable.

b. ˇWhen? ˇHow? (forceful, encouraging, prompting).

c. ˇJohn ! ˇlook ! (an a pealing , inviting).

Gently ! (encouraging, soothing, warning).

2. Fall-and-rise

It happens in a pair of intonation units: a fall in the first, and a rise in the second. We said earlier that a rise means incomplete, but here the rise cannot mean incomplete, because it does in fact come at the end, e.g.

But he didn't go to ˛bed /though he was ´tired.

The justification for this is that a fall relates to major or complete information, while a rise relates to minor or incomplete information. There is another suggestion that instead of saying, major and complete, or minor and incomplete, to call them primary information and secondary information. (Tench, 1996:80).

Examples: (Gimson, 1967:282).

a. `He ˛could? ('but I doubt whether you could')

b. `when can you ˛come? (a polite questioning rise preceded by a fall on "when" to insist on the precise time).

The problem which must be faced is how to distinguish between fall-rise and fall-and-rise. Tench, (1996:83) in his book the intonation system of English tried to differentiate between these two kinds of tones, he argues that "if the pitch movement is contained in a single syllable, it is a single tone, not a sequence of two; if the pitch movement has a rise on a final-unstressed syllable, it is single tone, because the rise in the fall-plus-rise sequence would have to co-occurs on a stressed syllable". But what if a rise occurs on stressed syllable? Is it fall-plus-rise or fall-rise? Tench said that the phonetics answer is "A single fall-rise tone has only one tonic syllable, and the rise component ends at a high-level; the fall-plus-rise sequence has two tonics and the rise ends at approximately mid level". He arouse further that the semantic answer may be more helpful, that the fall-rise tone relate to one piece of information in one intonation unit , whereas the fall-plus-rise sequence relates to two pieces of

information in two intonation units. Tench gives examples to support his views: (Tench,1996:83)

a. We've got some ˏbooks / ˏhere.

b. I saw ˏJohn / ˏyesterday.

Semantic justification seems very satisfactory when regarding these two examples of Tench, but when returning back to the examples of Gimson we find that this explanation is not satisfactory. Because Gimson said that a fall-and –rise can happen in two words, one word containing fall, while the other containing a rise. His example is 'He could. This contrast largely with the semantic explanation, 'He' and 'could' can't be related to two pieces of information," he could", definitely related to one piece of information. However the explanation of two tonic units can't be denied, whenever we have a fall-and-rise then we must have two tone-units.

E) Mid-level

In this kind of tone there is no movement of pitch, mid—level variety only occurs in a non-final unit of intonation, and it is used as an alternative to the true rise to indicate information. (Tench, 1996:81).

- It may be said while counting:
- one /-two / - three / - `four.

The mid-level tone indicates that the counting is incomplete, and the fall indicate that it is complete.

This also comes in lists:

I lost my – passport /my tickets/ my – money / that – letter / the `lot.

2.4.3 The Grammatical Function

“Intonation focuses on the links between grammatical structure and intonational components, such as thought group boundaries and clause/sentence boundaries, tone choice and sentence type.” (Rogerson, 2011:194) The suggestion here is that there are typical tones associated with various syntactic structures, and the discourse meanings usually associated with these structures, i.e. statements, questions, and commands, will also have typical tones even when they are not marked syntactically (Cruttenden, 1997:88). Jackson said: “The contrast between a falling intonation pattern and a rising intonation pattern often correlates with a distinction between a statement and a question.” (Jackson, 1982:50) “In few specific respects, intonation can be said to have a grammatical function. The example of adverbial modification or defining vs non-defining relative clauses shows the relationship between intonation and syntax.” (Rogerson-Revell, 2011:194)

Cruttenden (1997:88) argues against this view saying that, it is not difficult to find examples, of almost any nuclear tone to combined with any syntactic type. He give an examples of Yes/No questions.

Are you going OUT tonight?

He discusses that it can be said with any nuclear tone discussed earlier. When said with one of the two falling tones, sounds more 'business like', the low-rise is more polite and almost 'patronizing', the high-rise is 'incredulous', the fall-rise is 'whining', and the rise fall 'conspirational'.

He went further saying that: "another view point might be that one tone is 'unmarked' for each syntactic type, while all other tones are 'marked'. The 'unmarked' tone is then assumed to have the most neutral meaning. But the trouble with this approach is that it is not always easy to decide what the most neutral meaning is. It seems clear enough that either of the simple falling tones is more neutral than any of the other

tones on declaratives". (Cruttenden, 1997:88). He returned to "are you going out tonight?" Saying that it is not clear which tone should be taken as unmarked for yes/no questions. Also that people who have counted the occurrence of the rises and falls on yes/no questions found that it is heavily dependent on the situation involved.

This is all Cruttenden arguments against grammatical function. But if we took another point of view we find that Roach (2005: 145-147) nearly classified grammatical function into three sub-headings, first ambiguity, then the second one is the link between one unit and grammar this certain point has been discussed greatly in a sub-heading called intonation group. This second part the researcher regarded as the most important grammatical function amongst the three. The third grammatical function is questions toning.

A) Grammatical Ambiguity

These are sentences which their ambiguity can be revealed by changing tonic-syllable place e.g.

1. ˈThose who ˈsold ˇquickly / ˌmade a ˎprofit//
2. Those who ˇsold /ˌquickly made a profit/

The deference caused by the placement of the tones-unit bounding is seen to be equivalent to giving two different paraphrases of the sentence as in:

a. A profit was made by those who sold quickly.

b. A profit was made quickly by those who sold.

B) Link Between Tone-Units and Units of Grammar:

This has been discussed in intonation group (P: 29). However it can be said that there is a great link between tone-unit, or intonation boundaries and grammar. It is extremely common to find a tone-unit-boundary at a sentence boundary (Roach, 2005: 145).

e.g:

I ˈwont have any ˌtea / I don’t like it /

In sentences with a more complex structure, tone-unit boundaries are often found at phrase and clause boundaries (Roach, 2005: 145).

/In ˅France/ ˌwhere ˌfarms ˌtend to be ˅smaller the ˌsubsides are more imˌportant./

It is not likely to have intonation boundaries between article and following noun, or auxiliary and verb.

Another scholar went further by arguing that intonation differentiates syntactic structure in a sentence explaining this by giving examples (Soltani, 2007:22)

1a) Here's a word you can look ûp. ("Up" is a particle.)

b) Here's a chimney you can lóòk up. ("Up" is a preposition.)

2 a) Bond had instructions to léàve. (So he left.)

b) Bond had instrûctions to leave. (So he left them.)

“In the preceding examples, placement of the accent encodes a difference in syntactic structure. In the following examples, the major intonational phrase may be broken into two intermediate phrases, to denote a higher syntactic boundary.” (Soltani, 2007:22)

He even went further to differentiate between parts of phrases: (Soltani, 2007:23)

3 a) Have you seen any Martians who have green nôses? (One phrase: restrictive relative.)

b) Have you seen any Mârtians, who have green nôses? (Two phrases: non-restrictive relative.)

4 a) He can't see cléàrly. (One accent, one phrase.)

b) He can't sèe, clèarly. (Two accents, two phrases.)

C) Questions:

There are two main functions of questions: (Rogerson, 2005:66-72)

1. To find out/ get information that you do not already have.

This is done with a falling tone.

e.g. Where do you live`?

2. To check information that you already have some idea about.
   a. ‘Closed’ massage, with falling tone

      You are Mexican, aren’t you`?

   b. ‘Open’ massage, with rising tone.

      You drink coffee, don’t you´?

      Asking for repetition also require a rising tone, this can be done by echoing all or part of the question or reply.

      A: How many people are coming?

      B: Forty.

      A: How many´?

Statements can be changed into questions by using intonation.

e.g. The ˌprice is going up. (as a statement).

The ˌprice is going up? (as a question)

Wh- questions are found to be associated with falling tone.

e.g. a. /ˈDid ˈyou park the ˌcar/?

b. /ˈWhere did you park the ˌcar?

However the fall in (b) is not obligatory, and a rise is quite often heard in such a question. A fall is also possible in (a).

Question-tags may have a fall or a rise depending on the situation. The fall reveals that the speaker is certain, while the rise reveals uncertainty. e.g."

a. /They ˈare ˈcoming on ˌTuesday/ ˌaren't they?
b. They 'are 'coming on ˌTuesday/ ˌaren't they?

2.5. Perception and acquisition of intonation by native speakers:

"In English, rhythmic and melodic signals serve as "road signs" to help the listener follow the intentions of the speaker. These signals communicate emphasis and make clear the relationship between ideas so that listeners can readily identify these relationships and understand the speaker's meaning." (Gillbert, 2008:2)Because of this it is important both for native speakers and non native speakers to learn the prosodic aspects of a language. Snow stated that there are four levels of early children production of intonation are: On the acoustic level, melody patterns result from changes in the fundamental frequency (f0) of the voice. Physiologically, f0 corresponds to the rate of vibration of the vocal folds. On a more abstract level, ''pitch'' refers to the listener's perception of the acoustic events. Finally, on the psychological level, ''tone'' refers to the functional organization of pitch patterns in the phonological system of speakers and listeners (Snow, 2006:281). A necessary early step in learning a language is to perceive the contrastive sounds of that language. Without this, production is impossible, and lexical items cannot be acquired. The contrast between consonants like[t] and[d] must be detected by small children from the early age. Many researchers have looked at the earliest age at which infants pay attention to distinctions such as voice onset time, or place of articulation, but almost nothing is known about the age at which tonal distinctions are detected (Yip, 2002:296)

Concerning vowel perception by infants, here too they seem able to discriminate pairs such as[a] vs. [i] and [i] vs. [u] at under four months. There are two points about the vowel facts. First, the acoustic distinction between vowels is one of frequency: different vowels have different resonating frequencies, or formants. Vowel discrimination thus implies frequency discrimination, a skill that is of course crucial for tonal

discrimination too. Second, vowel discrimination, unlike consonant discrimination, does not seem to be categorical for either adults or infants. We can detect differences too small to be contrastive – the sort of thing that subtly differentiates different regional accents, for example. If vowel discrimination and place of articulation discrimination require frequency discrimination, and vowel discrimination is present very early, then one would expect tone discrimination to be in place at much the same time. Physiologically, the cochleae in the ear have reached adult size at around six months foetal age and begin to function for low frequency sounds soon thereafter. This is the frequency range needed to detect prosody, and suggests that it could be detectable very early, perhaps even in utero. There have been studies on prosody in English, showing that young infants can distinguish between bi-syllables that have either first- or second-syllable stress, a distinction at least partially encoded as pitch. (Yip, 2002:297)

Once differences are perceived by the child, the next step is to produce these distinctions, mimicking as accurately as possible the adult speech. Production of pitch differences is primarily achieved by laryngeal means, and the child will presumably have to learn control over the laryngeal musculature just as he or she learns to control the tongue and lips. In the absence of such control, pitch tends to fall during the utterance. (Yip, 2002:298) Reseach suggests that intonation is acquired very early in English and many babies can mimic intonation patterns (Rogerson, 2011:179)

Children start babbling at six months. This will be developed and becomes very frequent around twelve to fourteen months. Now the consonants vary, and the sounds approximate utterances in the native language. They often have a sentence-like intonation, suggesting the beginnings of pitch control. Word production begins around this time.

During these early stages the vocal apparatus is still not fully developed. The larynx is much higher than it is in adults, and does not descend until the third year. (Yip, 2002:299)

"There is disagreement about how close babbling is to the native language. Some researchers have thought that there was a discontinuity between babbling and word production, while others have hypothesized that babbling is a natural and perhaps necessary part of language acquisition that leads to, and can even overlap with, the first word stage." (Yip, 2002:306)

Our first serious data on tone production come from one- to two-year-old children. It is only at this point that one can directly compare the child's output to the adult output, and determine whether their speech is adult-like and if not how it differs from the adult forms. During babbling, the point is whether children can raise and lower the pitch of their voice, but not whether they raise or lower it in the right places. But from the word stage, it could be detected if children consistently use high tone for high-toned words and low tone for low-toned words it is reasonable to assume that they have acquired the phonological tonal contrast. Once a child starts constructing multi-word utterances (or polymorphemic words) the possibility of tonal alternations arises. True mastery of the tonal system includes knowledge of these as well as of the lexical entries of the language. (Yip, 2002: 306) Rogerson (2011:179) agrees with the point that "most children will make a distinction in meaning between the use of falling and rising pitch by the age of two, if not earlier."

Intonation is assumed to be one of the first phonetic features acquired by a child in the first stages of language acquisition (Snow, 2002: 1025–58). Once children gain more language competence, intonation becomes automatic and intrinsic to the message and, therefore,

speakers are mostly unaware of it, paying attention to other linguistic cues instead. (Snow, 1995: 387–405).

2.6. Perception and acquisition of intonation by non-native speakers:

In a rather picturesque comment, Banjo (1979: 12) describes the appropriate use of stress and intonation as “the final hurdle, which a vast majority of speakers of English as a foreign language never manage to cross”. In a more specific observation, Cruz-Ferreira (1989: 24) identifies intonation, of all the supra-segmental features, as “the last stronghold of a foreign accent in speaking any L2” asserting further that that observation is true “even of speakers who otherwise have perfect or near perfect command of the phonetics of the L2”. Thus it is not surprisingly, that the intonation of non-native English poses serious intelligibility problems to native speakers of the language.

Non native speakers “typically do not use or recognize the cues that native listeners count on to help them follow meaning in a conversation. As a result, conversational breakdowns occur. Emphasis that conveys the wrong meaning, or thought groups that either run together or break in inappropriate places, cause extra work for the listener who is trying to follow the speaker’s meaning.” (Gillbert, 2008:2)

L2 learners, who already use their L1 intonation as perhaps the most unconscious resource to communicate, might apply this language acquisition strategy to their L2 spoken discourse (Best, 1995: 171–206). Their L1 intonation may work, then, as a source of hypothesis for their L2 intonation. This hypothesis would enable learners to perceive and convey basic speech functions in the target language (Brown, 1987). However, these initial assumptions, when over-generalised, may reduce partly the intelligibility of the L2 (Pirt, 1990).

Children learn the rhythm of their L1 very early in life. By the time they reach the age of one, that rhythm is deeply familiar to them, and they will unconsciously apply it to any L2 that they learn (Aoyama et al. 2007: 281–297). Thus L2 learners, who already use their L1 intonation as perhaps the most unconscious resource to communicate, might apply this language acquisition strategy to their L2 spoken discourse (Anderson-Hsieh *et al.*, 1992). Their L1 intonation may work, then, as a source of hypothesis for their L2 intonation. This hypothesis would enable learners to perceive and convey basic speech functions in the target language (Brown & Levinson, 1987). However, these initial assumptions, when over-generalised, may reduce partly the intelligibility of the L2 (Pirt, 1990). Over-use of a limited variety of intonation patterns in the L2 frequently leads to lack of adjustment of the intonation, the lexico-grammatical form and the pragmatic context. Spanish learners, for instance, frequently generalise the use of a level falling contour to linguistic contexts where other contours would be more appropriate, and thus reduce the variety of pragmatic meanings conveyed (Gutierrez Díez, 2001: 143–59). Therefore, learners would need to be aware of specific prosodic features in the L2, different from those of their L1, in order to be able to organise their speech appropriately and convey the intended pragmatic meaning and information.

2.6.1 Native language and the perception of segmental phonetic structure

"Native language affects the perception of segmental phonetic structure and of prominence, of stress, and of tone. Semantic and pragmatic influences of intonation also vary with native language. Cross-language effects on the perception of similarities and differences between intonation contours." (Grabe, 2003:376)

Native language affects an adult listener's perceptual judgments of the segmental structure of speech. Polka (1995:1286–1296) reviewed the evidence for such an effect on the identification and discrimination of speech contrasts in adults. Burnham (1986:207–240) and Werker and Tees (1992: 377–402) have reviewed data on this early transition from language-general to language-specific perceptual sensitivity. In a related vein, Pisoni, Lively, and Logan (1994:121–166) and Flege (1995:233-277) have summarized findings on the effects of native language on perception during second language learning. Cross-linguistic differences occur in the perception of stops, fricatives, liquids and vowels.

There have been different studies concerned with the effect of native language on adult listener's perceptual judgments of the segmental structure of speech. Cross-linguistic differences occur in the perception of stops, fricatives, liquids and vowels.

In this research the researcher is concerned with the cross-language studies on the perception of prosody, the perception of prominence, stress, and tone and especially intonation.

2.6.2 Effects of native language on the perception of aspects of prosody

A) Perception of Stress

It has been found that English speakers and non-native speakers of English (Estonian) when asked which syllable in a sequence was the most prominent, Estonian and English listeners gave significantly different answers. English listeners were more sensitive to amplitude cues, whereas Estonian listeners were more sensitive to duration cues. Estonian listeners might be more sensitive to duration than English listeners because Estonian is quantity-sensitive. (Fox, 1987: 349 – 363).

Dupoux, and others (1997:406–421) investigated the perception of stress in non-words by French and Spanish listeners. French as opposed

to Spanish participants had difficulties in distinguishing non-words that differed only in the location of stress. On the basis of their results, Dupoux and colleagues argued that French participants are “deaf” to stress contrasts because French, unlike Spanish, does not have lexical stress.

B) Perception of tone

The effect of native language on the perception of tone is not as solidly established as its effect on the perception of segmental phonetic structure. In most researches it has been found that native speakers were better at discriminating tones from their own languages than were non-native listeners. (Grabe,2003:378)

Lee, Vakoch, and Wurm (1996:527–542) investigated the effects of native language on the perception of Cantonese and Mandarin tones by Cantonese, Mandarin, and English listeners. Subjects were asked to determine whether two tones that they heard were the same or different. Native speakers of Mandarin or of Cantonese were better at discriminating tones from their own languages than were non-native listeners.

Huang (2001:55) investigated the origin of a tone process in Mandarin Chinese. She gave a discrimination task to Mandarin Chinese and American English listeners. No major cross-linguistic differences emerged from the main statistical analysis. Minor differences appeared in post hoc comparisons of responses to different tone pairs.

2.6.3 Native language and semantic and pragmatic effects of intonation

Cross-language studies have produced some data on the influence of intonation on semantic and pragmatic judgments. In her research on second language acquisition, Cruz-Ferreira (1984:565–569) demonstrated

an effect of native language on the semantic influences of British English and European Portuguese intonation. Cruz-Ferreira presented 30 British English and 30 Iberian Portuguese listeners with pairs of sentences that differed only in intonation. All subjects could speak the non-native language. Native speakers of each language produced the sentences. Subjects were asked to match each sentence with meaning glosses provided by the experimenter. Non-native speakers often did not choose the same gloss as native speakers, yielding a clear effect of language.

A more recent study by Chen (2001: 1403–1406) investigated language-specific effects of pitch range on pragmatic judgments. Dutch and British English listeners rated stimuli in Dutch and British English, respectively, on the scales CONFIDENT versus NOT CONFIDENT and FRIENDLY versus NOT FRIENDLY. The stimuli were lexically equivalent and varied in pitch range and contour. In both languages, perceived confidence decreased and perceived friendliness increased as pitch range was raised. However, at identical pitch ranges, British English was perceived as more confident and more friendly than Dutch. Chen and others argued that the observed difference was due to the generally observed differences in the standard pitch ranges of Dutch and British English. Their study provides evidence of both universal and language-specific components in the pragmatic effects of intonation. It also is one of a number of studies that support the idea of a universal frequency code in intonation (Ohala,1983:1–18). Gussenhoven (2002:47–58) gives an overview of work on this frequency code.

2.6.4 The perception of intonation contours

Various studies have examined the perception or pragmatic effects of intonation contours or units entirely within a single language. The previously established cross-language effects on various aspects of

speech perception suggest that listeners from various language backgrounds would also yield different perceived patterns of resemblances between members of a given, limited set of English intonation contours. However, the work on the perception of intonation across language groups is limited. It is very important to determine whether English listeners and listeners from other language backgrounds would perceive similarities and differences in pairs of the English stimuli in the same way.

The perception and the production of intonation seems not to be straightforward. Receptive ability, as Jenkins (2000: 51) suggests, will precede the production of the intonation either in the L1 or L2. This poses difficulties to both the training and the expected outcome.

Given all this complexity, it is not surprising that even though in the last decades intonation has been acknowledged as an important component of language learning and communication; it continues to be one of the most neglected linguistic areas practiced in the classroom. Devoting very few (or, indeed, no) language sessions to intonation does not seem sufficient for learners to gain the necessary awareness of the L2 prosodic features they need in order to improve their spoken performance in English.

2.7. Teaching intonation:

Teachers have to find their own way in teaching intonation because most course books do not address intonation directly, however it can only be clearly illustrated through direct teacher-led practice.(Parker, 2009: 22) it is an area of pronunciation that that should be dealt with carefully as far as teaching is concerned. This does not mean that it should be ignored entirely. (Rogerson, 2011:230)

“In a reaction against the theory and practice prevalent from the 1960s until the early 1980s, good pronunciation skills are now

increasingly being seen as important in a communicative approach to teaching English as a Foreign/Second Language". (Stibbard, 1998:1) "The teaching of intonation seems to sit naturally with communicative language learning, but it is not an easy aspect of English to incorporate into the EFL classroom." (Chapman,2007:1) Morley argues that pronunciation belongs at the very core of a communicative approach to language teaching, writing: "intelligible pronunciation is an essential component of communicative competence" (Morley, 1991:488). She argues for four "reasonable and desirable" learner goals, namely: "functional intelligibility, functional communicability, increased self-confidence and speech monitoring abilities and speech modification strategies for use beyond the classroom". (Morley, 1991: 500). "Faced with the complexity of most descriptions of intonation, and the lack of effective teaching methods, teachers have in the past shied away from the problem". (Beaken, 2009:345) It can be said that the teaching of intonation is a problematic area for EFL for most teachers. "While many instructors and students feel it is an important aspect of language to incorporate into a curriculum, it is difficult to teach and often resistant to learning." (Chapman, 2007:1) There are sections dedicated to intonation in modern textbooks; however, it could be difficult for learners to see any connection between these sections.

The approach of Parker and Graham (2009: 75) for teaching intonation is: That native speakers and fluent English language speakers can all operate the system perfectly well and with ease. They do it without thinking about it. Thus, ironically the ideal approach when teaching intonation is not to draw too much attention to it but to teach the lesson while speaking naturally.

On the other hand it can be considered that all humans without regarding their nationality or language or whether they are musically

trained or not, they use tones and consequently already acquire the elements of any intonation system. The user of another language part from their mother tongue all they have to do is to apply consciously what they do unconsciously. (Palmer, 1924:5)

Jenkins (1998: 123) considers intonation to be one of the aspects of phonology that ‘are neither easily learnable nor necessary for most EIL contexts’, though she considers the placement of the tonic an essential to teach.

However, many teachers feel uncomfortable about ignoring intonation. There are frequent complaints that learners misinterpret intonation cues (Clennel, 1997: 118), failing to recognize, for example when irony, sarcasm (yeah, right), or contrastive focus is conveyed by intonation. Even in situations where the learners’ goal is communication with other non-native speakers, awareness of the way intonation conveys evaluation of the relevance of the words we utter can greatly improve learners’ ability to convey and interpret messages. Nevertheless, intonation is treated randomly in teaching materials (Dalton and Seidlhofer 1994: 75) this may partly explain the challenge learners face when attempting to gain control over native-like intonation patterns.

From the above it can be concluded that if native speakers can operate the system of intonation with ease, then the system of intonation could be learnt. What is learnable is also teachable, if a satisfactory description of its workings can be produced. Nevertheless it could not just be ignored arguing that it will be acquired spontaneously because even though the grammar of any language is acquired naturally by the native speaker, but it is taught to non-native speakers to enhance the learning process especially when regarding the age group. From all this teaching intonation should be fundamental, this could accomplished by teaching the listening skills required to recognize the placement of the tonic, as

Jenkins' referred to above, this would provide a good foundation from which to go on and teach the recognition and use of tones. Ramírez found that the teaching of intonation enhances the performance of non-native speaker he said: "The results reveal a gain in intonation awareness and significant improvement in the prosodic performance of the experimental group." (Ramírez, 2006:141) Gillian also proposed learners to be made aware of the main features of discourse intonation: tone units and prominence. (Gillian, 1990: 158)

The significance of tone choices is teachable if the following requirements can be met: (Beaken, 2009:345)

- a system that is simple to learn, that may be graphically represented in type, that has a few comprehensible terms, and the minimum number of tones
- identification of simple registers of English that will provide aopportunities for the study, practice, and discussion of the system.

Celce-Murcia (1996: 200) strengthening the claim for the teaching of intonation by arguing that intonation can overrule grammar in many cases; Celce-Murcia summarized the uses of intonation as 'an important conversation management function, with the speaker being able to subtly signal to the interlocutor to quit talking, to respond in a particular fashion, or to pay particular attention to a piece of highlighted information'. Dalton and Seidlhofer (1994: 57) also emphasize the role of key and pitch in conversational turn taking with the fact that 'intonational turn-taking clues can overrule syntactic ones,' Celce-Murcia has raised the question of whether learners are likely to acquire an understanding of the English intonation system simply by being exposed to natural speech. The findings are largely negative; as Celce-Murcia (1996: 200-226) points out 'intonation unit signals are not universal.' She goes on to say that 'we can

predict that many learners will need extensive practice in recognizing (and producing) intonation units'.

2.7.1 Activities for Teaching Intonation:

Most books do not explain intonation clearly to students of English They do not present them with a clear set of guidelines regarding intonation in English, but Brazil's two works—Pronunciation for Advanced Learners of English (1994a, 1994b) and The Communicative Value of Intonation in English (1997)—Explain to learners how intonation affects the communicative value of an English utterance. Brazil regarded the descriptions of intonation as affecting grammatical and attitudinal properties as flawed because he argued that they were difficult to generalize from one sentence to another. A finite set of guidelines, which work in each and every occurrence of the intonation feature in question cannot be provided, thus Brazil looked at how they reflect the shared understanding between speaker and listener in a conversation. Brazil tried to illustrate a consistent interpretation of an intonation choice each and every time it occurs. This idea is supported by that the awareness of the features of discourse intonation will contribute to the development of learners' listening comprehension.

"Activities can be done so that learners can identify thought groups and mark boundary pauses and nuclear stress." (Rogerson, 2011:230)

Brazil sees speech as a stream of words that communicate the speaker's ideas and the main building block of speech is the tone unit, which aids the comprehension of the whole message. For example, (Brazil 1994a: 7) the following utterance would be produced as:

- //the bus stopped//we'd got to the terminus//and everyone got out//. (The symbol // is used to show where there is a tone-unit boundary, indicated by a break in the continuity of speech.) Brazil's work

concentrates on explaining how different intonation features within the tone unit affect the interactive event of speech.

- Prominence Within all tone units there will be one or two prominent syllables, helping the listener understand which part of the utterance to pay attention to .Brazil (1997: 22) used the following example to illustrate the use of prominence:
- Q: What card did you play?
- R: //the queen of hearts//

In the response, ‘of’ is the only word that could link ‘queen’ and ‘hearts’ so is not made prominent. Both queen and hearts represent a selection by the speaker where the use of a different word would have altered the meaning of the utterance. The final prominent syllable in any tone group is called the tonic syllable. The syllables made prominent depend upon the understanding between speaker and listener at the time. If the speaker believes that the listener is not aware of a point that is to be introduced, then prominent syllables will be used to highlight this point for the listener.

Making learners aware of this and training them to listen for prominent syllables will enable them to be better listeners and help them to decode the stream of speech. There is no right or wrong in the placing of prominent syllables, the speaker chooses according to ‘the special circumstances of the moment’ (Brazil 1994b: 37). The words the speaker chooses to select as prominent depend on the context of interaction. The features that make up this context are summarized by Cauldwell and Allan (1999: 20).

1. Shared awareness of the language system (how the language works).
2. Shared awareness of what has been said before—this can be cumulative over time or it may be unique to one interaction.

3. Shared awareness of cultural events.
4. Shared awareness of very local events/circumstances.
5. Referring and proclaiming tones

Another example of intonation activity is Speculating from a text dialogue as to how the tone-unit division and prominence would sound and then listening to compare was stimulating and helped to draw attention to the specific intonation feature in question, without the frustration of attempting to identify exactly what was heard:

> // there was no answer // I rang again // it was getting cold so I decided to go back I should have come in the daytime this was hopeless I could be walking about all night and never find market street I went back to where the shops were it was raining hard and the precinct was deserted I felt very miserable . . .

Working on your own, decide how you would read it aloud. Mark your tone-unit boundaries with //, and use circles to mark your prominent syllables (remember there may be one or two of these in a tone unit).Read out to a partner the script you have prepared and listen to your partner reading her or his script. Compare your version with the one on the cassette. (Brazil 1994a: 12)

Tasks where the learner was asked to speculate about why certain words contain prominent syllables helped the learners to create their own understanding of the use of prominence. Tasks where learners were presented textually with sentential intonation patterns and then attempted to reproduce the appropriate intonation were of value in attempting to tune the ear to specific tones. Learners found little difficulty in hearing whether the tone was a rise or a fall when they knew what to expect but lacked confidence when they had to decide for themselves what they had heard.(Chapman,2007:7)

Many scholars work help to organize and demystify the teaching of intonation, “but incorporating discourse intonation into the EFL classroom remains challenging for teachers and students. Discourse intonation requires intensive listening for changes in intonation patterns, which can be demanding even for native speakers.”(Chpman,2007:4)

Chapter Three
Theoretical Framework (2)
Previous studies

There are only few linguistic attempts concerning the study of intonation across languages. Some of the studies cited are studies of phonology as general for English language and also for other languages, some are concerned with the listening and speaking skills of English language and only few are concerned specifically with the intonation of the English.

3.1. Studies of the foreign learners' error in the intonation of English language or other aspects of pronunciation:

1. Hewings (1993) the aim of his study is to investigate the assumptions that errors of English intonation by learners represent a significant barrier to effective communication and, that these errors result from differences between the intonation systems of English and the learners' mother tongues. Little work has been done to establish the extent of the errors, their characteristics, or their origin. This study compares intonation in a corpus of recordings from 12 adult native-speaker informants and 12 adult learners of English, four each from Korea, Greece and Indonesia.

The main data analysed was 24 parallel readings of a scripted dialogue. Findings were checked against intonation choices in samples of spontaneous speech from the same informants. The descriptive and interpretative apparatus used was the "discourse intonation" model outlined in Brazil (1985a). Comparison focuses on the functional oppositions recognised in this model, realised in the systems of prominence, tone, key and termination. Excluded from the comparison were the phonetic implementation of these categories, such as the typical shape of falling or rising tones, and other non-systemic features.

The main findings of the study are that the native and non-native informants generally make the same intonation choices to achieve the same communicative goals. Differences are seen to arise from the non-natives' lack of proficiency in English, their lack of awareness of the role of intonation in social conventions, and the influence of prior teaching. The reseacher suggested that further research on non-native speakers' intonation of English language should be done.

2. Bae (1998) studied the differences in errors made in acquiring English intonation by Seoul Korean speakers and Kyungsang Korean speakers: English and Seoul Korean being non-tonal and Kyungsang Korean tonal, these two Korean dialects being in other respects virtually identical. In Seoul Korean, the last syllable of a question can be raised in pitch, and the last syllable of a phrase raised in pitch in non-sentence-final positions. In Kyungsang Kore, sentence intonation is basically made up of lexical tones. In Kyungsang Korean, the last syllable is not raised unless lexically required but sentence-final syllables only, may be varied optionally and to a limited degree, by raising the pitch of voice to indicate a question, or lowering the pitch of voice, perhaps to emphasise that the sentence is a statement.

Investigating Kyungsang speakers' English intonation, word pitch-pattern, the equivalent of lexical tone, was examined, spoken within sentences and in isolation. In isolation, Koreans show falling pitch, and higher pitch on stressed syllables. English rising intonation sometimes requires the reversal of this isolated word pitch pattern, something which doesn't occur in tone languages. Seoul and Kyungsang students of English mimicked recordings of sentences with and without one word substitution where the reversal of isolated word pitch pattern occurred. Evaluation by a native speaker showed that Seoul speakers were better

than Kyungsang speakers at raising the last syllable of low-rise sentences, this reversal occurring in Seoul Korean but not in Kyungsang Korean.

Thus the transfer of Ll has been confirmed: Intonation language speakers (Seoul Korean), proved substantially better than tone language speakers (Kyungsang Korean), in reversing word pitch patterns. Kyungsang speakers' English rising intonation differs from native speakers', e. g. use of fall-rise at the very end of final syllables; use of overall high level pitch; last syllable only rise, instead of rise from stressed syllable. These were also perceived as incorrect by native speakers. No recommendations were cited.

3. Osama (2004) studied the interference of Arabic stress in the speaking English language of fourth year students at the department of English language, Faculty of arts at Omdurman Islamic university. The researcher aimed at investigating the difficulties that face English language learners when trying to apply stress. He also tried to cover the wrong placement of stress made by the students. After that the researcher tried to solve the problem of interference of the Arabic stress.

The researcher used the descriptive method to reach to results. To collect data he took a population of one hundred forty students studying in their fourth year at the English department of the faculty of Arts, during the academic year 2001-2002. From this population he took a sample of one hundred students.

The researcher divided the sample into two groups controlled and experimental, then the students sat for a pre- test to examine the students' knowledge and then they sat for a post test.

The researcher cited a number of findings the most important of which are that the students found problems in placing the stress when

handling the English language. Also there was interference from the mother tongue which affected their use of stress.

The researcher came out with a number of recommendations; one of them is that stress should be emphasized when teaching English.

4. Chapman (2005) aimed at assessing which aspects of discourse intonation were most helpful for students at upper-intermediate and advanced levels and which aspects were practicably teachable. To achieve his aim the researcher adopted the descriptive approach.

Some of the most important results reached by the research are: students faced difficulties with all aspects of discourse intonation. The most consistent source of difficulty raised by learners was in identifying whether tones were rising or falling, reported problems with identifying tone-unit boundaries accurately, they were far more positive about this feature of discourse intonation than with listening for different tones. Teachers also reported problems with identifying accurate tone-unit boundaries and prominence.

The researcher cited a number of recommendations of which; learners should be encouraged to try to recognize tone unit divisions and the occurrence of prominence within the tone unit in natural speech. They would also benefit from an awareness of how native speakers use pitch variation to manage conversations.

5. Elnaji's (2007) aim of his study was to investigate and identify the actual English pronunciation problems encountered by secondary school students and teachers and to find out the main reasons behind these pronunciation problems, also to compare the teaching techniques of English used by teachers while teaching Spine and Headway. To achieve the aim the researcher followed the descriptive approach by designing a

pronunciation test for producing vowels and consonants and for using stress and intonation in reading, also recognizing speech sounds. This test is designed for two groups, the first group is 50 3rd year secondary school students studying Spine 6 at Kassla State, and the second group is 50 students studying Headway intermediate the British Education institute (BEI). Also the researcher conducted a questionnaire to 30 teachers at (BEI) and teachers at (SELTI).

Some of the most important results arrived by the research are: The lack of effective pronunciation activities, interference of the mother tongue and the teachers are not qualified.

The researcher cited a number of recommendations of which are teachers should modernize their teaching techniques and they should encourage their students to listen to English.

6. Fajobi (2008) provided an experimental investigation of the influence of Yoruba prosody on the production of Nigerian English (NE) intonation. He set about the study from the historical/socio-linguistic perspective of English Language in Nigeria by reviewing relevant literature on issues such as: factors responsible for the advent of English in Nigeria; its contact and interaction with the Nigerian indigenous languages and the evolvement of several mother-tongue-coloured varieties of NE as a result; issues relating to standardization; various roles assigned English in Nigeria; and the justification for choosing Yoruba Nigerian English (YNE) variety for this study.

The study started by giving information then it provided the experimental method that Yorubah had intonation over and above the intricacies of tone implementation reported in past works. Based on the notion that stress is a precursor to intonation in English, and giving further evidenced that tone is similarly antecedent to intonation in

Yoruba, and then the research dealt with the issue of "non-natives tress pattern" in YNE. Starting from the loanword perspective, the researcher provided evidence supporting the idea that tone is a surrogate for stress in YNE. The researcher compared data from two groups of informants (Yoruba speakers of English living in Nigeria, and Yoruba speakers of English living in London) to demonstrate and quantify the substantial influence of Yoruba LI tonology on YNE intonation. He concluded that, whether through formal classroom teaching or informal contact with the native speaker(s) of L2, Ll intonation is indeed resistant to elimination by exposure. He also claims to have demonstrated that NE is a tonal variety of non-native Englishes.

He suggested that there is a need to establish/compare vowel duration in both Yoruba and Nigerian English. He also suggested that further controlled data in the form of fast speech, slow speech and even spontaneous speech as opposed to the elicited speech used in his study could provide added information to what we now know about intonation of these languages.

7. Balal, (2011) investigated and identified the phonological problems affecting the teaching/learning process of ELT in phonology sound system. It aimed at helping teachers and learners to know the cause of these problems. It also aims at shedding light on the most common mistakes of sounds in relation to their spelling. To achieve the aim prescribed the researcher followed the descriptive approach this is done by following an experimental designed method to achieve the purpose, with the sample of two groups (controlled-experimental) of fifty students of the same gender, standard, number and degree of education. At Al-Said Ali Almaergani secondary school for girls- Omdurman. Data was

collected through a test and interviews to English language teachers, headmasters and inspectors and then statistical analysis is conducted.

Some of the most important results arrived by the research are: only 13% of students care for segmental phonemes, only 21% of the students care for supra-segmental and few teachers use dictionaries to check pronunciation.

The researcher cited a number of recommendations of which are: Teachers have to practice looking up words in dictionaries. Also intensive drills in the area of vowels diphthongs, consonant, clusters, stress and intonation should be done.

8. Ahmed, (2003) the aim of the study is to examine the pronunciation errors of the spoken English of Al-Neelain Fourth Year-Students with concentration on the phonological error. To achieve the aim the researcher followed the descriptive approach, he employed three tests for 20 regular students and 20 mature students. During the first test the subjects responded to questions or incomplete statement and must choose the most appropriate one. The second test (written prose) the subjects are supposed to read word lists (a table of different positions of phonemes). The third test the subjects are presented with a question or incomplete statement and they must respond (free-test) Group, individual and personal interviews were conducted. The researcher recorded utterances and two native speakers were consulted to help in the task of examining data.

Some of the most important results arrived by the research were, there was influence from mother tongue and there was intra-lingual errors. The researcher did not cite any recommendation.

9. The main thrust of Ouafeu's (2006) study is to report the findings from the auditory and acoustic analyses of the intonation of lists while reading Cameroon English speech.

Eighty-three speakers of Cameroon English, comprising secondary and high school pupils as well as university students and graduates, were selected for the purpose of this study. They were both female and male speakers. There was an imbalance in the distribution of participants with respect to sex, females generally being greater in number than males. This is justifiable by the fact that subjects were selected exclusively among students and in most secondary and high school class- rooms as well as university halls in which this task was administered, there were generally more female than male speakers.

The analysis of the data for this study consisted of a two-paragraph passage read aloud by the 83 participants. They were given the passage and enough time to rehearse it, usually as many as three times before the recording. revealed that items in lists read aloud are uttered with four tone types in the following descending order of frequency: the level tone, the rising tone, the falling tone and the falling-rising tone. These findings, on the one hand, are inconsistent with those documented so far with respect to native English varieties, and, on the other hand, have profound implications for the teaching of intonation to speakers of this non-native variety of English.

10. Setter, Stojanovik, and Martínez-Castilla (2010) investigated the intonation of Chinese and Arabic learners of English using the computerized test battery Profiling Elements of Prosody for Speech and Communication (PEPS-C). The aims were to ascertain which aspects of intonation are difficult for these learners, and to determine whether PEPS-C can be used to assess the intonation of adult learners.

The tasks which were given to the subjects were divided into "form" (bottom-up processing where no meaning is involved), which refers to auditory discrimination and voice skills required, and "function" (top-down processing which involves meaning), i.e. how communication is affected by prosody in speech. The battery consisted of 12 tasks (subtests), each of which assesses one of six specific production and identification skills using an input (identification) and output (production) task. For the input tasks, the participant listened to an auditory stimulus and was required to make a forced choice between two picture possibilities displayed on the computer screen using the computer mouse. The response was then recorded directly by the computer. In the output tasks, the participant produced a response to a picture stimulus which appeared on the computer screen, and was rated by the researcher using an electronic key pad; the researcher was not able to see the stimulus. The output tasks were then rated again by a second researcher who is not present at data collection before a final stage, in which the two raters meet and agree on the performance. Each subtest has two demonstration items, two practice items and 16 subtest items. The practice items ensure that the participant understands what is required in each task. In addition, before the participants begin, they are first presented with pictures of all the items used in the test to make sure they know what they are and have the vocabulary to name them.

Although some results were significantly different from native-speaker data, raw scores showed that the learner groups performed well in most tasks, which may indicate that the learners' level was too high for the PEPS-C to be useful.

However, the PEPS-C did reveal that Arabic learners performed significantly worse at contrastive stress placement, and Chinese learners performed significantly worse assessing likes and dislikes.

3.2. Contrastive analysis between some aspects of the phonology of English language and other languages:

1. Lecumberri, (1995) investigates the nature and use of accentual focus and de-accenting in Spanish and RP English. These phenomena have been very little studied in Castillian Spanish, where non-intonational focusing strategies are more widely attested. The main hypothesis of the study is that intonational focus is possible in Castillian Spanish and that it can be realized in ways comparable to English, namely displacement of the nuclear accent in a group to the focal position and de-accenting of old information.

Data were collected from speakers of Spanish in a task which allowed them only to use intonation as a means of conveying focus on subject or verb structures; similar but more limited data were obtained for English. Perception tests using these data established that English listeners were more successful in identifying focus conveyed through accent; the overall success of Spanish listeners was lower, but still relatively high, demonstrating that accents can function to indicate focus in Spanish. Listeners also rated the naturalness of utterances with accentual focus. Though higher for English than for Spanish, the naturalness scores suggested high acceptability in both languages.

Detailed acoustic and auditory analyses of the data highlighted differences in realization between the two languages. The English results largely agree with existing accounts of focus realization, but suggest that the focal accent may not always be the last accent in a group, and that old information is not always de-accented. The Spanish analyses confirm that focus may be realized accentually, though focal accents on verb structures are less frequent. It was also observed that old information following focus could be either de-accented or produced with reduced

accents. A comparison of results for English and Spanish allows us to conclude that in both languages intonational focus can be achieved through early accentual prominence followed by partial or total de-accenting of old information. Differences between the languages concern the phonetic realization of these patterns, the relative frequency of use of intonational focus, and a stronger preference in Spanish for using reduced accents rather than absence of accent on old information. Following a view of de-accenting as relative, the researcher considered both lack of accent and reduction of accentual prominence to be part of the same phenomenon. Consequently, the researcher proposed a definition of nucleus which does not require the nuclear accent to be the last accent in a group but the last full accent.

2. Chen (2004) aimed at examining the perception of paralinguistic intonational meanings deriving from Ohala's Frequency Code and Gussenhoven's Effort Code in British English and Dutch. To achieve the aim the researcher followed the descriptive approach, Native speakers of British English and Dutch listened to a number of stimuli in their native language and judged each stimulus on four semantic scales deriving from these two codes: SELF-CONFIDENT versus NOT SELF-CONFIDENT, FRIENDLY versus NOT FRIENDLY (Frequency Code); SURPRISED versus NOT SURPRISED, and EMPHATIC versus NOT EMPHATIC (Effort Code).

Some of the most important results arrived by the research are The stimuli, which were lexically equivalent across the two languages, differed in pitch contour, pitch register and pitch span , and in pitch register, peak height, peak alignment and end pitch . Contrary to the traditional view that the paralinguistic usage of intonation is similar across languages, it was found that British English and Dutch listeners

differed considerably in the perception of “confident,” “friendly,” “emphatic,” and “surprised.” The present findings support a theory of paralinguistic meaning based on the universality of biological codes, which however acknowledges a language specific component in the implementation of these codes.

3. Al-fatlawi (2008) tried to identify if there any significant difference among Iragi, Libyan and British English accent. Also the researcher tried to find out if there any significant difference between factual and inferential levels of language acquisition. To achieve the aim the researcher followed the descriptive approach by using a test. Then statistical analysis was conducted.

One of the most important results arrived by the research was that the students have deficiency in comprehending the foreign accent. Another was that there was significant difference between the accent of native speakers and non-native speakers.

The researcher cited a number of recommendations of which are: to encourage students to use situations inside class rooms and to increase the time of listening.

4. Fur, (2011) the aim of his study is to contrast Arabic and Persian languages at all levels of linguistics. To achieve the aim the researcher followed the descriptive contrastive analytical approach, the researcher described the sounds in both languages and compared and contrasted them.

One of the most important results arrived by the research is there are some differences in the sound of the two languages. The researcher cited a number of recommendations of which is to encourage researchers to study these two languages.

5. Kuo (2008) thesis presents a system for translating spoken English into Mandarin, paying particular attention to the relationship between the phonologically marked emphatic/ contrastive focus in English and the lexical/syntactic focus constructions in Mandarin. A translation framework is used to implement interpretation of prosody in English-Mandarin spoken language translation. The framework consists of two main stages: the first stage is detecting phonologically marked emphatic/contrastive foci in English, and the second stage is translating each focus with lexical/syntactic devices whenever appropriate. The precision and recall rates are significantly higher than a random guess, and the results are improved when most of the prosodic features are used. Moreover, the results also indicate that focus detection can be speaker-independent to a certain extent. The translation is achieved with four procedures: analysis, English-Mandarin transfer, applying focus rules, and generation. The results of the research are that eleven focus rules based on Mandarin focus constructions were developed. Five of the focus rules are associated with emphatic Shi, which we analyse as a modifier preceding the smallest verbal projection that contains the focus item. The translation has been tested on a corpus of 207 questions in the domain of asthma history, although the focus rules used in the system are not domain specific. He suggested that studies on how to extract meanings from prosody automatically will certainly benefit the development of speech machine translation and wider speech processing applications.

3.3. Studies of the phonology of different Arabic dialects:

1. El-isa, (1982) investigated some of the dynamic features as employed in Irta:hi Spoken Arabic, an Arabic dialect spoken in a Palestinian village in the West Bank. This study is based on a considerable corpus of

material obtained from recordings made by native speakers, and considered as an attempt at demonstrating the relevance of the dynamic features concerned for studying the language structure. The thesis is preceded by an introduction which includes a description of the dialect together with a concise definition of what the dynamic features actually are. Then it provides a fairly detailed description of the dialect's vowel and consonant segments. It also includes a survey of some of syllable definitions that exist in addition to the one adopted in the study. Reference has also been made to word-structure in Irta. by describing the various syllable patterns that operate within the dialect. The study discussed what is actually meant by stress followed by a study of stress-patterns in the dialect's isolated words and in its connected speech. Then it examined some specific features of the dialect's speech-rhythm. In short, the following points have been discussed:

1. An examination of the hypothesis of isochronous feet has been tested in:

a - short utterances

b - a text recorded by employing two subjectively controlled degrees of tempo, i.e. fast and normal. However, in each case, care has been taken to ensure that the material is examined under what could be called similar external conditions of tempo and intonation contour in order to limit the effect of these features on our measurements to its minimal level.

2. An assessment of the effect of the following features on the duration of feet in the data:

a - the number and type of syllables included.

b - the nature of segments involved.

3. An attempt to study isochrony in speech production and perception.

After that the study presented a description of the intonation patterns common amongst non-educated speakers of the dialect in their normal speech of every-day life. The dialect's tones have been divided into simple, complex and compound patterns with further sub-classification. Furthermore, the distinction between the different patterns has been established according to their tonal, grammatical and contextual functions. The study discussed some basic functions of intonation in Irta. with some emphasis on the correlation between grammar and tonal patterns in the dialect. The phonetic structure of each foot in terms of syllable structure, number of syllables included and the nature of the segments involved. The measurements show that foot-duration increases linearly with its complexity; as a result, the reported tendency becomes weaker in circumstances where feet in any data examined vary in terms of the number and type of their syllabic contents.

However, the researcher hoped that this work will stimulate further research and discussions in the future. In particular, he was hopeful that investigation of this nature would involve a much larger body of data in order to study, for instance, the effect of other dynamic features the dialect's rhythmic patterns. He also hope that future experiment would examine the relation between a foot's duration in relation to its position in connected speech. In addition, he believed that it is essential to investigate the manner in which native speakers perceive the rhythmic patterns in their language. He also thinks that a fully comprehensive study of the system must account, in addition to pitch-variations, for other dynamic features such as tempo and rhythm, together with other paralinguistic features that occur in the dialect, in order to examine the relevance of these features to the study of intonation.

2. Ahmad, (1987) examined the forms and functions of the intonation contours in Zubairi Arabic and the correlation between each of the two systems of tonality and tonicity and grammar.

The material of the analysis consists of three stylistic varieties: natural conversation, monologue and read texts, and the analysis involves comparing these stylistic varieties wherever applicable. The researcher first started by briefly reviewing three early Arab and Muslim phoneticians, and highlighting what had been written on the intonation of Arabic up to the present day. He moved to describe the syllable structure and the stress rules in Zubairi and Modern Standard Arabic, and the relation between stress and rhythm.

The next step was establishing the concept of tone group and its internal structure and discussed the factors and problems that contribute to the identification of the tone group boundary. In that respect the researcher found that the reading style was found to be most problematic. Also the researcher found that the stylistic variations have an influence on the frequency of occurrence of the pre- and post-nuclear patterns; but no significant influence on the length of the tone groups. Finality as well as non-finality are associated with falling tones, and the claim of associating non-finality with the other tones is rejected.

The researcher made a description of the phonetic forms of the 14 most frequent intonation contours in the corpus, and reported on the devices employed to express emphasis. The falling tones were of the highest frequency of occurrence. Two types of tail are distinguished with four types of head and three types of pre-head. The study explored the correlation between intonation, grammatical structure and meaning by means of three experiments examining the contribution of the nuclear tones and the heads to meaning.

Results of the second experiment were subjected to a hierarchical cluster analysis which confirmed the phonological status of the 14 phonetically contrastive tones, and drew a sharp line between two groups of tones in the phonological system of the dialect. An investigation between the correlation between tonality and the various grammatical structures, and between tonicity and the types of grammatical classes is being curried. It revealed that the tone group does not correlate exclusively with one grammatical structure, but rather with a wide range of structures dominated by the sentence. Tonicity correlation patterns validate the traditional claim that the normal placement of the nucleus is on the final lexical word.

3. Alharbi (1991) conducted a formal analysis of intonation in his study, which involves an investigation of the intonation system of Kuwaiti Dialect of Arabic (KDA). Following the prosodic framework established in Britain in general and Crystal's theory in particular, intonation is viewed here as a unitary system: tonality, tonicity, and tone. Each system is individually considered. The researcher started with a brief discussion of the importance of intonation in speech. Then the language under investigation is phonologically and morphologically explored. The study discussed different prosodic features, such as; loudness, duration, tempo, and pause, and assesses their contribution to intonational contrasts. It also explored the physical nature of pitch as the prime component of intonation. Then the major functions of intonation are discussed in, where it is concluded that intonation is multifunctional. When considering the grammaticality of tonality it is concluded that, as supported by statistical investigation, that a KDA speaker paragraphs his flow of speech by means of intonation in such a way as to correspond with the structure of

elements of clause rather than it being the case that "one clause is one tone group".

After that the study discussed the communicative importance of tonicity in speech. The position of tonicity is thoroughly examined and related to the informational and grammatical constructions of the utterance in which it occurs. It is concluded that tonicity in KDA is unpredictable, and that the nucleus is position-free. Tonicity is mainly determined by the speaker's assessment of which segment (segments) to focus as guided by the nature of his message.

The physical movement of pitch which constitutes the tone system of KDA is being studied. Functionally, pitch contour types are related to their concomitant sentence types. A bidirectional method is applied in analysing the KDA tone system; *on* the one hand, the 'kinetic' and 'static' movements of pitch are phonetically investigated, and on the other hand, pitch contours are phonologically grouped and functionally related through their syntactic relevance to sentence types. It is then concluded that: (a) KDA has five basic tones; rise, fall, level, rise-fall, and fall-rise, and (b) the distribution of pitch contours as related to sentence types is hardly systematic; while the unmarked/marked distinction is clear with an overwhelming frequency in declaratives (fall) and interrogatives (rise), it is certainly less obvious in the case of exclamations and totally absent in the case of commands. No recommendations have been cited.

4. Jong, and Zawaydeh, (1999) investigated Arabic word level prosody they present the results of Duration an investigation into the production of Arabic word level prosody. Their study has two goals. The first is to examine the phonetic correlates of Arabic stress, an apparent prominence marker at the level of the word. The second is to examine similar effects of word-final juncture. In addition, the current study investigates the

extent to which word-level prosodic effects are sensitive to higher levels of prosodic structure.

The target language is Ammani-Jordanian Arabic. Four female native speakers participated in the experiment. All subjects were tape recorded in Amman during the summer of 1997, except for the second author, who acted as a subject.

The current study found that many word-level prosodic effects which are very similar to those found in studies of English. The current study also revealed a very consistent but small increase in vowel durations in penultimate positions. This result is similar in quality to that found for English as well. Stress lengthening is occasionally associated with higher F1, while penultimate lengthening never is. As with the phrasal duration effects, the magnitude of the effects here is considerably smaller than that found of English. Analyses of F0 patterns suggest that the intonational system utilizes optional pitch marks on stressed syllables and register and contour differences after the stressed syllable. This intonational structure is also similar to that of English.

5. Chahal (2001) developed a model of Lebanese Arabic intonation using the Autosegmental-Metrical framework of intonational phonology, and investigates certain aspects of that model experimentally.

The proposed model of Lebanese Arabic intonation posited a prosodic hierarchy for the language, which compriseed three prominence levels- lexical stress, pitch accent and nuclear accent, and three intonationally-relevant prosodic constituents- the intonational phrase, the intermediate phrase and the prosodic word. The model accounted for the tonal patterns of the language using a tonal inventory of pitch accents, phrase accents and boundary tones. Pitch accents could be mono-tonal or bi-tonal, and associate to lexically stressed syllables, contributing to the

prominence patterns of the language. Phrase accents marked the right edges of intermediate phrases and had a secondary association to the right edge of the nuclear accented word. Boundary tones mark the edges of intonational phrases. Three tonal implementation rules were also postulated for the language: down-step, up-step, and final lowering.

The quantitative analysis investigated cues to the three prominence levels, prosodic boundary types, and also examines the rising bitonal pitch accents posited for the language. It is found that accented and nuclear accented syllables were higher in pitch, longer, louder, and display more peripheral vowel formant characteristics than stressed but unaccented vowels.

The investigation of the intonational and phonetic realization of broad versus narrow focus also showed that the relationship between target peaks within an utterance played a role in signaling a particular focus interpretation. As for the investigation of prosodic boundaries, it was found that accented syllables preceding the right edge of intonational phrase, intermediate phrase, and prosodic word boundaries display progressively earlier peak alignment the higher the level of the boundary. Accordingly, peak alignment in Lebanese Arabic was argued to constitute a phonetic correlate for prosodic constituency in the language. The investigation of the rising bi-tonal pitch accents showed that the two turning points of the rise show stable alignment and scaling characteristics, while the accent gesture as a whole displayed an invariant time course. Peak alignment differences within these rising bi-tonal accents provided confirmation for their phonological representation as L +H* accents.

6. Hellmuth's (2006) goal of his study is to identify the place of Egyptian Arabic EA in the spectrum of cross-linguistic prosodic variation, and to resolve the challenge it presents to existing phonological accounts of pitch accent distribution. Egyptian Arabic (EA) is a stress-accent language with postlexical intonational pitch accents. This thesis investigates EA pitch accents within the autosegmental-metrical (AM) framework (Ladd 1996).

In a corpus of read and (semi) spontaneous EA speech a pitch accent was found on (almost) every content word, and in the overwhelming majority of cases the same pitch accent type is observed on every word. The typological implications of EA pitch accent distribution are explored in the context of the typology of word-prosodic variation (Hyman 2001) and variation in the domain of pitch accent distribution is proposed as a new parameter of prosodic variation.

A survey of EA prosodic phrasing and of the relative accentuation of function words and content words shows that the correct generalisation for EA is that there is a pitch accent on every Prosodic Word (PWd).

A phonological analysis is proposed within Optimality Theory (Prince & Smolensky 1993), formalising the two-way relation between tone and prosodic prominence at all levels of the Prosodic Hierarchy. An experimental study suggests that alignment of the H peak in EA pitch accents varies with stressed syllable type, and is analysed as phonological association of the pitch accent to the foot. A final experiment quantifies the prosodic reflexes of information and contrastive focus. Even when post-focal and ‘given’ EA words still bear a pitch accent, but there are gradient effects of focus in the form of pitch range manipulation. Independence of pitch accent distribution from information structure supports the formal analysis of EA pitch accent distribution within the phonological part of the grammar.

7. Yeou, Embarki, and Al-Maqtari, (2007) compared the acoustic realizations of contrastive focus for three Arabic dialects (Moroccan Arabic, Kuwaiti Arabic and Yemeni Arabic) using five speakers from each dialect. The speech material consisted of 10 declarative sentences containing target words. Speech samples were recorded using professional equipment and digitized in real time and stored on the computer's hard disk. Acoustic correlates like F0 peak alignment, vowel duration, F0 excursion size were found to be quite different. Other aspects such as F0 contour shape, pause usage also varied. The clear differences found in these acoustic features enabled separation of Moroccan Arabic from the two other dialects.

8. Mahadin and Jaradat, (2011) studied the Pragmatic Function of Intonation in Irbid Dialect, they did acoustic analysis of some speech acts. What they did, was as investigation in the pragmatic function of intonational variations in a Jordanian dialect spoken in Irbid. The study discusses the intonational variations in different utterances with directive and commissive illocutionary forces.

The sample is restricted to two male speakers of Irbid dialect. The utterances have been recorded with a microphone connected to a laptop in a quiet environment and analyzed acoustically. In this study pitch as a perceptual concept is realized as fundamental frequency (F0). The data have been digitized at 44KHz and using Praat, a programme for acoustic analysis. The illocutionary forces examined in this study are: orders, requests, warning, threatening and promising. They co-occur with variant grammatical patterns.

The results showed that intonation changed the interpretation of an utterance by virtue of its structure into another interpretation which the

speaker actually intended to convey. Also, intonation was needed to determine the illocutionary function of an utterance when there was no any other illocutionary marker.

3.4. Studies of the phonology of different languages or dialects:

1. Yokwe (1978) studied the phonology of Bari language but the researcher paid more attention to morphology and syntax. To achieve the aims set by the research the researcher used the descriptive approach. He analyzed the written language of different texts to identify the corpus of the language, and to investigate the major aspect of phonology and morphology of the language.

The researcher reached the following findings: The sound pattern of Bari was considered as a highly regular one and that it was amenable to orderly description by the rules of generative phonology.

The researcher recommended that the phonology of Bari language needed to work on since that the current study concentrated on the morphology and syntax.

2. Kilpatrick tried to write-up the phonological system of the Bango language. To have this aim fulfilled the researcher gathered word lists, sentences and texts from different areas in Tonj town, this had been performed between May and November 1978. The researcher had received help from a local person who had lived in the outskirts of Tonj town.

The researcher used the descriptive approach to analyze the collected data, this was done through tagmemic approach described in phonemic by Kenneth L. Pike. Moreover the researcher included from the

generative approach a distinctive feature analysis of both consonants and vowels, in order to determine the vowels and consonant of the language. The researcher applied all these to analyse vowels, consonants, tonal analysis and intonation of the Bango language.

The researcher arrived at a number of results of which: First he gave a thoroughly description of vowel system and consonant system of the language. Second: The most important results concerning intonation were:

1. Each word had its own pitch pattern or tone pattern.
2. There are certain pitch patterns associate with different grammatical constructions,
3. Bango has three level tones: high, mid and low as well as falling tone.

3. Mustafa (1979) investigated the phonology and plural formation in Maiak language. The researcher used the descriptive method to describe these various aspects of the language. The data was collected from a 29 year old native speaker of the language.

The researcher concluded the following:

1. Maiak language had lost some phonological features found in other Nilotic languages.
2. There were three tones high, mid, and low, and it appears that there was a tendency to develop an overall pitch contour to the words that they began in a high tones and ended in a low ones
3. Morphologically, the plural forms are basically similar to forms in Nilotic languages.

4. Ayom (1980) investigated some major aspects of Dinka Bor phonology and phonetics. He also investigated the nominal plural formation in the

language. The phoneme inventory of the language was established as well as their distribution. Tone analysis had been dealt with on the lexical level. The researcher used the descriptive method. The selected Dinka dialect that had been chosen for this research was the one spoken in Bor town and the villages around it. The researcher also depended on himself as a speaker of the dialect and a writer of it.

The researcher arrived at many results the most important of which were:

1. The underlying and surface phonetic inventory of Dinka consonants and vowels was the same.
2. The phonological process undergone by certain class of consonants shows a certain degree of the presence of regularities and irregularities that had been successfully captured by the phonological rules that operate in the aspects of Dinka Bor phonology that have been described,
3. Nominal plural formation shows some regularity.

The researcher recommended that more dialect work in Nominal plural had to be done to all Dinka dialects.

5. Mukoshy, (1984) described the phonology, morphology and morpho-phonemics of the Fulflude using generative approach. To achieve the aim the researcher followed the descriptive approach, which was suitable to describe several dialects of the language phonology, morphology, and morpho-phonemics. Multimedia approaches were used in collecting the data. The field work involved travelling to different areas to meet native speakers of the language to record the spoken language. Also the researcher made an effort to collecting published material and manuscripts. Moreover casual meeting with Fulflude speakers has been done. The work involves written oral information but its nature depends

on listening, observation and consultation with speakers and consulting written materials.

The data of this research was limited to the years 1969 to1978 then there was a period of interval then the researcher collected more data on 1980. After the data has been collected the researcher started checking then comparing and contrasting it whenever applicable. The researcher covered most of the area where the language was spoken.

Some of the important results arrived by the research are: that the researcher

1. Identified the phonemes of the language.

2. Established the distinction between phonemes and morphemes of the language.

3. Cleared the phonological and morphological consonants mutations.

4. Established the phonetic morphologic behavior of the language.

The researcher cited a number of recommendations of which is further more material is needed for more detailed study on dialects.

6. Aviles (2008) tried to provide essential information on the Daju Dar Daju language of Chad, Africa that would assist in future language development work among the Daju dar Daju people as well as to provide additional information for possible future work among related languages.

Very little work had been done on the Daju languages as a whole and to the date of the research almost nothing on the Dar Daju Daju. The Dar Daju Daju of Chad was a traditional oral society who had expressed a strong desire to see their language developed in print form. A working orthography had been established and a limited number of publications printed. During that time literacy work also began among the three language varieties of the Dar Daju Daju. The information provided by

this thesis was supposed to be helpful in current and future literacy work being done as well as in future publications.

The description the researcher presented was limited to the phonology and morphology of the Dar Daju Daju language and was not intended to be an exhaustive presentation of its grammar. The morphology discussed included the morphology of pronouns and demonstratives, nominal morphology and lastly, verbal morphology. Information as to its relationship with and similarities to other Daju or Eastern Sudanic language varieties was included where applicable.

Though a limited amount of linguistic information had been published in other Daju language varieties, no publication of linguistic work had been previously made available on the Dar Daju Daju language.

The results reached by this research came after a great effort exerted to describe the phonology and morphology of the DarDaju Daju language.

7. Abd Mawla, (2009) examined the various aspects of the phonology of Fur language. He investigated the phonemic distribution and realization, plural morpheme realization and tone questions. Also he tried to determine the exact number of phonemes in the language.

To achieve the aim the researcher followed the descriptive approach. The researcher recorded speech sounds of native speakers for establishing phonological rules, he elicited out all possible realizations in different environments of certain words then stated them formulaically in accordance with the rules of generative phonology, and the same is done with plural morphemes.

Some of the most important results arrived by the research are: The phonological rules concerning the phonemic and clustering distribution and counting the phonemes of the language.

The researcher cited a number of recommendations of which are: There should be a governmental support to write this language alphabetically and more studies in morphology, syntax and semantics should be done, also etymological studies for Arabic loans.

8. Bashir's (2010) aim of her study is to describe the phonetic and phonological system of Tima language, a Kordofanian language spoken in the Nuba Mountains of Sudan. The study provides the basic description of phonology of Tima language.

To achieve the aim the researcher followed the descriptive analytical approach. The data was collected during field work held in different places and time from 2006-2007. In 2006 the data was collected in Khartoum, while in 2007 the data was collected in Nubian Mountains. Moreover formal sessions are held in the researcher office. 2000 words has been recorded and transferred into audio-files, while secondary data were elicited from several writings on phonetics and phonology.

Some of the most important results arrived by the research are counting the numbers of consonants and vowels of the Tima language, and the Tima language has a two-tone system with a down step.

3.5. Comments on the previous studies:

El-isa (1982), Mukoshy (1984) and Hellmuth (2006) in their studies investigate the phonological features of certain dialects. The data was obtained from recording to native speakers ordinary conversations or just listening to them in order to present many things among which was the description of the intonation patterns. Their work is similar to this research as it describes the intonation of a certain dialect, by using recorded material from native speakers. The researcher benefited from the way of describing the various intonational patterns. These studies differ from this study in the way they describe different aspects of the language

as well as intonation; also they concentrated on those certain dialects without any relation to the English language.

Ahmad, (1987) Alharbi (1991) and Bashir (2010) in their studies investigate the intonation system of certain dialects from a wide spectrum. This is quite similar to what is being done as a part of this study. The researcher benefitted from these studies from the way of collecting data which was: natural conversation, monologue and read texts, and the researcher adopted a combination of monologue and read texts and gave the subjects of the study sentences which need a certain response. Those three studies differ from this study in the way they investigate different intonational aspects and nothing else while the present study investigates students' exposure to English and the effect of the mother tongue on English.

Hewings (1993) Lecumberri, (1995) Bae (1998) and Fajobi (2008) in their studies investigate the intonation errors made by non-native speakers while trying to speak English. This is quite similar to what is done in this research. But in this research the non-native speakers were exposed to intonation to determine the effect of this exposure on their understanding of intonation. The researcher adopted the same way of collecting the data from the dialect of the native speakers under investigation.

Elnaji (2007) investigates English pronunciation problems and he did not restrict himself on intonation only. While Al-fatlawi (2008) investigated Iragi, Libyan and British English accent. Balal (2011) studied the phonological problems affecting the teaching/learning process. Elnaji (2007) and Balal (2011) applied their study on two groups

to compare the teaching techniques and its effect on the students' pronunciation. All these studies used tests. In this research tests have been used as well; but without employing two groups because there was no application of different method of teaching. Elnaji (2007) and Balal (2011)conducted a questionnaire and in this research the researcher conducted an interview. Moreover in this research the researcher looked into the effect of the mother tongue on the sample of the study. This was not utilized by any one before.

Kuo (2008) thesis presents a system for translating spoken English into Mandarin. The main concern of the research is that intonation affects the meaning and it is necessary to depend on it in translation. It analyzed different corpus of language and investigated different intonation contour, and how to find an effective way of translating them. However the study did not mention any thing about the effect of being exposed to English.

Chapter Four
Methodology of the Research

4.1. The Methods Adopted in this Research

The researcher has adopted two approaches to tackle this study namely the descriptive approach and the experimental approach. The descriptive approach is very suitable when there is contrastive analysis, while the experimental approach is suitable when teaching intonation using pre- and post tests.

Here in this research the researcher compared and contrast, between colloquial Sudanese Arabic intonation and the intonation of English language to find out if there is any reason behind students mis-toning of English language related to transfer or interference of the mother tongue. Also the descriptive approach is suitable for analyzing the data collected from teachers and students regarding their views of intonation and students exposure to English language. This method is also effective to show the correlation between students' learning of intonation and their having a better understanding of it affecting their listening and speaking skills.

The descriptive approach is the method which deals with a phenomenon or an event or a cause existing at present, from which the researcher can gather information to answer the questions of the research, without the interference of the researcher. The descriptive method is regarded as one of the simplest scientific approaches adopted. (Abu Hatab etal, 1991:112).

The descriptive method concerns itself with collection of data and facts and their classification, analysis, and interpretation. So as to project its bearing and identify it qualitatively and quantitatively to achieve

ultimate results (Shafeeq, 1996:108). This method is employed to prove certain hypothesis to facilitate answers for specific questions, concerning current phenomena and existing events at present, for which data is collected during the study. (Aga etal, 1999:73).

The researcher used the experimental method when dealing with teaching group intonation and striving to discriminate between their statistical significances in the pre- and post tests.

The experimental researcher does not stop at describing a situation or determination of a case or stating the history of past events. Instead of restricting his activities on observing and describing what already exist, the researcher proceeds to tackle certain factors, under controlled conditions. (Deobold, 1977:377)

4.2. Population and sample:

A) The population of the study is third year students at Sudan University of Science and Technology with total of 101 students, the whole population has been taken to carry out the study. 9 subjects have been dropped because they didn't fulfill the pre- and post tests prescribed for the study, thus the final number of the sample is 92 students. The 92 students sat to pre- and post receptive tests, and pre- and post productive tests of intonation. All the 92 students were interviewed to explore their opinion about the listening and speaking material they used to study and the degree of their participation in activities that involves listening and speaking. Some of the students spoken Sudanese colloquial Arabic was explored to determine the intonation of Sudanese Arabic and whether there is an interference.

B) 10 teachers at Sudan University of Science and Technology have been interviewed, to entertain their view points about student exposure to

English language, and the intonation incorporated in the course of listening and speaking being taught to the students.

4.3. Validity and Reliability:

4.3.1 Pilot sample:

The researcher conducted a test to a pilot sample which consists of 30 students of the fourth year students (about 30% of the total sample). The purpose of the test was to realize if there is any kind of ambiguity that needs to be maintained, moreover to determine whether it is suitable for the students or not. Above all the reliability and validity is calculated from this sample.

4.3.2 Reliability:

When two or more measures, items, or assessments are viewed to measure the same variable, reliability can be assessed. Reliability is used to indicate the extent to which the different measures or assessments are consistent with one another (in measuring that variable) and the extent to which each measure is free from measurement error. It is assumed that each item or score is composed of a true score measuring the underlying construct, plus error because there is error in the measurement of anything.

One assumption for the measurement error is that the measures will be related systematically to one another in a linear manner because they are believed to be measures of the same construct. In addition, true error should not be correlated systematically with anything.

Another assumption is that the errors (residual) for the different measures or assessments are uncorrelated. If errors are correlated, this means that the residual is not simply error; rather than that the different measures have the proposed underlying variable in common, they also

have something else systematic in common, which is the error and reliability estimates may be inflated.

For internal consistency reliability, for multiple item scales of this test, the researcher has computed the most commonly used type of internal consistency reliability, Cronbach's coefficient alpha. This measure indicates the consistency of a multiple item scale. Alpha is typically used when you are summed to make a composite score or summated scale. Alpha is based on the mean or average correlation of each item in the scale with every other item. In the social science literature, alpha is widely used, because it provides a measure of reliability that can be obtained from one testing session. (Nancy, 2005:63)

The reliability of the receptive test and the productive test was measured.

a. The reliability of the receptive test is: 0.4 as shown in the following table.

Table (4-1)

Reliability Statistics of the receptive test

N of Items	Cronbach's Alpha Based on Standardized Items
2	0.437

If the correlation is moderately high or high, say 0.40 or above, the item is probably at least moderately correlated with most of the other items and will make a good component of this summated rating scale. . (Nancy, 2005:67) The correlation of each specific item with the sum/total of the other items in the scale is 0.437 this mean that the test is reliable.

b. The reliability of the productive test is: 0.4 as shown in the following table.

Table (4-2)

Reliability Statistics of the productive test

N of Items	Cronbach's Alpha Based on Standardized Items
2	0.40

The reliability coefficient is 0.4 this mean that the test is reliable.

4.3.3. Validity:

The validity is the squire root of the reliability which is:

a. For the receptive test is the squire root of 0.437 which is 0.6, which means the degree of the test validity is good.
b. For the productive test is the squire root of 0.40 which is 0.63 which means the degree of the test validity is good.

4.3.4. Face Validity:

Five scholars were consulted, concerning the intonation receptive and productive tests, and the teachers and students interview, and their comments were taken under consideration.

4.4. Instruments:

Various tools are employed to meet the hypotheses of this study.

First: the use of tape-recorded material:

A) The productive Test:

Students (the whole sample) were asked to read different words and sentences in English language. The researcher has conducted two tests, a pre- test and a post test. There answers have been recorded in both situations. The purpose of the pre- test was to determine the degree of the students' knowledge before being exposed to any intonation material. After the test the researcher taught intonation to the group, and then a post- test has been conducted to find to what extent the students benefited from the new knowledge; i.e. how much knowledge they have acquired

and the progress they have achieved after studying intonation. The test contains 30 items which students have to produce with the right tone. The first 20 items of this test tested the third hypothesis. The first 10 items were words the students were asked to pronounce them using different indicated tones, the second 10 items were sentences the students were asked to produce them using the appropriate tones. The last ten items tested the fourth hypothesis; they were sentences the students were asked to determine the tonic syllable and trying to produce the sentences while placing the tonic syllables in their right position. After a period of thirteen weeks the students have been given the same test again after the teaching of intonation has finished. Their intonation knowledge, as data, has been collected through results of marking the pre and post tests. Each test has been marked out of 40 to determine the scores of the students and how much they achieved in the two tests. To determine whether the student produced the right tones or not the researcher used PRAAT to process the recordings and draw the diagrams. First the researcher used the recorded material from Roach (2005), and the sentences which are not recorded in Roach the researcher recorded for two native speakers (a male and female) and from the readings using PRAAT which the researcher took as a model answer to mark the students.

B) Colloquial Sudanese Arabic:

Sudanese Arabic has been collected from 10 students' speech being recorded. The researcher assigned a newly graduated student to record the spoken colloquial Arabic language of these 10 students in order make them feel more relaxed. The material of the analysis consists of saying different sentences by giving the students certain situation to elicit a certain response. The sentences were chosen with high cautious to parallel the sentences they were asked to read in English. Then all

sentences were analyzed individually with a PC-Pitch programme called PRAAT. Measurements were taken in Hertz by means of a screen cursor at all points where there seemed to be changes in pitch direction and at all starting and ending points neighbouring gaps –voicelessness in the signal.

Second: pre-and post tests of listening (The Receptive Tests)

The students listened to different words and sentences and asked to choose the correct answer.

The researcher has conducted a pre-test to determine the previous standard of students in identifying intonation before they were taught it, after teaching intonation to the students a post- test (the same test) has been conducted to find out the newly acquired standard of the students, i.e. the degree of the progress they have achieved after studying intonation. The test is composed of 30 items which students have to listen to. The first 20 items tested the first hypothesis. The first 10 items were words the students were asked to differentiate which tones they hear, the second 10 items were sentences the students were asked to choose the right tones, they were given choices, in the words there were choices, fall, rise, fall-rise and rise fall, while in the sentences there were three choices, fall, rise, and fall-rise. The last ten items tested the second hypothesis; they were sentences the students were asked to determine the place of the tonic syllable, by underlining it. After a period of thirteen weeks the students sat to the same test after being taught intonation. Their intonation knowledge, as data, has been collected through results of marking the pre and post tests. Each test has been marked out of 30 to determine the scores of the students and how much they achieved in the two tests.

Third: conducting interviews with the educators and with students

The researcher attempted to inspect the degree of students' exposure to English language. Also the researcher tried to find out the views of teachers and the views of students about the importance of intonation this will be done through:

A) The Guided interviews with teachers.

Certain questions were designed for the teachers to find out their opinion about the students' performance while speaking and listening and whether this performance is enhanced through the different activities incorporated in the different syllabi. These interviews were recorded in paper during the speech of the ten interviewed teachers.

B) Instructed interviews with students.

The researcher put a set of questions to elicit the information from the students about their speaking and listening activities inside and outside the class room. Moreover to investigate their attitudes towards intonation before and after being taught intonation. The speech of the ninety two students was tape recorded.

4.5. Procedures:

To analyze the collected data two methods were used, paired sample tests and frequency and percentage.

Paired samples test is used to analyze the students' scores in intonation pre- and post –tests for both receptive and productive test.

Assumptions and conditions to use the paired sample test are:

1. The variable (Intonation Test) is dichotomous and its scores are paired, or matched in (pre – post).
2. The variable (Intonation Test) is normally distributed.

A variable with a normal distribution has the same Mode, Mean, and Median, that is to say most often occurring value equals the average of values or the mid-point of the values.

Frequency and percentage have been used to reflect the tones which cause problems to the students. The tables which show the frequency and percentage of students' answers before studying intonation, will be shown in the tables as (Pre), and the frequency and percentage of students answers after studying intonation will be shown in the tables as (Post) in chapters four five and six.

4.6. Problems encountered by the researcher while conducting the methodology:

The first problem which the researcher encountered was to convince students to study the ten hours of intonation considering that it is not part of their curriculum. Before starting they were unenthusiastic and reluctant but when the researcher started teaching them they began to develop interest in this new field which they were not accustomed to, by the end of the first lecture some of them started to come and ask the researcher questions indicating that they are interested and they wanted to know more.

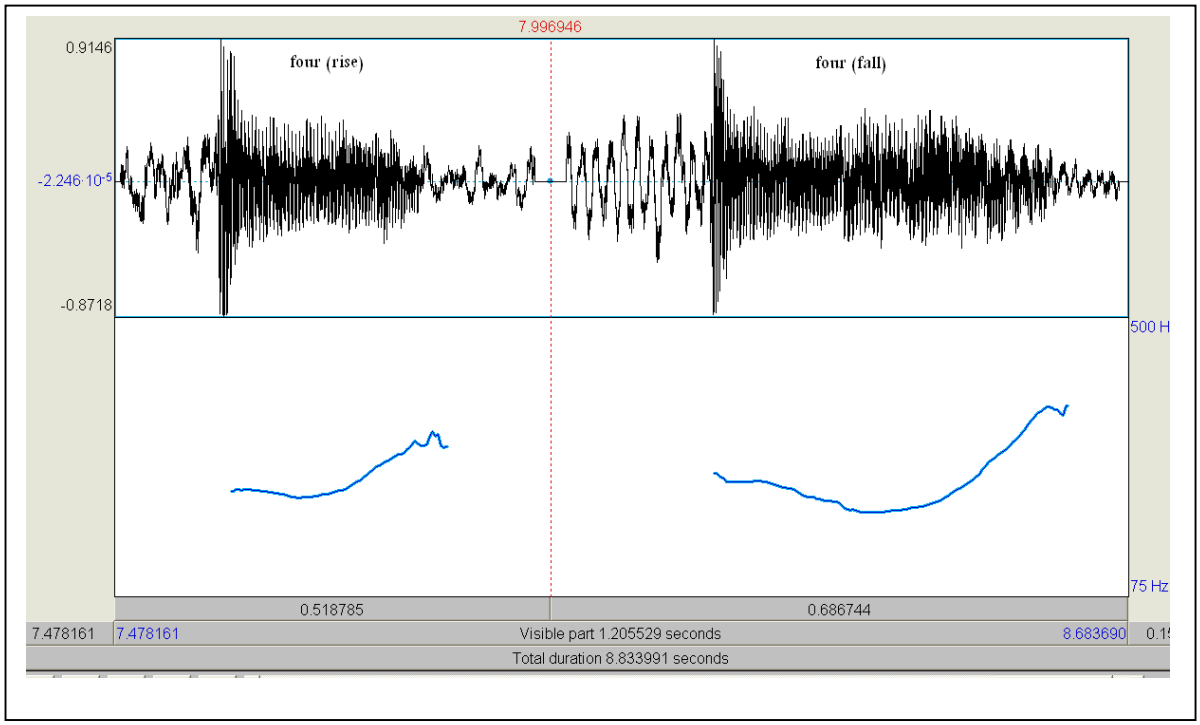
The second problem the researcher recorded the student pronunciation on an "MB3", later the researcher found that PRAAT program does not read such recordings and they have to be "wave". Because of this the researcher needed to convert the recordings to "wave".

The third problem was concerned with the pronunciation of the students themselves. Some of them tend to pronounce many vowels wrongly thus instead of saying *well* /wel/ they say /weil/ which changed the characteristic of the vowel from short vowel to a diphthong, this could definitely lead to change in the intonation contours.

Another example is the word *bus* /bʌs/ students tend to pronounce it /bæs/ also this changed the vowel quality from a short vowel to a long vowel, and the word *bus* came within a sentence which students were supposed to determine where to put the tonic syllable the sentence was "We could go by bus." This long vowel would most likely carry the tone even if the student did not mean to put the tonic syllable in it.

A third example was the word *profit* many students instead of saying /prɔfit/ they tend to say it /prɔfait/ also this changed the vowel quality from short to a diphthong this word occurred within the sentence "Those who sold quickly made a profit." students are supposed to differentiate between two semantic meaning within this same sentence by knowing where to put the a unit boundary by making this particular vowel long sometimes it led to have more than one boundary.

Moreover in the pronunciation of vowels some of the students sometimes alter the duration of the vowels instead of changing the tone during their trials of producing different tones, look at the following example.

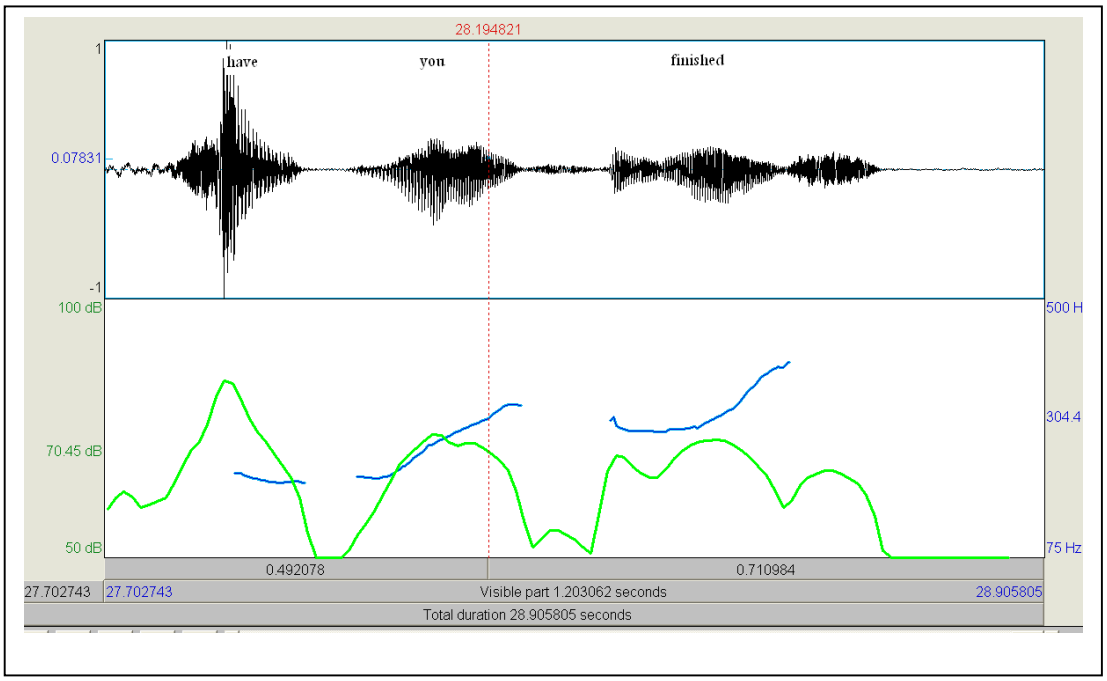


Graph (4-1)

The diagram of vowels duration

The above diagram is of a student who wanted to say the word "four" with a rise and then to say the same word with a fall when he pronounced it he tried to say the first "four" with rise and the second with fall. But actually all he did was changing the duration of the vowel.

The fourth problem which the researcher faced was the toning of words in sentences, sometimes students when reading sentences they say the vowels right but they give each vowel in the sentence a long duration as if the stress is on this vowel. Above all by doing this the duration of the whole sentence becomes quite long, which makes it quite difficult to determine which word is the focus word in the sentence because all words were pronounced with a rather clear vowels and with a long duration. Consider the following example.

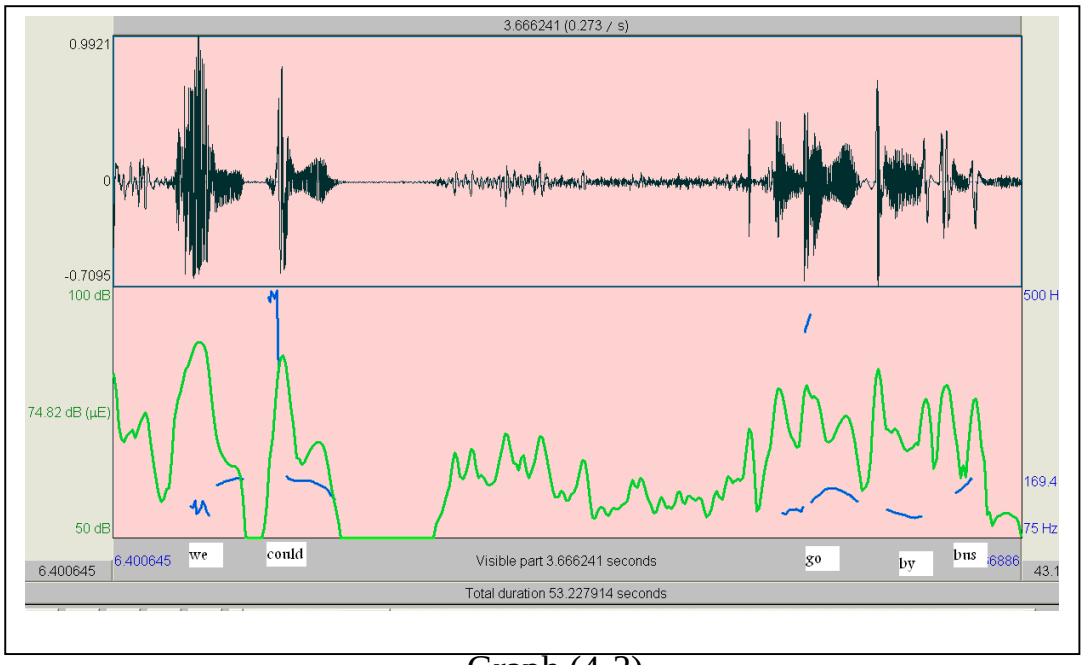


Graph (4-2)

Long duration of vowel

Regarding the question: “Have you finished?” Here in this example the student said it with a clear vowel in both ‘*you*’ and ‘*finished*’ this made two rising tones.

Another example for wrong toning by giving along duration is the following:

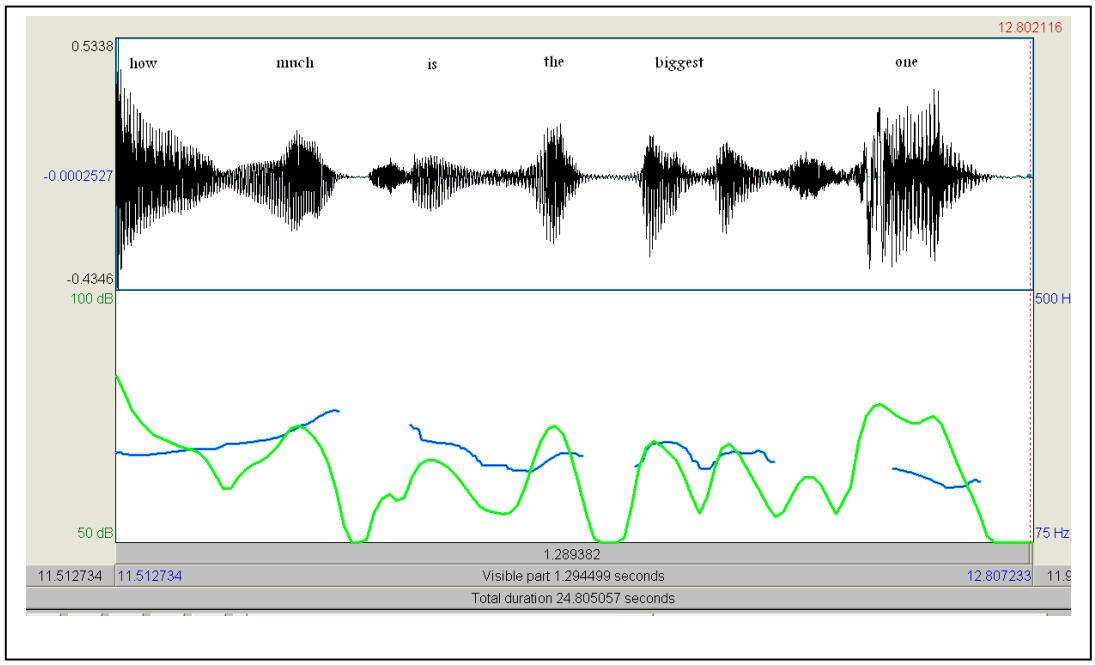


Graph (4-3)

Long duration and a pause

In the above sentence “We could go by bus.” This student had three problems a long pause in the middle of the sentence and vowel clarity in more than one word and one word is pronounced wrongly. When the student tried to tone the sentence ‘We could go by bus.’ with a very long pause between *could* and *go*. Moreover the duration of the vowels in the words ‘could, go, by’ was quite long. Also there was a pronunciation mistake in the word ‘could’ the student in this example pronounced it /kuld/ instead of pronouncing it /kud/ noticing that this is the strong form for pronouncing this word while the weak form is /kəd/.

Another problem is the opposite of the above problem which is that students give too much short vowel sound, they do not give these vowels their normal durations as if they were all contracted, which also made it difficult to notice the focus word. Look at the following example.



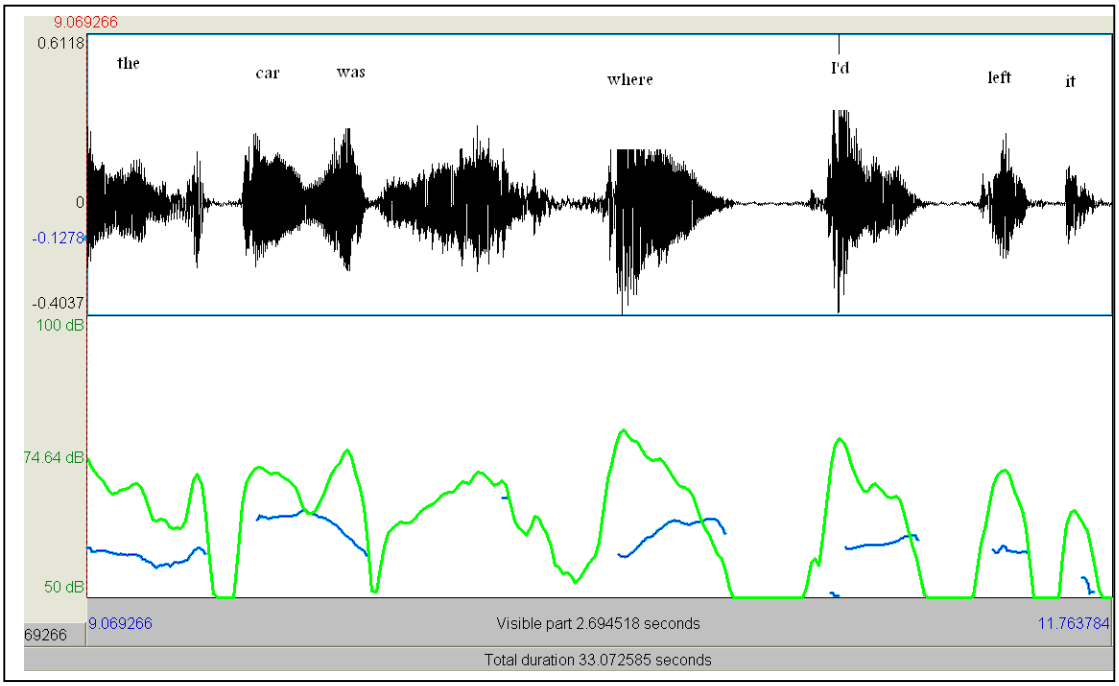
Graph (4-4)

Short duration of a sentence

During the pronunciation of the above sentence “How much is the biggest one.” the student said it very fast with no clear vowel sound, the

duration of the whole sentence was approximately 1.29 seconds. This makes it very difficult to determine the focus word.

The last problem in toning the sentences is that some students make too many pauses during producing the different tones in the sentences. Look at the following example.



Graph (4-5)

Too many pauses in a sentence

Here this student made a pause after each word in the sentence "The car was where I'd left it." This makes the sentence lose everything related to connected speech and as if a robot is saying it.

4.7. The hypotheses

The hypotheses which the study sets out to test are the following:

1. Students cannot distinguish various tones when hearing them. They cannot identify different tones on the level of words, on the level of sentences and on the level of tonic syllable.

2. Students mis-tone words and sentences, thus they cannot produce them correctly. They cannot produce different tones on the level of words, on the level of sentences and on the level of tonic syllable.

3. The students were not exposed to English language, at Sudan University of science and technology.

4. Sudanese Arabic intonation is not unique and it does not differ greatly from English intonation.

5. The intonation of the first language does not transfer to the second language, in the sample of the study.

4.7.1. The receptive test:

To check that Assumptions and Conditions are fulfilled in the first two hypotheses the researcher used One-Sample Kolmogorov-Smirnov to Test the normality of distribution.

Table (4-3)

Students' performance in Identifying Various Tones

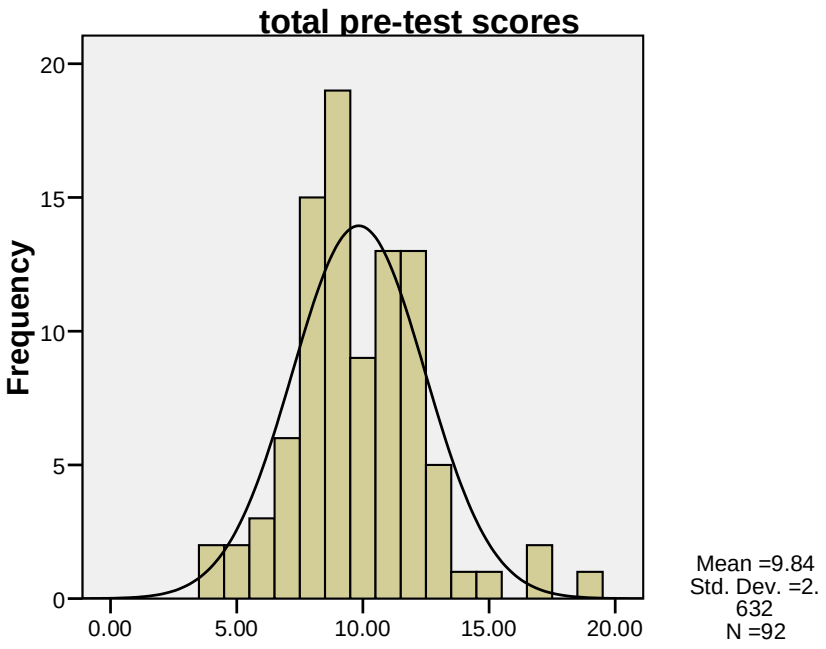
		Total Pre-test	Total Post-test
Normal parameters	Mean	9.8370	15.4130
	Std. Deviation	2.63233	4.39568
Most Extreme Differences	Absolute	.136	.153
	Positive	.136	.153
	Negative	-.101	-.121
Kolmogorov-Smirnov Z		1.301	1.471
Asymp. Sig. (2-tailed)		.068	.026

From the above table, the significance value .026 implies that the test indicated that total post- test is normally distributed.

The null hypotheses which are: 1. Students cannot distinguish various tones when hearing them. a. Cannot identify different tones on the level of words. b. Cannot identify different tones on the level of sentences. 2. Cannot identify tonic syllable." cannot be rejected.

If significance is less than 0.05, then the test is significant at 95% of confidence, this is the standard criterion used. “In simpler terms:” normality permits the drawing of reliable conclusion from statistical estimates. Total pre- test is not normally distributed.

Visually, a normal distribution is bell-shaped the left half is a mirror image of the right half. The importance step from the assumption is that “if a variable can be assumed to be distributed normally, then several inferences can be drawn easily and, more importantly, standardized tests like the T and F tests can be applied.”



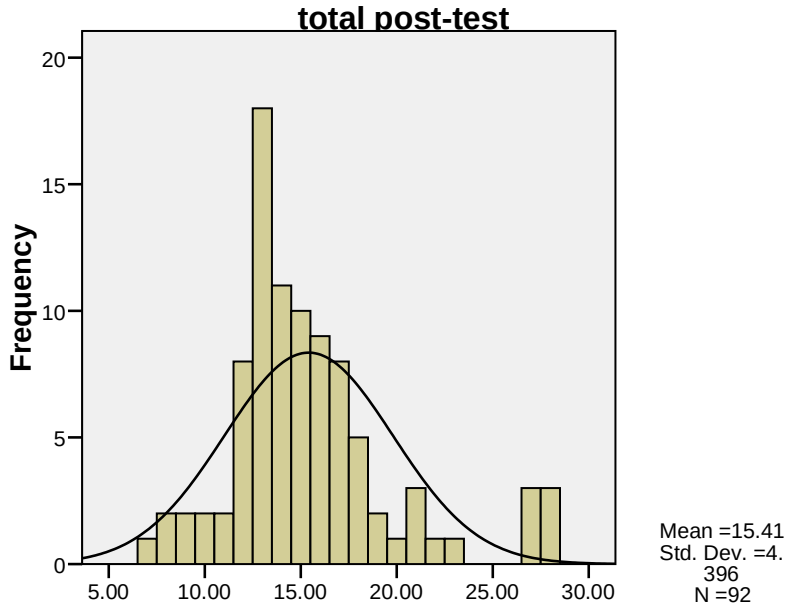
Graph (4-6)

Scores of the students in the Pre- receptive test as a total from 30

The mode is the highest bar those who scored 9 are 19, the median is in the middle (under the shaded bars) to its left are the scores which are less than the ‘15’ score, and the skewness and kurtosis are measures of attributes that are easily identifiable.

The heights of the bars give the relative frequencies of the scores of variable (pre-test). Compare the bars (as a group) with the normal

curve (drawn as a bell-shaped line curve). Most bars seem to be left heavy relatively to the relevant normal curves, lower scores are observed more often than higher scores for intonation total pre-receptive test. This is mainly due to the low standard of students concerning intonation.



Graph (4-7)

Scores of the students in the Post-receptive test as a total from 30

The heights of the bars give the relative frequencies of the scores of variable (post-test). Compare the bars (as a group) with the normal curve (drawn as a bell-shaped line curve). Most bars seem to be distributed more or less normally but with a slightly heavier distribution around the lower half. To the relevant normal curves, lower scores are observed more often than higher scores for intonation total post- test. But it is definitely better than the standard of the students in the pre test; there is an improvement.

4.7.2. The productive test:

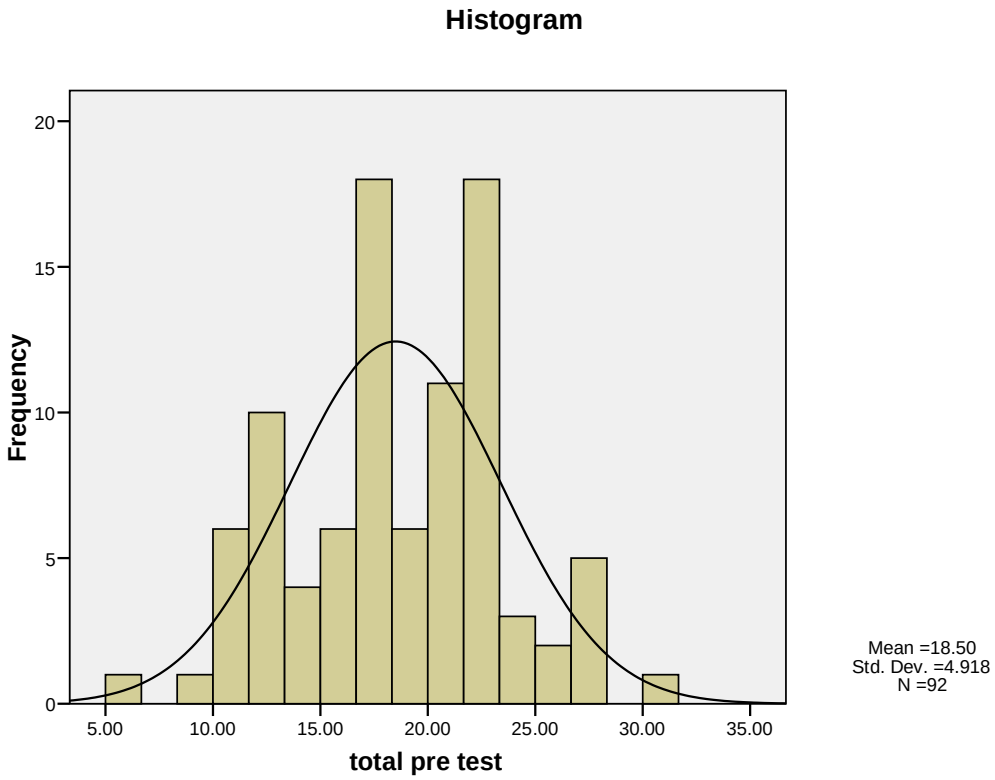
To check that Assumptions and Conditions are fulfilled the researcher used One-Sample Kolmogorov-Smirnov Test the normality of distribution.

Table (4-4)

Students' performance while producing various Tones

		Total Pre-test	Total Post-test
Normal parameters	Mean	18.5000	30.4022
	Std. Deviation	4.91801	2.56802
Most Extreme Differences	Absolute	.079	.114
	Positive	.064	.059
	Negative	-.079	-.114
Kolmogorov-Smirnov Z		.758	1.091
Asymp. Sig. (2-tailed)		.613	.185

From the above table, the significance value .185 implies that the test indicated that total post- test is normally distributed. The null hypothesis which is: Students mis-tone words and sentences, thus they cannot produce them correctly. a) Cannot produce different tones on the level of words. b) Cannot produce different tones on the level of sentences. c) Cannot produce tonic syllable, that the distributions are normal cannot be rejected. Visually, a normal distribution is bell-shaped the left half is a mirror image of the right half.



Graph (4-8)

Scores of the students in the Pre- test as a total from 40

On the lower-right corner, the chart provides the most important statistics: Standard Deviation, Mean, and Sample Size. (The other statistics: like the Median, Mode) are usually more visually identifiable from a histogram.

Table (4-5)

Total pre-test

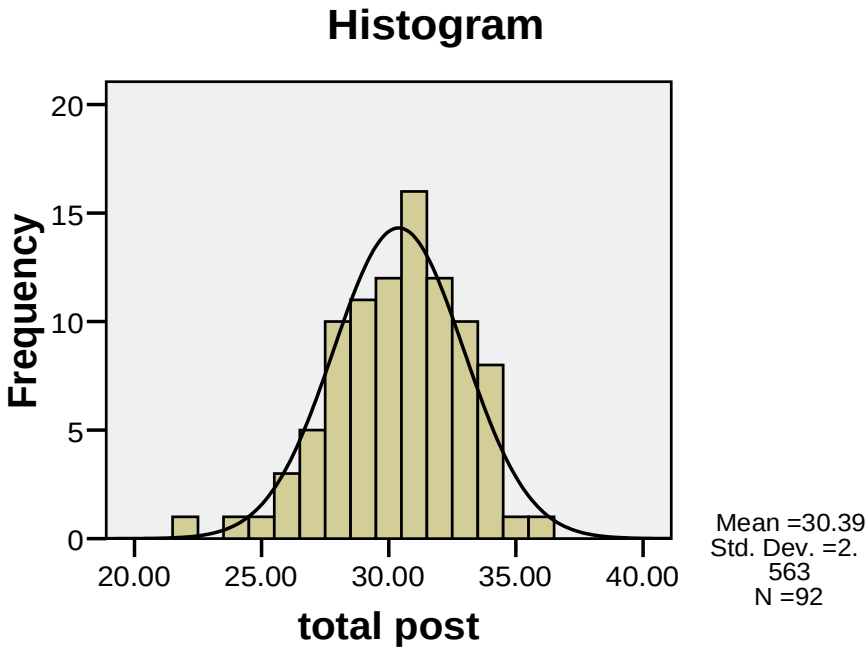
Statistics

total pre test

Mean	Median	Mode	Range	Minimum	Maximum
18.4130	18.5000	18.00	22.00	6.00	28.00

The mode is the highest bar those who scored 18 are 11 students, the median is in the middle to its left are the scores of the students who have got less than the ‘20’ score, they are 52 students.

The heights of the bars give the relative frequencies of the scores of the pre-test. Compare the bars (as a group) with the normal curve (drawn as a bell-shaped line curve). Most bars seem to be left relatively heavy to the relevant normal curves, lower scores are observed more often than higher scores for intonation total pre- test. This reflects that the student’s standard of intonation before being taught intonation was quite low. (Refer to appendix .1)



Graph (4-9)

Scores of the students in the Post- test as a total from 40

Table (4-6)

Total post-test

Statistics

total post

Mean	Median	Mode	Range	Minimum	Maximum
30.3913	31.0000	31.00	14.00	22.00	36.00

The heights of the bars give the relative frequencies of the scores of the post-test. Compare the bars (as a group) with the normal curve (drawn as a bell-shaped line curve). Most bars seem to be distributed normally, higher scores are observed more often than lower scores for intonation total post- test. This proves that there is improvement when compared to the previous graph. (Refer to appendix -2)

4.7.3. The students were not well exposed to English language, at Sudan University of Science and Technology.

The researcher conducted interviews with 10 teachers and 92 students to determine to what extent students are exposed to English language, assuming that if they are going to pick intonation naturally this could be done only with practicing the language through listening and speaking with native speaker or in an artificial situation; also to investigate the teachers and students opinion about intonation and whether it is included in the syllabi or not.

Regarding the teachers' interview, all teachers agreed that the time specified for teaching listening and speaking activities is not enough, four teachers said that students did not have contact with native speakers, three said only few had, the other three added that even those who had do not benefit from it. Thus all the ten teachers agreed that most students did not have good contact with native speakers.

When analyzing the students' interview 87% of the students were not satisfied with the time allotted to the listening and speaking activities and more than half (62,6%) do not participate actively on these activities. Moreover 75% of them do not have contact with native speakers.

This proves that the third hypothesis which is: the students were not exposed to English language at Sudan University of Science and Technology proved to be true.

4.7.4. Having a view over Sudanese Arabic Intonation:

The researcher examined the spoken colloquial Sudanese Arabic of ten subjects by giving them certain sentences requiring certain responses. The subjects were third year students to have the same age group as the group of which English intonation experiment conducted upon. The interview with those students to record the sentences was conducted by a newly graduated student with the third year students to make them feel relaxed and with no strains so as to speak naturally. These sentences were taken from ten students, and were compared and contrasted wherever applicable with English sentences to reflect the places of similarities and differences between the two languages, Moreover to determine if there is any kind of transfer from Sudanese Arabic colloquial into English language, in order to determine the source of errors committed by the students.

When investigating the Sudanese Arabic intonation regarding all tones the researcher came out with the following table.

Table (4-7)

Frequencies of the subjects' tones regarding different sentences

Sentence	Fall	Rise	Fall-rise	Rise-fall	Level
1st sentence	4	4	1	1	-
2nd sentence	-	8	-	2	-
3rd sentence	-	9	-	-	1
4th sentence	-	10	-	-	-
5th sentence	4	6	-	-	-
6th sentence	9	1	-	-	-

From the above table it is quite clear that the subjects tend to use the rise tone more than the other tone when toning different sentences; and the tone which comes next is the fall tone. They use the rise tone on

38 sentences and the fall on 17 sentences, which left only 5times for fall-rise, rise-fall, and level. This result is quite similar to what Ahmad (1987) found when studying Zubairi Arabic, he reported that "the falling tones were of the highest frequency of occurrence." Here in Sudanese Colloquial Arabic it is the rising tone. Thus different dialects apply different tones to their different purposes in the language. This differs greatly from the intonation of English language where all tones are applied.

Form all the above the fourth hypothesis which Sudanese Arabic intonation is not unique and it does not differ greatly from English intonation, was accepted. The Sudanese use the same tones of English the differences appeared in the frequency of uses.

4.7.5. Arabic and English Intonation:

It is found that the subjects of the study have a tendency to use either a rise or a fall tones in SCA this is clear from the statistics of the number of sentences from the sixty sentences said by the subjects 38 sentences were said with a rise and 17 sentences with a fall, which left only 5times for fall-rise, rise-fall, and level. That is clearly has been transferred to their spoken English language. Thus there is transfer from the first language into English language. This is proved with the statistics, in the pre test 44.56% of the subjects used a fall tone to tone differ words and 33.04% used a rise tone. These percentages improved a lot in the post and 31.63% used a fall and 29.68% used a rise.

This proves that the fifth hypothesis which is: The intonation of the first language does not transfer to the second language, in the sample of the study, is rejected, there is definitely a kind of transfer.

Chapter Five

Data Analysis and Results discussion

5.1. Display of the data:

The main tools used in this research are receptive and productive tests. The data collected from theses has been analysed using both the frequencies and percentage and using paired sample test.

The supplementary tools are interviews with students and teachers, also recorded data of Sudanese colloquial Arabic, frequencies or frequencies and percentages are used to anlayse this data.

5.1.1. Analyzing the performance of the students in the word level using the frequency and percentage:

Students cannot identify different tones on the level of words.

This is the first question in the test. (Appendix B) It is part of the first hypothesis. In this question students have been asked to listen to each word and identify the tone they heard, this is done through choosing the tone they hear and marking it in the test.

The researcher used the frequency and percentage way of analysis to determine the problematic tones for the students in the level of word. In other words; which is the most difficult tone for them to identify and which is the easiest. This is done both before studying and after studying intonation. Moreover to find out if there is any kind of promotion in their performance after studying intonation.

Here in this part the words have been grouped according the tones they are not necessary in the same sequence the student heard them in the test. This grouping is done here to compare the students' performance regarding the same tone. The tones are referred to as identifying the tone rise, fall, fall-rise, and rise fall.

Table (5-1)

Identifying "fall" tone *(word)*

Tones	Pre-						Post.					
	Two		Five		Now		Two		Five		Now	
	F.	%	F.	%	F.	%	F.	%	F.	%	F.	%
Fall	32	34.8	20	21.7	18	19.6	49	53.3	40	43.5	35	38.0
Rise	38	41.3	23	25.0	11	12.0	30	32.6	29	31.5	27	29.3
Fall –rise	7	7.6	22	23.9	26	28.3	6	6.5	8	8.7	14	15.2
Rise -fall	15	16.3	27	29.3	37	40.2	7	7.6	15	16.3	16	17.4
Total	92	100	92	100.	92	100.	92	100.	92	100.	92	100.

The correct tone for the words "Two", "five", and "now" is *fall* 34.8%, 21.7%, 19.6% consecutively of students got it right in the 'Pre'. However, the performance of the students improved more students got it right on the 'Post' that is 53.3%, 43.5%, 38% consecutively, this shows that more of them got a better understanding of this tone. For the word "two"41.3% of the students have mistaken it with *rise* in the 'Pre' but the students' performance improved and 32.6% of the students have mistaken it with *rise* in the 'Post'. For the word "five" also many students have mistaken it with *rise*, 25% in the 'Pre' and 31.5% in the post. For the word "Now" 40.2% of the students had mistaken it with *rise-fall* in the 'Pre', but the students' performance got much better and only 17.4% of the students had mistaken it with *rise-fall* in the 'Post'. All this reveals that the students understanding of the tone *fall* has improved after being taught. But still many students mistaken *rise* with *fall* even after being taught intonation.

Table (5-2)

Identifying "Rise" tone *(word)*

Tones	Pre-						Post-					
	Three		Six		Us		Three		Six		Us	
	F.	%	F.	%	F.	%	F.	%	F.	%	F.	%
Fall	43	46.7	38	41.3	14	15.2	39	42.4	29	31.5	15	16.3
Rise	15	16.3	26	28.3	31	33.7	19	20.7	30	32.6	51	55.4
Fall –rise	13	14.1	14	15.2	14	15.2	25	27.2	21	22.8	13	14.1
Rise-fall	21	22.8	14	15.2	33	35.9	9	9.8	12	13.0	13	14.1
Total	92	100.	92	100.	92	100.	92	100.0	92	100.	92	100.

The correct tone for the words "Three", "Six" and "us" is *rise* only16.3%, 28.3%, 33.7% consecutively of students got it right in the 'Pre'. For the word "three" the performance of the students did not improve much in the 'Post' 20.7% got it right. 46.7% of the students have mistaken it with *fall* in the 'Pre' and 42.4% of the students have mistaken it with *fall* in the 'Post'. The performance of the students improved a little in the word "six" in the 'Post' 32.6% got it right, this shows that only few of them got a better understanding of this tone. 41.3% of the students have mistaken it with *fall* in the 'Pre', the performance of the students has improved in the 'Post' less students have mistaken it with *fall*; this is 31.5%, which is still a very high percentage. The correct tone for the word "us" is *rise* 33.7% of students got it right in the 'Pre'. For the word "us" the performance of the students improved a lot in the 'Post' 55.4% got it right. This reflects that students understanding of the tone *rise* improved just a little after being taught. But still many students have mistaken *fall* with *rise* even after being taught. Also there is no consistency in their understanding because for the word us many identified it better in the post.

Table (5-3)

Identifying "Fall-rise" tone *(word)*

Tones	Pre-				Post-			
	One		You		One		You	
	F.	%	F.	%	F.	%	F.	%
Fall	27	29.3	23	25.0	16	17.4	5	5.4
Rise	43	46.7	16	17.4	29	31.5	13	14.1
Fall – rise	10	10.9	33	35.9	23	25.0	47	51.1
Rise – fall	12	13.0	20	21.7	24	26.1	27	29.3
Total	92	100	92	100	92	100	92	100

The correct tone for the word "One" and "you" is *fall-rise* only 10.9%, 35.9% respectively of the students got it right in the 'Pre'. However, the performance of the students improved more students got it right on the 'Post' that is 25%, 51.1% respectively, this shows that some of them got a better understanding of this tone. The tone with the second higher percentage which students have mistaken it with *fall-rise* in the 'Pre' is *fall,* this is 29.3%, 25% respectively but the students' performance improved and only 17.4%, 5.4% of the students have mistaken it with *fall* in the 'Post'. For the word "One" many students have mistaken it with *rise* in both tests, in the Pre. 46.7%, and in the Post 31.5%. This shows that students mistaken *rise* with *rise-fall*. For the word "you" the tone with the second higher percentage which students have mistaken it with *fall-rise* in the 'Post' is *rise-fall,* this is 29.3 this tone is closer to *fall-rise* than *fall,* this reflects that the students started to develop better understanding to tones as general.

Table (5-4)

Identifying "Rise-fall" tone *(word)*

Tones	Pre-				Post-			
	Four		More		Four		More	
	F.	%	F.	%	F.	%	F.	%
Fall	1	1.1	16	17.4	5	5.4	3	3.3
Rise	19	20.7	14	15.2	9	9.8	12	13.0
Fall – rise	37	40.2	23	25.0	38	41.3	37	40.2
Rise – fall	35	38.0	39	42.4	40	43.5	40	43.5
Total	92	100	92	100	92	100	92	100

The correct tone for the words "four" and "More" is *rise-fall* 38%, and 42.4% of students got it right in the 'Pre'. The performance of the students improved a little in the 'Post' 43.5% (for both words) got it right, this shows that only few of them got a better understanding of this tone. 40.2%, 25% respectively of the students have mistaken it with *fall-rise* in the 'Pre' and 41.3%, 40.2% respectively of the students have mistaken it with *fall-rise* in the 'Post'. This proves that many students mistaken *rise-fall* with *fall-rise* even after being taught intonation.

5.1.2. Analyzing the performance of the students in the sentence level using the frequency and percentage:

Students' cannot identify different tones on the level of sentences.

This is the second question in the test. It is part of the first hypothesis. In this question students have been asked to listen to each sentence and identify the tone they heard by ticking the right tone in the test paper: In the table the sentences are numbered the 1st, 2nd, 3rd etc. (Appendices)

The frequency and percentage method of analysis has been used to investigate the problem which the students face while trying to identify the tones in the level of word; also whether these tones are the same as for words or not. The researcher tried to determine to what extent the standard of the students improved after being taught intonation.

Here in the following tables (5-5 to 5-12) the sentences have been grouped according the tones, they are not necessary in the same sequence in the test.

Table (5-5)

Identifying "fall" tone (Sentence. A)

Tones	Pre-				Post-			
	1st		2nd		1st		2nd	
	F.	%	F.	%	F.	%	F.	%
Fall	52	56.5	13	14.1	65	70.7	30	32.6
Rise	18	19.6	65	70.7	16	17.4	49	53.3
Fall-rise	22	23.9	14	15.2	11	12.0	13	14.1
Total	92	100.	92	100.	92	100.	92	100.

The correct tone for the sentences: 1st "Now here's the weather forecast." 2nd "A few years ago they were top." is *fall* 56.5%, 14.1% respectively of students got it right in the 'Pre'. The performance of the students improved a lot that is in the 'Post' 70.7% 32.6% respectively got it right, this reflects that many of them got a better understanding of this tone. The tone with the second higher percentage which students have mistaken it with *fall* in the 'Pre' is *fall-rise,* for the 1st sentence, this is 23.9%, and *rise*, for the 2nd sentence this is 70.7%. The tone with the second higher percentage which students have mistaken it with *fall* in the 'Post' is *rise*, this is 17.4%, 53.3% for the 1st and second sentences

respectively. This reflects that their understanding of tones started to improve because a *fall-rise* tone has two components a fall and a rise, while *fall* and *rise* tones have one main component either falling or rising. But many students are still having difficulty in identifying this tone.

Table (5-6)

Identifying "fall" tone (Sentence. B)

Tones	pre-				Post-			
	3rd		4th		3rd		4th	
	F.	%	F.	%	F.	%	F.	%
Fall	12	13.0	27	29.3	34	37.0	33	35.9
Rise	50	54.3	40	43.5	36	39.1	38	41.3
Fall-rise	30	32.6	25	27.2	22	23.9	21	22.8
Total	92	100.0	92	100.0	92	100.	92	100.0

The correct tone for the sentences 3rd "We try to do our shopping in the market.", and 4th "But I never go there now." is *fall* only 13%, 29.3% respectively of the students got it right in the 'Pre'. The performance of the students improved a lot in the 'Post' that is 37%, 35.9% got it right, this reflects that many of them got a better understanding of this tone. However, the tone which students have mistaken it with is *rise*, 39.1%, 41.3% respectively of the students in the 'Post' mistaken it with rise which nearly the same as the percentage of the students who got it right. But still this is better because 54.3%, 43.5% respectively mistaken it with rise in the pre. This shows the percentage of the students who got it wrong even after being taught intonation is higher than those who got it right.

Table (5-7)

Identifying "Rise" tone (Sentence. A)

Tones	Pre-				Post-			
	5th		6th		5th		6th	
	F.	%	F.	%	F.	%	F.	%
Fall	25	27.2	60	65.2	15	16.3	48	52.2
Rise	27	29.3	19	20.7	48	52.2	32	34.8
Fall-rise	40	43.5	13	14.1	29	31.5	12	13.0
Total	92	100.	92	100.	92	100.	92	100.

The correct tone for the sentences 5th "You didn't say anything about rates.", and 6th "Is there anything you wouldn't eat?" is *rise* 29.3%, 20.7% respectively of students got it right in the 'Pre'. The performance of the students improved a lot that is in the 'Post' 52.2%, and 34.8% respectively got it right. This reflects that many of them got a better understanding of this tone. For the 5th sentence the tone with the second higher percentage which students have mistaken it with is *fall-rise* with 43.5% in the 'Pre' and 31.5% in the post. For the 6th sentence more students mistaken it with *fall*, the percentage is even higher than *rise* with 65.2% in the 'Pre' and 52.2% in the post. This shows that many students are still having difficulty in identifying it.

Table (5-8)

Identifying "Rise" tone (Sentence. B)

Tones	Pre-				Post-			
	7th		8th		7th		8th	
	F.	%			F.	%		
Fall	44	47.8	37	40.2	42	45.7	27	29.3
Rise	24	26.1	36	39.1	33	35.9	37	40.2
Fall-rise	24	26.1	18	19.6	17	18.5	29	31.5
Total	92	100.0	92	100.0	92	100.	92	100.0

The correct tone for the sentences 7th "Have you ever considered writing?", and 8th "It wouldn't be difficult to find out." is *rise* 26.1%,

39.1% respectively of students got it right in the 'Pre'. The performance of the students improved that in the 'Post' 35.9%, 40.2% respectively got it right, this reflects that few of them got a better understanding of this tone. However, the tone which students have mistaken it with is *fall*, with 47.8%, 40.2% respectively in the 'Pre' and 45.7%, 29.3% respectively in the post. This shows the percentage of the students who got it wrong even after being taught intonation is still high.

Table (5-9)

Identifying "Fall-rise" tone (Sentence)

Tones	Pre-				Post-			
	9th		10th		9th		10th	
	F.	%			F.	%		
Fall	32	34.8	31	33.7	22	23.9	32	34.8
Rise	5	5.4	25	27.2	11	12.0	22	23.9
Fall-rise	55	59.8	36	39.1	59	64.1	38	41.3
Total	92	100.	92	100.	92	100.	92	100.

The correct tone for the sentences 9th "No one could say the cinema was dead.", and 10th "That was what he claimed to be." "That was what he claimed to be." is *fall-rise* 59.8%, 39.1% respectively of students got it right in the 'Pre'. The performance of the students improved a little that is in the 'Post' 64.1%, 41.3% respectively got it right, this reflects that few of them got a better understanding of this tone. However, the tone with the second higher percentage which students have mistaken it is *fall* with 34.8%, 33.7% respectively in the 'Pre' and 23.9%, 34.8% respectively in the post. This shows that the performance of the students becomes a little bit better but still many students are still having difficulty in identifying it.

5.1.3. Analyzing the performance of the students in the tonic syllable using the frequency and percentage:

Students cannot identify the tonic syllables.

This is the third question in the test. It is the second hypothesis. In this question the students have been asked to listen to different sentences and identify the tonic syllable, by underlying which syllable they think is most prominent. The following tables reflect whether the students have chosen the right focus word (referred to in the table as F. word) or a content word (referred to in the table as C. word) or a structure word, (referred to in the table as S. word). In the following tables the sentences are numbered 1st, 2nd, 3rd etc. (Appendices E&F)

The frequency and percentage method of analysis has been used to see what kind of words students used to choose before studying intonation and if this is going to change after studying also the overall performance of the students.

Table (5-10)

Identifying the tonic syllable in the last content word in the 1st, 2nd and 3rd sentences

	Pre						Post					
	1st		2nd		3rd		1st		2nd		3rd	
	F.	%	F.	%	F.	%	F.	%	F.	%	F.	%
F. word	39	42.4	54	58.7	57	62.0	62	67.4	73	79.3	73	79.3
C. word	21	22.8	9	9.8	-	-	11	12.0	7	7.6	-	-
S. word	32	34.8	29	31.6	35	38.0	19	20.6	12	13.1	19	20.7
Total	92	100.	92	100.	92	100.	92	100.	92	100.	92	100.

The tonic syllable in each of the above sentences is on the last content word which happened to be the last word. The tonic syllable for the 1st, 2nd, 3rd sentences is on ***bus, Manchester, finished.*** 42.4%, 58.7%,

62% consecutively of students got it right in the 'Pre'. The performance of the students improved a lot and in the 'Post' 67.4%, 79.3%, 79.3% respectively got it right. 34.8%, 31.6%, 31.6% consecutively of the students put the tonic syllable on structure word that is ***we***, ***by, could, from, you,*** or ***have*** in the 'Pre', this percentage has been reduced to 20.6%, 13%,20.7% respectively in the 'Post'.

These sentences reflect that the teaching of intonation raised the percentage of students understanding on recognizing the place of the tonic syllable. Moreover, after being taught they knew the difference between structure words and content words regarding intonation.

Table (5-11)

Identifying the tonic syllable in the last content word in the 4^{th}, 5^{th} and 6^{th} sentences

	Pre						Post					
	4^{th}		5^{th}		6^{th}		4^{th}		5^{th}		6^{th}	
	F.	%	F.	%	F.	%	F.	%	F.	%	F.	%
F. word	17	18.5	47	51.1	45	48.9	42	45.7	69	75.0	65	70.7
C. word	50	54.3	14	15.2	41	44.6	37	40.2	5	5.4	23	25.0
S. word	25	27.2	31	33.7	6	6.5	13	14.1	18	19.6	4	4.3
Total	92	100.	92	100.	92	100	92	100.	92	100.	92	100.

The tonic syllable for the sentences is on the last content word that is for 4^{th}, 5^{th} and 6^{th} is on ***left, biggest, cold*** respectively. 18.5%, 51.1%, 48.9% consecutively of students got it right in the 'Pre'. The performance of the students improved a lot and in the 'Post' 45.7%, 75%, 70.7% consecutively got it right. 27.2%, 33.7%, 6.5 consecutively of the students put the tonic syllable on structure words that is ***the***, ***was***, ***I'd***, ***it***, ***much***, ***is***, ***one*** in the 'Pre', this percent dropped to 14.1%, 19.6%, 4.3% consecutively in the 'Post'.

The above sentences reflect that the teaching of intonation raised the percentage of students understanding on recognizing the place of the tonic syllable. Even if the content word is not the last word in the sentence like in the 4th and 5th sentences, or when there is a content word close to the focus word and it could be the focus word as in the 6th sentence "***too cold***".

Table (5-12)

Identifying the tonic syllable in a content word which is not at the end of a sentence: in the 7th, 8th and 9th sentences

	Pre-						Post-					
	7th		8th		9th		7th		8th		9th	
	F.	%	F.	%	F.	%	F.	%	F.	%	F.	%
F. word	40	43.5	40	43.5	61	66.3	65	70.7	55	59.8	77	83.7
C. word	23	25.0	39	42.4	-	-	20	21.7	28	30.4	-	-
S. word	29	31.5	13	14.1	31	33.7	7	7.6	9	9.8	15	16.3
Total	92	100.	92	100.	92	100.	92	100.	92	100.	92	100.

The tonic syllable in the above 7th, 8th sentences is not in the last content word which is the common place of the tonic syllable it is in another word which indicates that the speech is related to something before it. While in the 9th "Her it is***."*** it is on the only content word which happened to be at the beginning of the sentence.

The tonic syllable for the sentences 7th, 8th, 9th is on ***course, Knew, here*** consecutively 43.5%, 43.5%, 66.3% consecutively of students got it right in the 'Pre'. The performance of the students improved a lot and in the 'Post' 70.7%, 59.8%, 83.7% consecutively got it right. 31.5%, 14.1%, 33.7 consecutively of the students put the tonic syllable on ***of***, ***it, is, I,*** or ***would*** in the 'Pre', this percentage has been reduced to 7.6%, 9.8%, 16.5 consecutively in the 'Post'.

The above sentences reflect that the students' knowledge about structure words and content words has improved. Moreover they improved in their recognition of the tonic syllable even if it is not the last content word, or if the content word is not the last word.

Table (5-13)

Identifying the tonic syllable in a structure word: in the10th sentence

Word	Pre		Post	
	Frequency	Percentage %	Frequency	Percentage %
That	6	6.5	6	6.5
Was	11	12.0	39	42.4
A	5	5.4	0	0
Loud	41	44.6	36	39.1
Noise	30	32.6	10	10.9
Total	92	100.0	92	100.0

The tonic syllable for the 10th sentence is on ***was*** 12% of students got it right in the 'Pre'. The performance of the students improved a lot and in the 'Post' 42.4% got it right. 5.4% of the students put the tonic syllable on ***A*** in the 'Pre', this percentage becomes 0% in the 'Post', this reflects that the students' knowledge about structure words and content words has improved. However, this was a problematic sentence for the students because the tonic syllable is placed on a structured word that is ***was***, this is why 39.1% of the students still placed it on ***loud***. But still teaching of intonation raised the percentage of students understanding on recognizing the place of the tonic syllable even if it is not in a content word.

5.1.4. Analyzing the performance of the students in the three levels regarding the receptive test using paired sample statistics:

Pre and post Intonation tests have been done to check the achievement of students a paired sample test have been used for interpreting the output. This test has been used to look into the overall performance of the students regarding the level of words. This level as a question in the test has been marked out of ten regarding both pre-and post-tests, then the students' total marks in this question has been compared before and after.

Table (5-14)

Receptive Tests paired sample statistics

	Level of word		Level of sentence		Level of tonic syllable		Total	
	Pre-	post	Pre-	Post	Pre-	Post	Pre-	post
Mean	2.6739	4.0217	4.0326	7.0217	3.1304	4.4130	9.8370	15.4130
Std. Deviation	1.54143	2.31563	1.87201	1.65070	1.71110	2.06569	2.63233	4.39568
Std. Error Mean	.16071	.24142	.19517	1.7210	.17839	.21536	.27444	.45828

The above table shows, Paired Sample Statistics. The Mean for the total intonation pre-test is (9.84) and the Mean for the total intonation post -test is (15.41). From this it is clear that the first hypothesis proved to be true, and that the students cannot distinguish various tones when hearing them. This also reflects that the students' performance in the tests has improved a lot after being taught intonation.

The means of the three levels are as follows:

- Concerning the level of words in pre-test it is (2.67) and the post -test it is (4.02).
- Concerning the level of sentences in the pre-test it is (4.03) and the post -test it is (7.02)
- Concerning the level of tonic syllable in the pre-test it is (3.13) and the intonation post -test it is (4.41).

These means reflect that students' performance has improved regarding the three questions but they have improved more in the level of sentences, as this is more obvious from the Standard in the 'Pre' it is (1.9) and in the 'Post' it is (1.7) which is less and that indicates improvement. This has been emphasized by students' interview they said that they were fascinated by the concept revealed for them about the different functions of intonation and 84.8% of them liked the attitudinal function and said that was the area they concentrated on when being taught intonation.

Chapman (2007) on his study agreed with this result he stated that "Both students and teachers were in agreement about the difficulty of identifying subtle differences in tones". Here in this research the students also faced difficulties in identifying different tones. But regarding the level of sentence the improvement could be referred to student understanding of the uses of the tones themselves concerning certain structures. Thus they were not just listening to the different tones, but they were applying their new knowledge concerning tones and sentence.

Table (5-15)

Receptive Tests (Paired Sample Correlations)

	Question	Correlation	Sig.
Pair 1	Level of word	.122	.246
Pair 2	Level of sentence	.281	.007
Pair 3	Level of tonic syllable	.152	.147
Pair 4	Total mark	.279	.007

The above table shows Paired Samples Correlations, which is used to assess the pre – post reliability of the intonation scores. Note that the r (correlation) = .279 for the total pre-post tests which is approximately 0.3 , This shows that it is medium positive correlation and seems to provide good support for test reliability, Considering that the intonation test performance features are affected by the short time of students exposure to the concept of intonation. This also proves that the level of sentence was the most significant one in the three levels (Sig. .007).

Table (5-16)

Receptive Tests the Three Levels (Paired sample test)

	Paired Differences					T	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the difference			
				Lower	Upper		
Level of word	-1.34783	2.62044	.27320	-1.89050	-.80515	-4.933	.000
Level of sentence	-2.98913	2.12000	.22120	-3.42817	-2.55009	-13.524	.000
Level of tonic syllable	-1.28261	2.47327	.25786	-1.79481	-.77041	-4.974	.000
Total pre-post tests	-5.57609	4.44807	.46374	-6.49726	-4.65492	-12.024	.000

The above table shows, Paired Samples T test. The significance for the comparison of scores for the total intonation pre - post tests and the

three levels: level of words, level of sentences and level of tonic syllable for the intonation pre- post-tests, they are all significant P = (0.0000).

We can tell from the mean in the first table that students have improved after studying intonation. This is because, the effect size is high (difference = mean / standard deviation) (d : -5.58 / 4.45 = - 1.25).

If we subtract the mean of total pre-test from total post –test (15.41 – 9.84 = 5.57) which means six scores to the scale 30 scores. This also prove that their performance improved by 20%.

5.1.5. Analyzing the performance of the students in the word level using the frequency and percentage:

Students cannot produce different tones on the level of words.

This is the first question in the productive test. In this question the students have been asked to produce different tones by pronouncing different words. They were given specific instructions of which tone they have to produce for each word. The tones are:

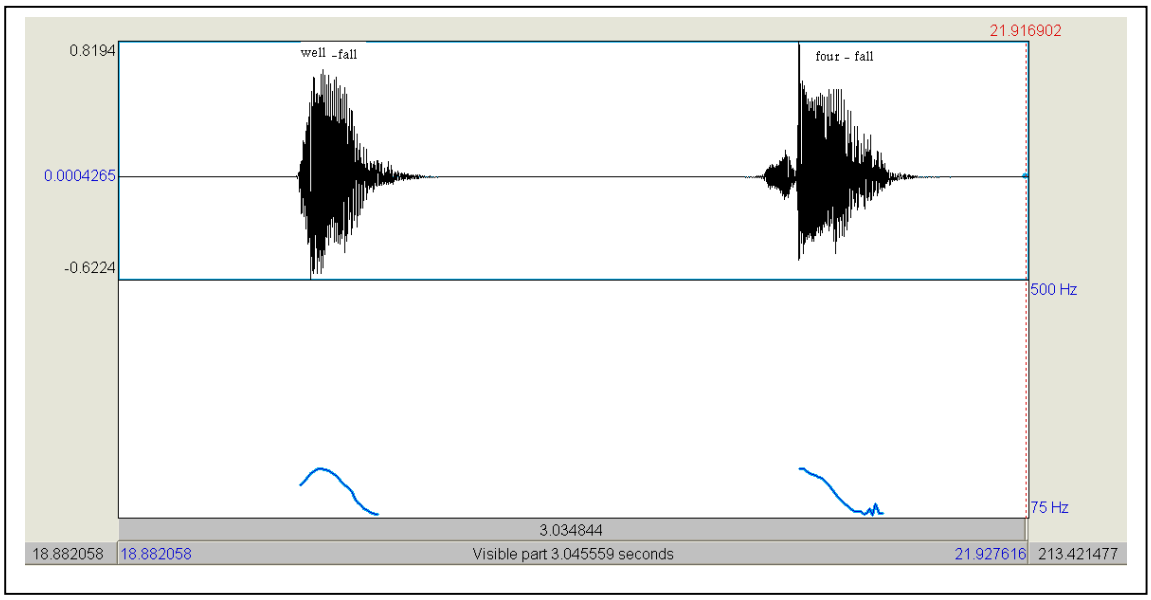
a. Fall b. Rise c. Fall-rise d. Rise-fall

The words are grouped in these tones but they did not come in the same sequence in the test.

Before discussing the students' performance each tone is preceded with a graph to show the transcription of the model answer of the words. This pronunciation is taken from the recording in Roach (2005), and then the researcher has used the PRAAT program to reach the model transcription.

a. The Fall tone:

The following diagram shows the movement of the pitch of the voice while producing a falling tone. Taking this as a model answer the researcher examined these tones for the 92 students the results are shown in the table following the graph.



Graph (5-1)

The diagram of words with fall tone

Table (5-17)

Producing "fall" tone

Tones	Pre.				Post			
	Well		Four		Well		Four	
	F.	%	F.	%	F.	%	F.	%
Fall	25	27.2	80	87.0	36	39.1	81	88.1
Rise	44	47.8	6	6.5	39	42.4	9	9.8
Fall -rise	17	18.5	6	6.5	13	14.1	2	2.2
Rise -fall	6	6.5	0	0	4	4.3	0	00
Total	92	100	92	100	92	100	92	100

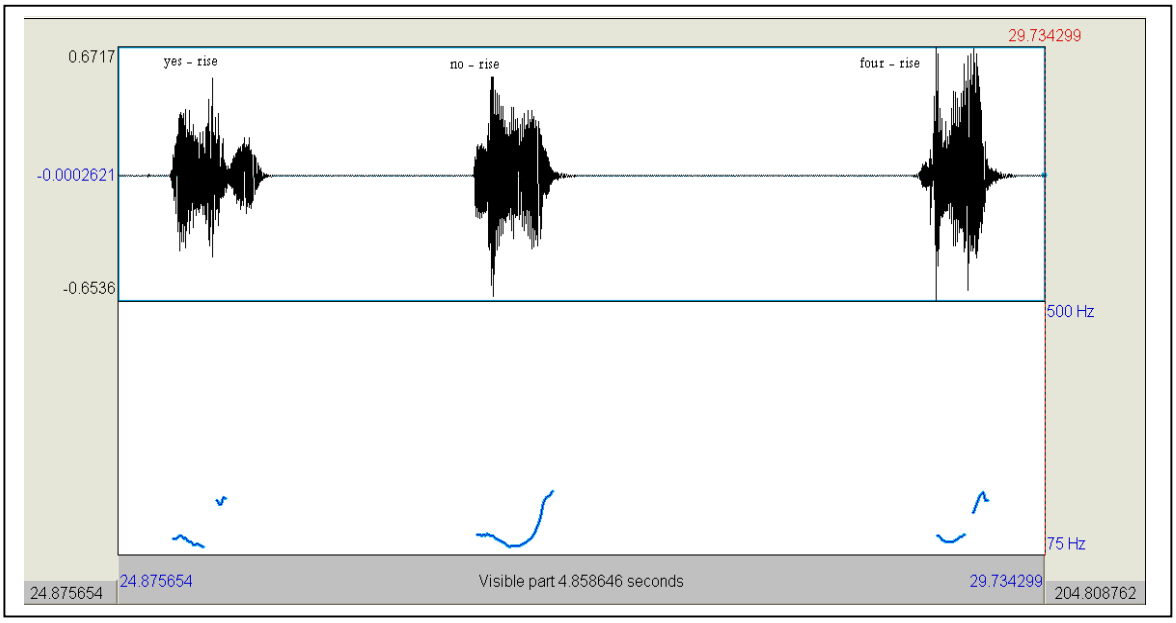
The students are supposed to tone the word "well" with *fall* only 27.2% of the students got it right in the 'Pre'. However, the performance of the students improved, more students tone it right on the 'Post' that is 39.1% this shows that some of them got a better understanding of this tone. 47.8% of the students had mistaken it with *rise* in the 'Pre', and

42.4% of the students have mistaken it with rise in the post this reflects that the performance of the students didn't improved much.

The students are supposed to tone the word "four" with *fall* 87% of the students got it right in the 'Pre'. Nearly the same number of the students got it right on the 'Post' that is 88.1% this shows that the students' performance stayed the same.

b. The Rise tone:

The following diagram shows the movement of the pitch of the voice while producing a rise tone. The researcher took this as a model answer to examine the production of the 92 students the results are shown in the table following the graph.



Graph (5-2)

The diagram of words with rise tone

Table (5-18)

Producing "Rise" tone

Tones	Pre-						Post-					
	Yes		No		Four		Yes		No		Four	
	F.	%	F.	%	F.	%	F.	%	F.	%	F.	%
Fall	30	32.6	55	59.8	50	54.3	24	26.1	40	43.5	42	45.7
Rise	38	41.3	20	21.7	35	38.1	42	45.7	31	33.7	44	47.8
Fall –rise	12	13.0	6	6.5	6	6.5	8	8.7	4	4.3	3	3.3
Rise-fall	12	13.0	11	12.0	1	1.1	18	19.6	17	18.5	3	3.3
Total	92	100	92	100	92	100	92	100	92	100	92	100

The students are supposed to tone the word "Yes" with *rise* 41.3% of the students got it right in the 'Pre'. However, the performance of the students stayed pretty much the same 45.7% got it right in the post.

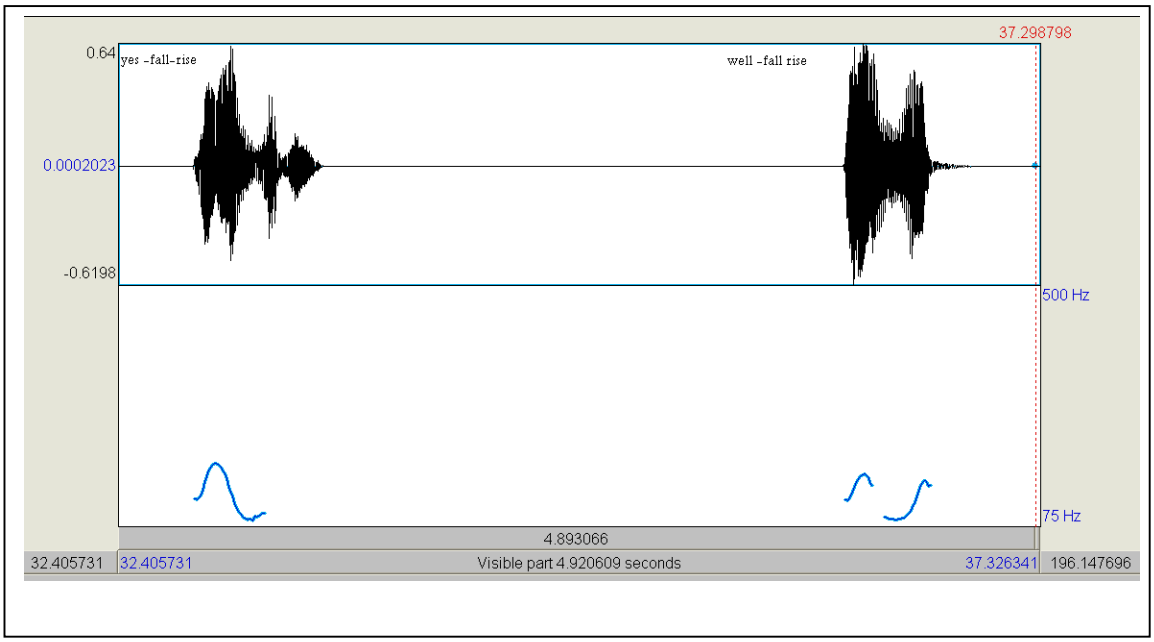
The students are supposed to tone the word "No" with *rise* only 21.7% of the students got it right in the 'Pre'. However, the performance of the students become much better, more students tone it right on the 'Post' that is 33.7% this shows that some of them got a better understanding of this tone.

The students are supposed to tone the word "Four" with *rise* only 38% of the students got it right in the 'Pre'. However, the performance of the students become much better, more students tone it right on the 'Post' that is 47.8% this shows that some of them got a better understanding of this tone.

c. The Fall-rise tone:

The production of the fall-rise tone concerning the words in the test is presented in the following diagram which shows the movement of the pitch of the voice while pronouncing the words. This has been taken as a

model answer by the researcher to examine these tones for the 92 students the results are shown in the table following the graph.



Graph (5-3)

The diagram of words with fall-rise tone

Table (5-19)

Producing "fall-Rise" tone

Tones	Pre-				Post-			
	Yes		**Well**		**Yes**		**Well**	
	F.	%	F.	%	F.	%	F.	%
Fall	52.	56.5	22	23.9	20	21.7	13	14.1
Rise	17	18.5	45	48.9	10	10.9	26	28.3
Fall –rise	12	13.0	12	13.0	41	44.6	39	42.4
Rise-fall	11	12.0	13	14.1	21	22.8	14	15.2
Total	92	.100	92	100	20	21.7	92	100.

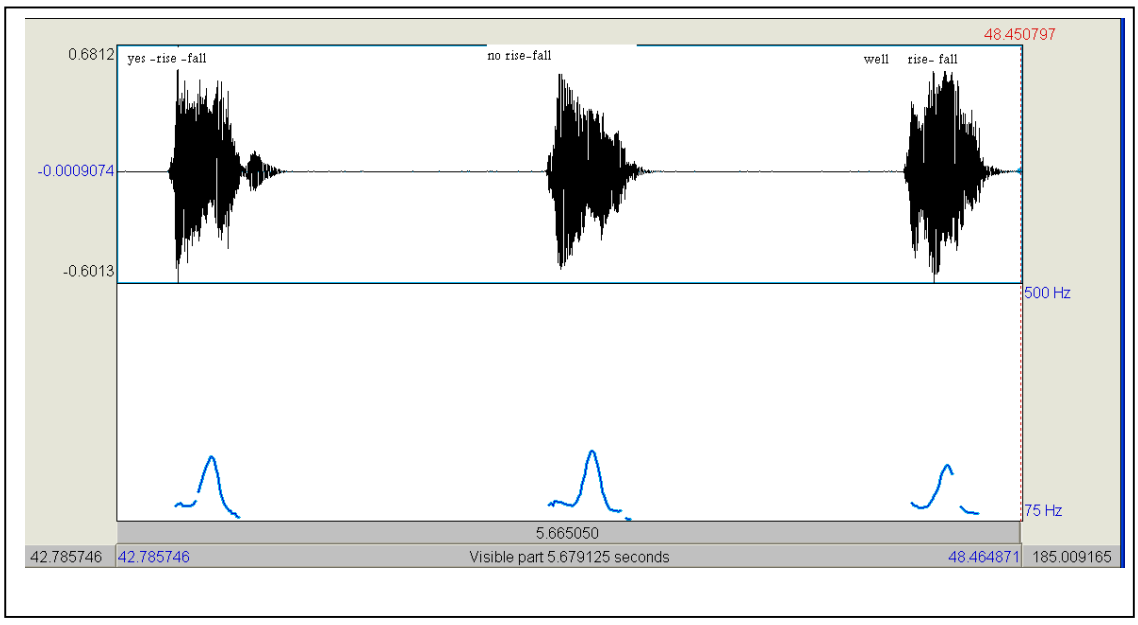
The students are supposed to tone the word "Yes" with *fall-rise;* only 13% of the students got it right in the 'Pre'. However, the

performance of the students improved a lot 44.6% students tone it right on the ‘Post’. This reveals that some of them got a better understanding of this tone.

The students are supposed to tone the word “well” with *fall-rise;* only 13% of the students got it right in the ‘Pre’. However, the performance of the students improved, more students tone it right on the ‘Post’ that is 42.4% this shows that some of them got a better understanding of this tone. 48.9% of the students had mistaken it with *rise* in the ‘Pre’ but the students' performance improved a little and 28.3% of the students had mistaken it with *rise* in the ‘Post’. This might be because both tones end with a rise.

d. The Rise-fall

The following diagram presents the movement of the pitch of the voice while producing a rise-fall tone. The 92 students’ production of this tone has been examined in accordance to this because it has been taken as a model answer; the results of the students’ performance are shown in the table following the graph.



Graph (5-4)

Diagram of words with rise-fall tone

Table (5-20)

Producing "Rise-Fall" tone

Tones	Pre-						Post-					
	Yes		**Well**		**No**		**Yes**		**Well**		**No**	
	F.	%	F.	%			F.	%	F.	%		
Fall	28	30.4	41	44.6	27	29.3	12	13.0	14	15.2	9	9.8
Rise	39	42.4	23	25.0	37	40.2	27	29.3	17	18.5	28	30.4
Fall –rise	11	12.0	14	15.2	14	15.2	29	31.5	18	19.6	22	23.9
Rise-fall	14	15.2	14	15.2	14	15.2	24	26.1	43	46.7	33	35.9
Total	92	100	92	100	92	100	92	100	92	100	92	100

The students are supposed to tone the word "Yes" with *rise-fall* only 15.2% of the students got it right in the 'Pre'. However, the performance of the students improved more students tone it right on the 'Post' that is 26.1% this shows that some of them got a better understanding of this tone. 42.4% of the students had mistaken it with *rise* in the 'Pre' but the students' performance improved a little and 29.3% of the students had mistaken it with *rise* in the 'Post'. Many students have mistaken it with *fall-rise* in the post test, that is 31.5% this shows that the students started to confuse the combined tones together.

The students are supposed to tone the word "well" with *rise-fall* only 15.2% of the students got it right in the 'Pre'. However, the performance of the students become much better, more students tone it right on the 'Post' that is 46.7% this shows that some of them got a better understanding of this tone.

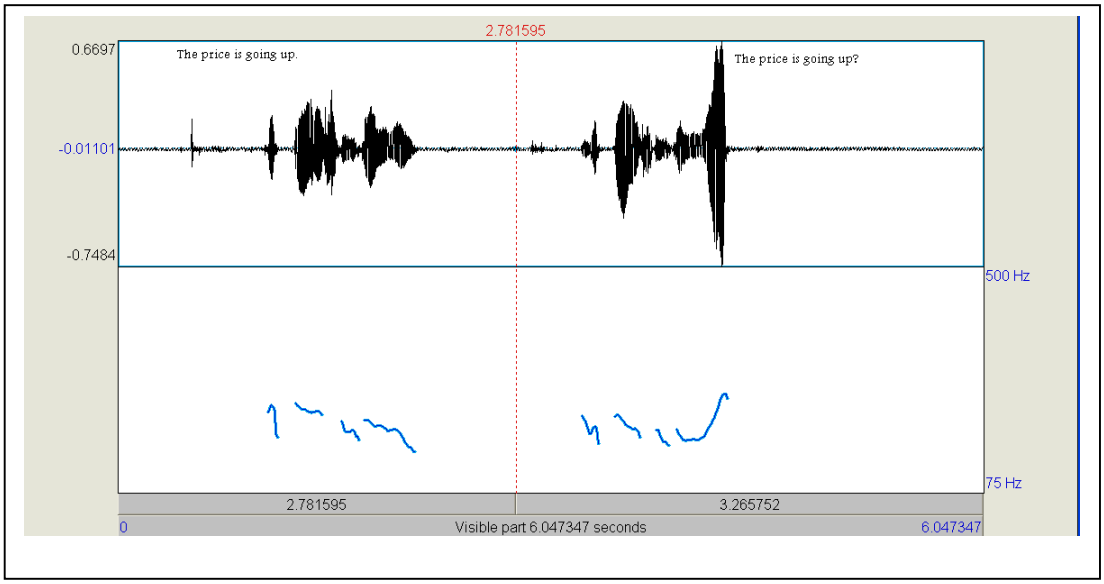
The students are supposed to tone the word "No" with *rise-fall* only 15.2% of the students got it right in the 'Pre'. However, the performance of the students become much better, more students tone it right on the 'Post' that is 35.9% this shows that some of them got a better understanding of this tone.

5.1.6. Analyzing the performance of the students in the sentence level using the frequency and percentage:

Students' cannot produce different tones on the level of sentences.

This is the second question in the test. In this question students have been asked to pronounce different sentences and to decide which tone they should produce in the first six sentences while in the last four sentences they have been asked to produce different sentences and determine where the tonic boundary should be placed.

Students were asked to read two sentences: a statement and a question, to determine their ability in differentiating between the way of producing the sentence and the question. Look at the following diagram.



Graph (5-5)

Statement and question

The previous diagram shows the right movement of pitch in producing the same words order "The price is going up" once as a statement and then as a question. It is clear from the diagram that it is with a fall for the statement and a rise for the question. Students were given the same words with the same order to determine whether they can produce the right tone

or not. The sentence is “The price is going up”. Taking this as a model answer the researcher examined these tones for the 92 students the results are shown in the following table.

Table (5-21)

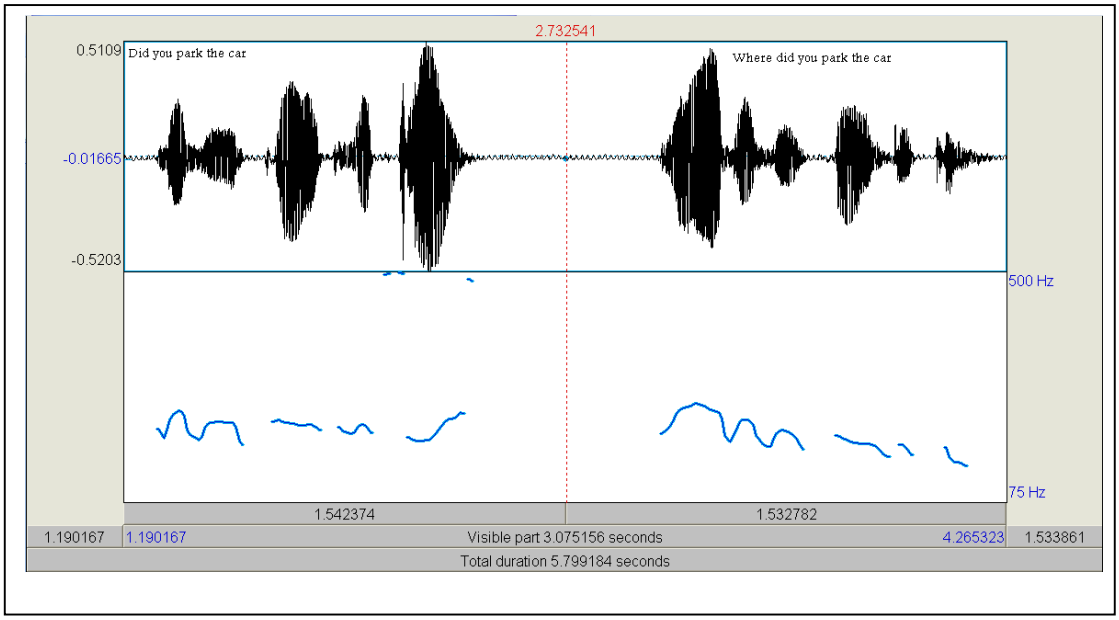
Producing the tone of a sentence then question

Tones	Pre-				Post-			
	The price is going up.		The price is going up?		The price is going up.		The price is going up?	
	F	%	F	%	F	%	F	%
Fall	50	54.3	12	13.0	84	91.3	12	13.0
Rise	16	17.4	70	76.1	8	8.7	80	87.0
Fall –rise	4	4.3	9	9.8	0	0	0	0
Rise-fall	22	23.9	1	1.1	0	0	0	0
Total	92	100	92	100	92	100.0	92	100

The students are supposed to tone sentence “The price is going up.”, with *fall*, 54.3% of the students got it right in the ‘Pre’ which is good. The performance of the students even get better, that is in the ‘Post’ 91.3% got it right, this reveals that the students who did not comprehend the concept of *fall* tone for statement easily acquired that concept.

The students are supposed to tone question “The price is going up?” with *rise*, 76.1% of the students got it right in the ‘Pre’ which is good. The performance of the students even becomes better, that is in the ‘Post’ 87% got it right. This strengthen the concept of *fall* for statement and *rise* for “yes and no” questions and the students who did not have this knowledge before they started to gain it.

Students were asked to read two questions: a wh-question and yes and no question to determine their ability in differentiating between the ways of producing these kinds of questions. Look at the following diagram.



Graph (5-6)

Yes and no question -Wh- question

The previous diagram shows the right movement of pitch in producing the yes and no question in the question “Did you park the car?” From the diagram above it is clear that it is produced with a rise in the last syllable.

The diagram also shows the pitch movement of a wh-question which is “Where did you park the car?” The diagram shows that it is with a fall in the last syllable. Taking this as a model answer the researcher examined these tones for the 92 students the results are shown in the following table.

Table (5-22)

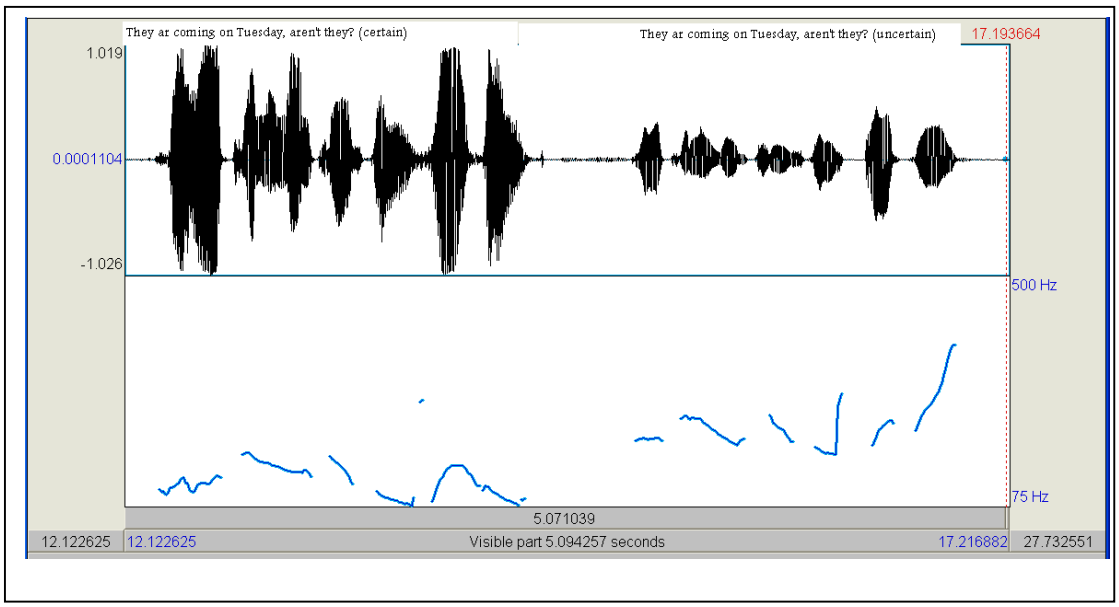
Producing the tone of wh- and yes-no questions

Tones	Pre-				Post-			
	Did you park the car		Where did you park the car		Did you park the car		Where did you park the car	
	F	%	F	%	F	%	F	%
Fall	7	7.6	66	71.7	4	4.3	86	93.5
Rise	77	83.7	17	18.5	87	94.6	6	6.5
Fall –rise	7	7.6	4	4.3	0	0	0	0
Rise-fall	1	1.1	5	5.4	1	1.1	0	0
Total	92	.100	92	100.0	92	100.0	92	100.0

The students are supposed to tone question “Did you park the car?” with *rise,* 83.7% of the students got it right in the ‘Pre’ which is good. The performance of the students was enhanced, that is in the ‘Post’ 94.6% got it right, and this proves that the students gain good knowledge in toning questions.

The students are supposed to tone the question “Where did you park the car?” with *fall,* 71.7% of the students got it right in the ‘Pre’ which is good. The students' performance even got better that is in the ‘Post’ 93.5% got it right, and this revealed that more students come to know how to apply different tones.

Students were asked to read a question- tag, first as certain and then as uncertain to determine their ability in differentiating these two attitudes while producing English. Look at the following diagram.



Graph (5-7)

Question tag (Certain - Uncertain)

The previous diagram shows the right movement of pitch in producing question-tags when you are certain or uncertain it also reflects the ways saying statements when the speaker is certain about something.

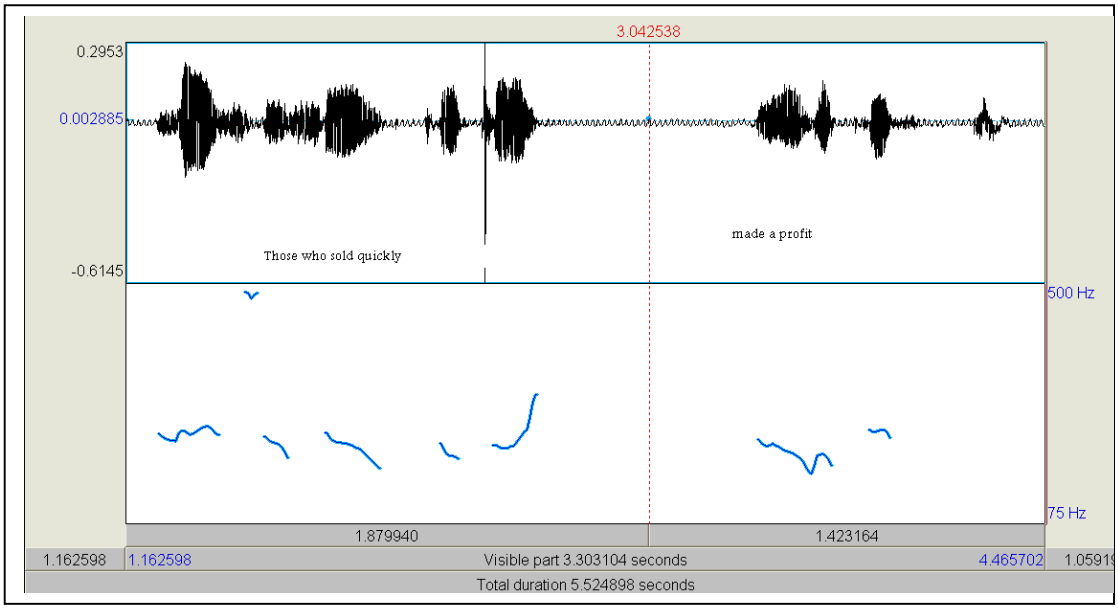
Table (5-23)

Producing the tone of the questions (Certain, Uncertain)

Tones	Pre-				Post-			
	Certain		Uncertain		Certain		Uncertain	
	F	%	F	%	F	%	F	%
Fall	10	10.9	23	25.0	31	33.7	8	8.7
Rise	69	75.0	47	51.1	57	62.0	83	90.2
Fall –rise	9	9.8	19	20.7	3	3.3	0	0
Rise-fall	4	4.3	3	3.3	1	1.1	1	1.1
Total	92	100	92	100	92	100.0	92	100.0

The previous table presents the percentages of students performances. The students are supposed to tone the question “They are coming on Tuesday aren’t they?” with *fall* only 10.9% of the students got it right in the ‘Pre’ which is quite low. The performance of the students has improved in the ‘Post’ 33.7% got it right. In the pre- 75% of the students treated it as an ordinary yes and no question without any regards of being certain or not. This is due to their previous knowledge of toning all yes and no question with arise. After being taught intonation some of them started to acquire better understanding.

The students are supposed to tone the question “They are coming on Tuesday aren’t they?” with *rise* only 51.1% of the students got it right in the ‘Pre’. The performance of the students has improved in the ‘Post’ 90.2% got it right in the post. This and the previous question show that students started to comprehend the idea of toning certain and uncertain questions.



Graph (5-8)

Tonic boundary in the sentence “Those who sold quickly, made a profit”

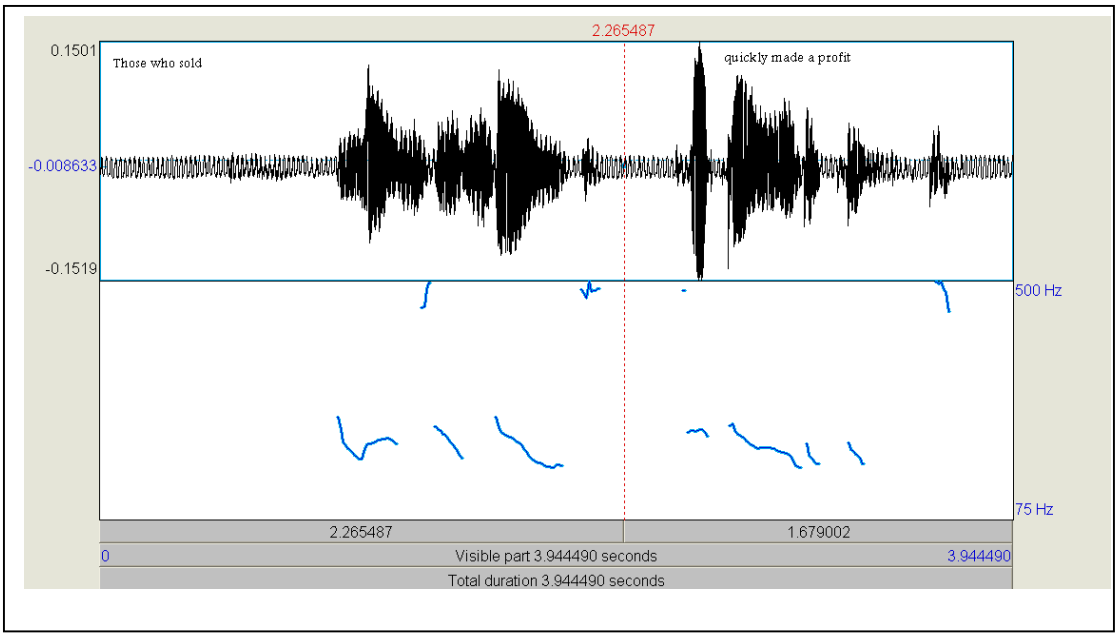
The previous diagram shows the right place for placing the tonic syllable for the sentence “Those who sold quickly made a profit” with the meaning a profit was made by those who sold quickly. It is clear from the diagram that there is a little pause after quickly which mark the tonic boundary and giving this specific meaning. Thus the sentence is divided into two intonation units.

Table (5-24)

Placing the unit boundary on the sentence after quickly

Word boundary	Pre-		Post-	
	Frequency	Percentage %	Frequency	Percentage %
Those	2	2.2	0	0
Who	4	4.3	2	2.2
Sold	31	33.7	14	15.2
Quickly	17	18.5	62	67.4
Made	19	20.7	4	4.3
more than a boundary	4	4.3	4	4.3
no boundary	15	16.3	6	6.5
Total	92	100.0	92	100.0

The students are supposed to place a tone unit boundary after quickly in the sentence “Those who sold quickly made a profit” to mean a profit was made by those who sold quickly; only18.5% of the students got it right in the ‘Pre’ which is quite low. The performance of the students has improved in the ‘Post’ 67.4% got it right. 16.3% said just an ordinary sentence without even trying to make a boundary, but in the post this percentage is decreased to 6.5%.



Graph (5-9)

Tonic boundary in the sentence “Those who sold, quickly made a profit”

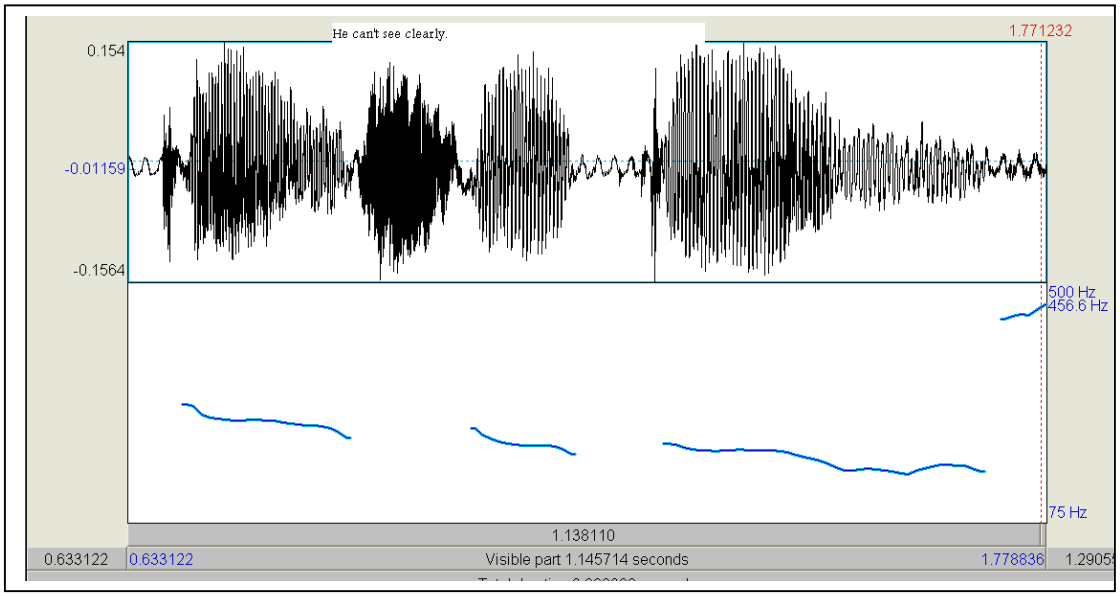
The previous diagram shows the right place for placing the tonic syllable for the sentence “Those who sold quickly made a profit” with the meaning a profit was made quickly by those who sold. It is clear from the diagram that there is a little pause after sold which mark the tonic boundary and giving this specific meaning. Thus the sentence is divided into two intonation units.

Table (5-25)

Placing the unit boundary on the sentence after sold

Word boundary	Pre-		Post-	
	Frequency	Percentage %	Frequency	Percentage %
Those	1	1.1	0	0
Who	4	4.3	2	2.2
Sold	17	18.5	67	72.8
Quickly	36	39.1	12	13.0
Made	12	13.0	0	0
more than a boundary	3	3.3	7	7.6
no boundary	19	20.7	4	4.3
Total	92	100.0	92	100.0

In the previous table, the students are supposed to place a tone unit boundary after sold in the sentence “Those who sold quickly made a profit” to mean a profit was made quickly by those who sold; only18.5% of the students got it right in the ‘Pre’ which is quite low. The performance of the students has improved in the ‘Post’ 72.8% got it right. 20.7% said just an ordinary sentence without even trying to make a boundary, but in the post this percentage is decreased to 4.3%.



Graph (5-10)

The sentence “He can’t see clearly” (one phrase)

The previous diagram shows how to say the above sentence “he can’t see clearly” as one phrase without stopping. Thus the sentence is one intonation unit.

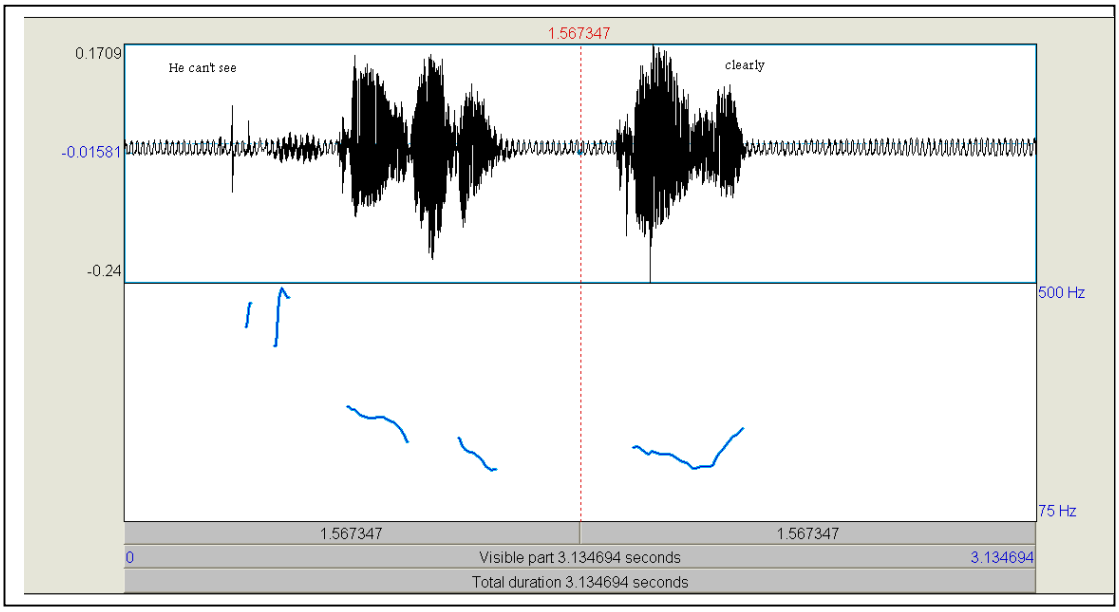
Table (5-26)

Placing the unit boundary on the sentence

"He can't see clearly."

Word boundary	Pre-		Post-	
	Frequency	Percentage %	Frequency	Percentage %
One phrase	70	76.1	81	88.0
Two phrases	19	20.7	6	6.5
More than two	3	3.3	5	5.4
Total	92	100.0	92	100.0

The students are supposed to say the sentence "He can't see clearly" as *one phrase* without a boundary 76.1% got it right in the pre and the performance of the students improved more and more students got it right in the post that is 88%.



Graph (5-11)

The sentence "He can't see clearly" (two phrases)

The previous diagram shows how to say the above sentence "he can't see clearly" as two phrases with a pause after see. Thus the sentence is two intonation units.

Table (5-27)

He can't see, clearly.

Word boundary	Pre-		Post-	
	Frequency	Percentage %	Frequency	Percentage %
One phrase	49	53.3	26	28.3
Two phrases	35	38.0	62	67.4
More than two	8	8.7	4	4.3
Total	92	100.0	92	100.0

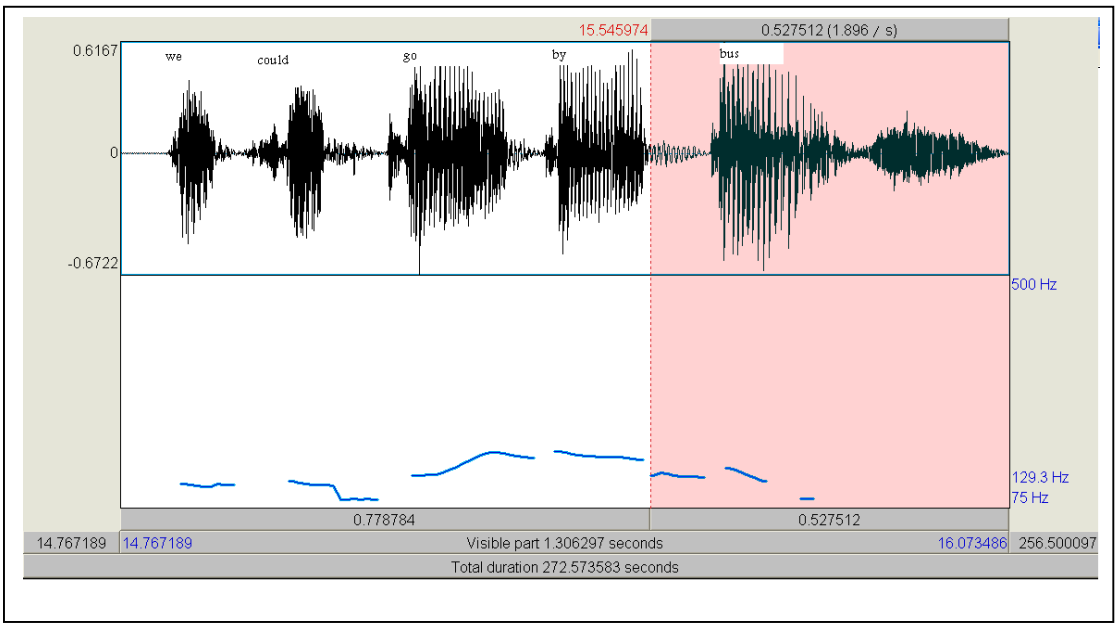
The students are supposed to say the sentence "He can't see clearly" as *two phrases* without a boundary after see, only 38% got it right in the pre. This is quite low due to lacking knowledge that intonation boundary play an important role in dividing the sentences. However the performance of the students has improved and many students got it right in the post that is 67.4%.

5.1.7. Analyzing the performance of the students in the tonic syllable level using the frequency and percentage:

Students' cannot place the tonic syllables in their right places within sentences.

This is the third question in the test. Here in this question the students were asked to read different sentences paying attention to where the tonic syllable should be placed.

The first sentence "We could go by bus" The tonic syllable should be placed in the last content word that is the word "bus" as shown in the following diagram.



Graph (5-12)

The sentence “We could go by bus”

Table (5-28)

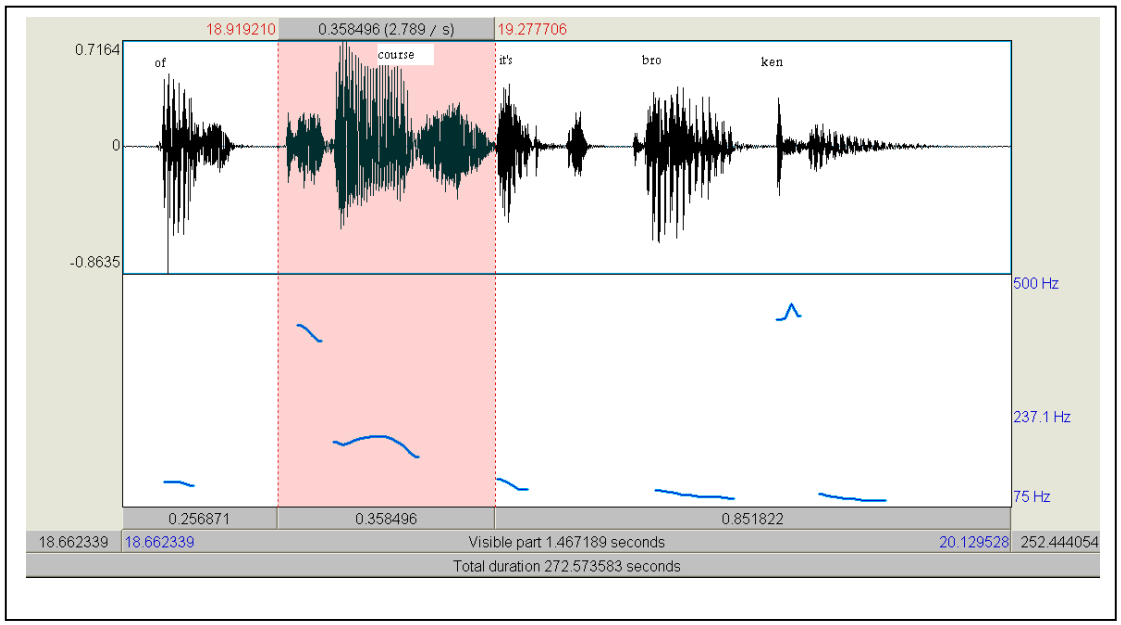
Producing the tonic syllable in the sentence,

“We could go by bus.”

Word	Pre		Post	
	Frequency	Percentage %	Frequency	Percentage %
We	19	20.7	0	0
Could	8	8.7	4	4.3
Go	36	39.1	11	12.0
By	6	6.5	1	1.1
Bus	23	25.0	76	82.6
Total	92	100.0	92	100.0

The students are supposed to place the tonic syllable of the sentence “We could go by bus.” on “*bus*”, only 25% got it right in the pre. This is quite low due to lack of knowledge that the tonic syllable is placed in the last content word. However the performance of the students has improved and many students got it right in the post that is 82.6%. Also in the post

only one student that is 1.1% placed the tonic syllable in a structure word which is *by* this could be because it is quite near the word which is supposed to carry the tone of the sentence. While in the pre- 35.9% of the students put it in a structure word.



Graph (5-13)

The sentence “Of course it’s broken”

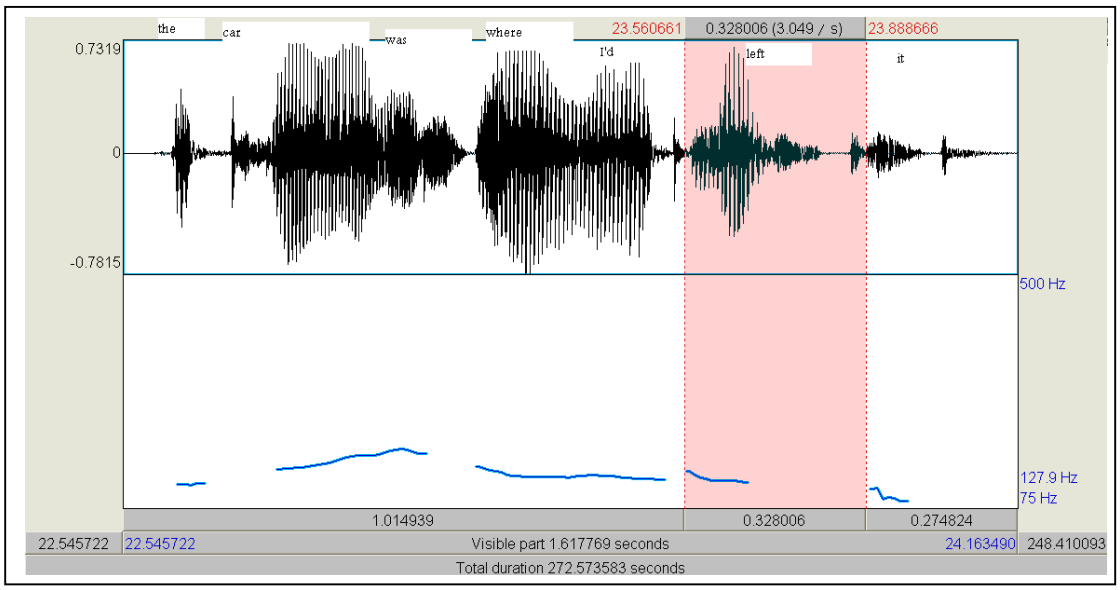
The previous diagram shows the tonic syllable in the sentence “Of course it is broken.” This is in the syllable ‘*course*’ /kɔ:s/. This word “course” is always related to something said before when connected to ‘of’. “Of course” is when it is “used to emphasize that what you are saying is true or correct.” (Oxford) The duration of this syllable is approximately 0.36 second which is long; moreover the pitch varied in this syllable and the vowel is very clear. These are the characteristics of tonic syllable.

Table (5-29)

Producing the tonic syllable in the sentence, "Of course it's broken."

Word	Pre		Post	
	Frequency	Percentage %	Frequency	Percentage %
Of	3	3.3	0	0
Course	54	58.7	86	93.5
it's	13	14.1	0	0
Broken	22	23.9	6	6.5
Total	92	100.0	92	100.0

The students are supposed to place the tonic syllable of the sentence "Of course it's broken" on "*course*", 58.7% got it right in the pre. The students' knowledge that the tonic syllable is placed in the new thought has increased and many students got it right in the post that is 93.5%. No student in the post put the tonic syllable in a structure word while in the pre- 17.4% put it in a structure word.



Graph (5-14)

The sentence "The car was where I'd left it."

The previous diagram shows the tonic syllable in the sentence "The car was where I'd left it." This is in the syllable '*left*' /left/; which is the last content word in the sentence. The duration of this syllable is approximately 0.35 second which is long; moreover the pitch varied in this syllable and the vowel is very clear. These are the characteristics of tonic syllable.

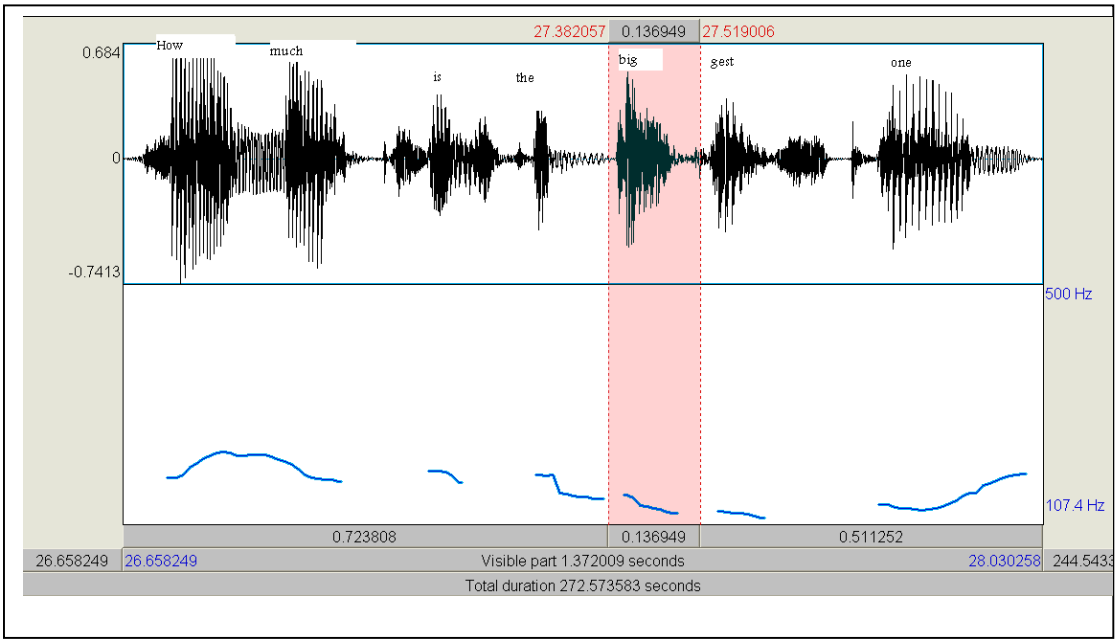
Table (5-30)

Producing the tonic syllable in the sentence,

"The car was where I'd left it."

Word	Pre		Post	
	Frequency	Percentage %	Frequency	Percentage %
The	4	4.3	0	0
Car	37	40.2	6	6.5
Was	3	3.3	2	2.2
Where	29	31.5	11	12.0
I'd	11	12.0	0	0
Left	5	5.4	73	79.3
It	3	3.3	0	0
Total	92	100.0	92	100.0

The students are supposed to place the tonic syllable of the sentence "The car was where I'd left it." on "*left*" only 5.4% got it right in the pre. This is quite low due to lacking knowledge that the tonic syllable is placed in the last content word. However the performance of the students has improved and many students got it right in the post that is 79.3%. In the pre- 22.9% of the students placed the tonic syllable in a structure word this became much better and only two students that is 2.2% placed it in a structure word in the post.



Graph (5-15)

The sentence “How much is the biggest one.”

The previous diagram shows the tonic syllable in the sentence “How much is the biggest one.” This is in the first syllable of the word ‘*biggest*’ /big/; this is the last content word in the sentence. The duration of this syllable is approximately 0.14 second which is long; moreover the pitch varied in this syllable and the vowel is very clear. These are the characteristics of tonic syllable.

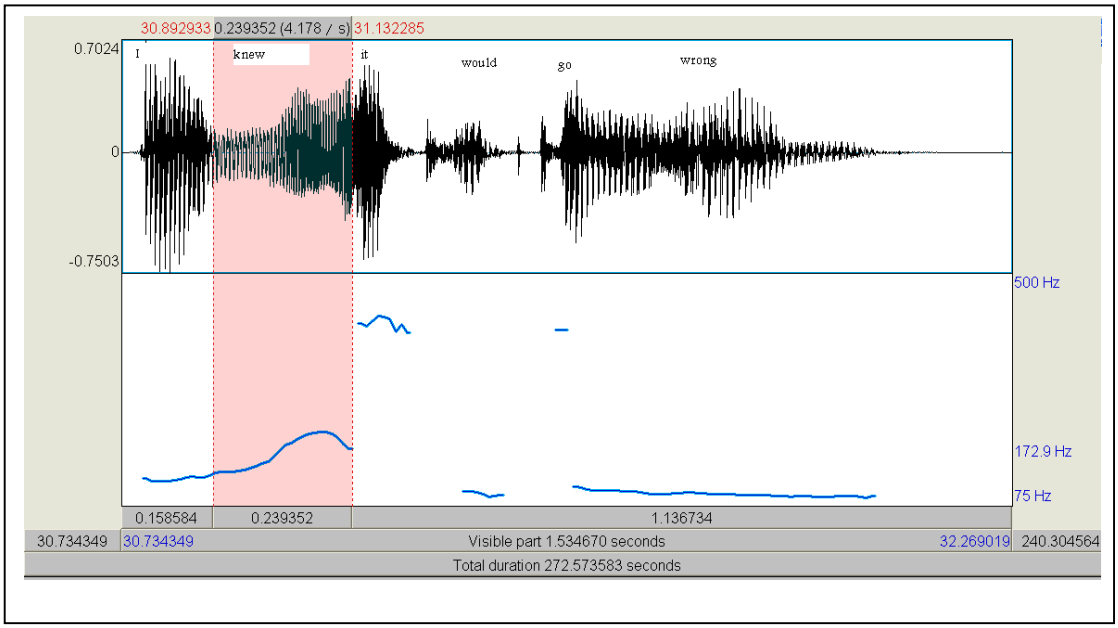
Table (5-31)

Producing the tonic syllable in the sentence:

“How much is the biggest one.”

Word	Pre		Post	
	Frequency	Percentage %	Frequency	Percentage %
How	28	30.4	0	0
Much	7	7.6	2	22
Is	11	12.0	0	0
The	8	8.7	0	0
Biggest	27	29.3	89	96.7
One	11	12.0	1	1.1
Total	92	100.0	92	100.0

In the previous table, the students are supposed to place the tonic syllable of the sentence “How much is the biggest one.” on “*biggest*”, only 29.3% got it right in the pre. This is quite low due to lacking knowledge that the tonic syllable is placed in the last content word. However the performance of the students has improved and many students got it right in the post that is 96.7%. 40.3% of the student placed the tonic syllable on a structure word this percentage has decreased dramatically in the post to 3.3%



Graph (5-16)

The sentence “I knew it would go wrong.”

The previous diagram shows the tonic syllable in the sentence “I knew it would go wrong.” The tonic syllable is supposed to be in the syllable of the word ‘*knew*’ /nju:/; this known in conversation as an idea connected with old information. The duration of this syllable is approximately 0.24 second which is long; moreover the pitch varied in

this syllable and the vowel is very clear. These are the characteristics of tonic syllable.

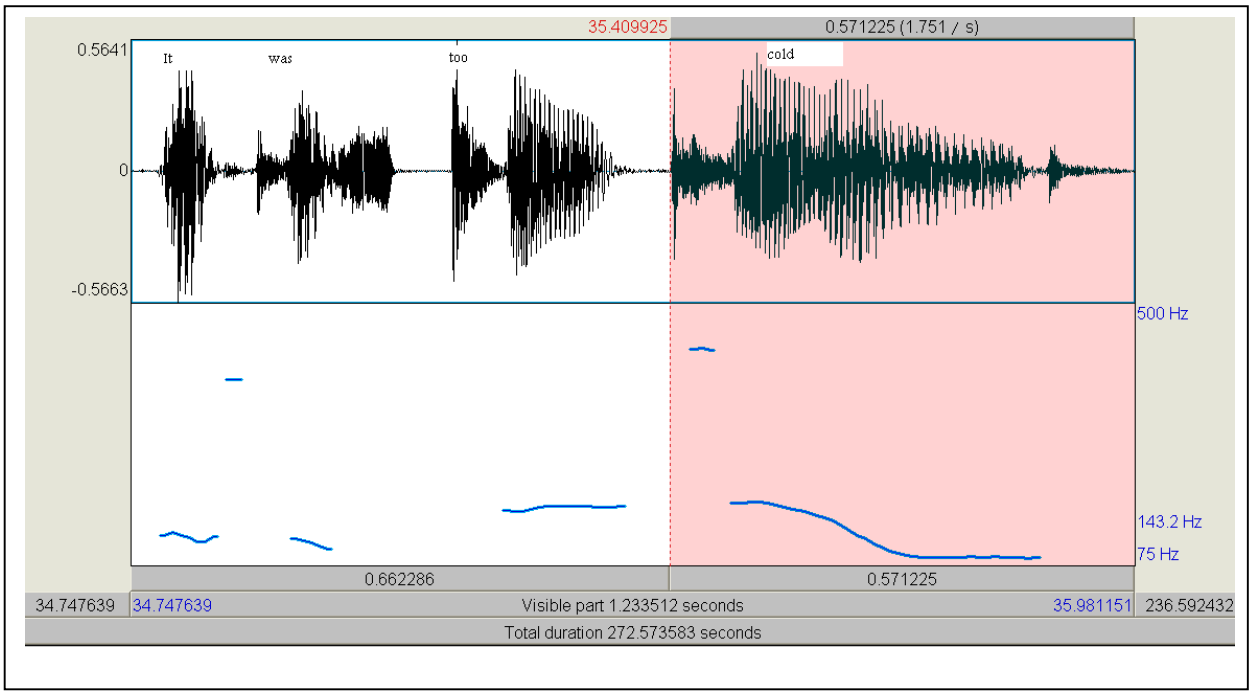
Table (5-32)

Producing the tonic syllable in the sentence,

"I knew it would go wrong."

Word	Pre		Post	
	Frequency	Percentage %	Frequency	Percentage %
I	11	12.0	0	0
Knew	22	23.9	69	75.0
It	5	5.4	0	0
Would	9	9.8	0	0
Go	29	31.5	5	5.4
Wrong	16	17.4	18	19.6
Total	92	100.0	92	100.0

The students are supposed to place the tonic syllable of the sentence "I knew it would go wrong." on "*knew*", only 23.9% got it right in the pre. This is quite low due to lacking knowledge that the tonic syllable is placed in the new though. However the performance of the students has improved and many students got it right in the post that is 75%. No student in the post test has placed the tonic syllable in a structure word while in the pre- 27.2% of them put it on a structure word.



Graph (5-17)

The sentence “It was too cold.”

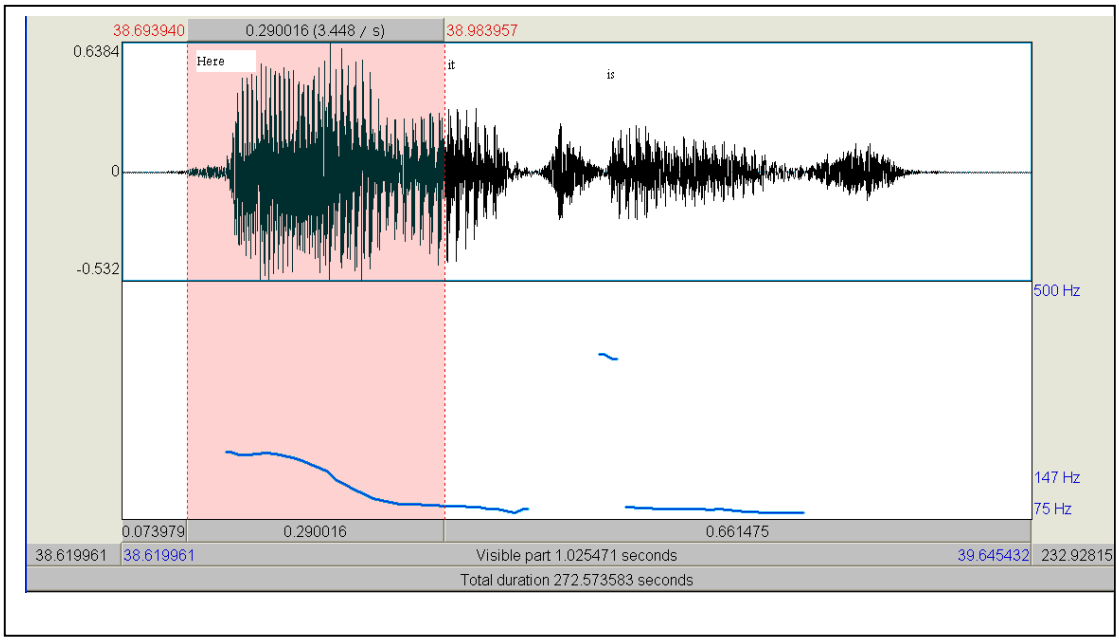
The previous diagram shows the tonic syllable in the sentence “It was too cold.” This is in the syllable of the word ‘*cold*’ /kəuld/; this is the last content word in the sentence. The duration of this syllable is approximately 0.57 second which is long; moreover the pitch varied in this syllable and the vowel sound is very clear. These are the characteristics of tonic syllable.

Table (5-33)

Producing the tonic syllable in the sentence, “It was too cold.”

Word	Pre		Post	
	Frequency	Percentage %	Frequency	Percentage %
It	11	12.0	0	0
Was	10	10.9	0	0
Too	42	45.7	55	59.8
Cold	29	31.5	37	40.2
Total	92	100.0	92	100.0

In the previous table, the students are supposed to place the tonic syllable of the sentence “It was too cold.” on “*cold*”, only 31.5% got it right in the pre. This is quite low due to lacking knowledge that the tonic syllable is placed in the last content word here it an adjective but the adverb “too” confused most of the students and they placed the tonic syllable in it 45.7%. However the performance of the students has improved and many students got it right in the post that is 40.2%. Even though many students still confuse and placed the tonic syllable in the adverb that is 59.8%. No student placed the tonic syllable on a structure word in the post while in the pre- 22.9% did.



Graph (5-18)

The sentence “Here it is.”

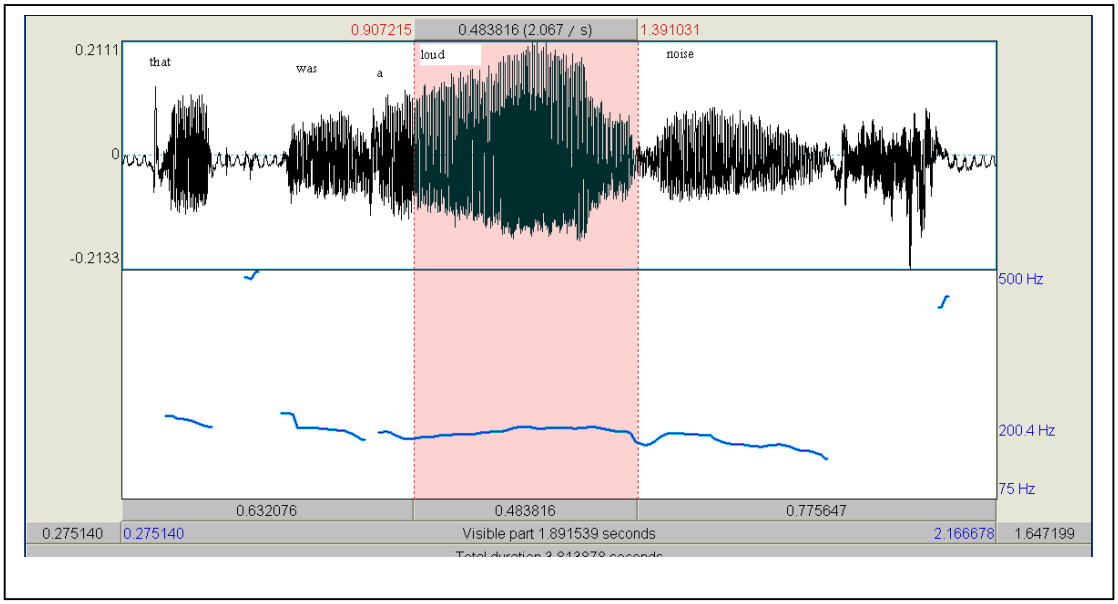
The previous diagram shows the tonic syllable in the sentence “Here it is.” This is in the syllable of the word ‘*Here*’ /hiər/; this is the only content word in the sentence. The duration of this syllable is approximately 0.29 second which is long; moreover the pitch varied in this syllable and the vowel sound is very clear. These are the characteristics of tonic syllable.

Table (5-34)

Producing the tonic syllable in the sentence, "Here it is."

Word	Pre		Post	
	Frequency	Percentage %	Frequency	Percentage %
Here	52	56.5	92	100.0
It	11	12.0	0	0
Is	29	31.5	0	0
Total	92	100.0	92	100.0

The students are supposed to place the tonic syllable of the sentence "Here it is." on "*here*", only 56.5% got it right in the pre. This is quite low due to lacking knowledge that the tonic syllable is placed in the content words. However the performance of the students has improved and all the students got it right in the post that is 100%. None of the student placed the tonic syllable on a structure word on the post while in the pre- 43.5% of the students did.



Graph (5-19)

The sentence "That was a loud noise."

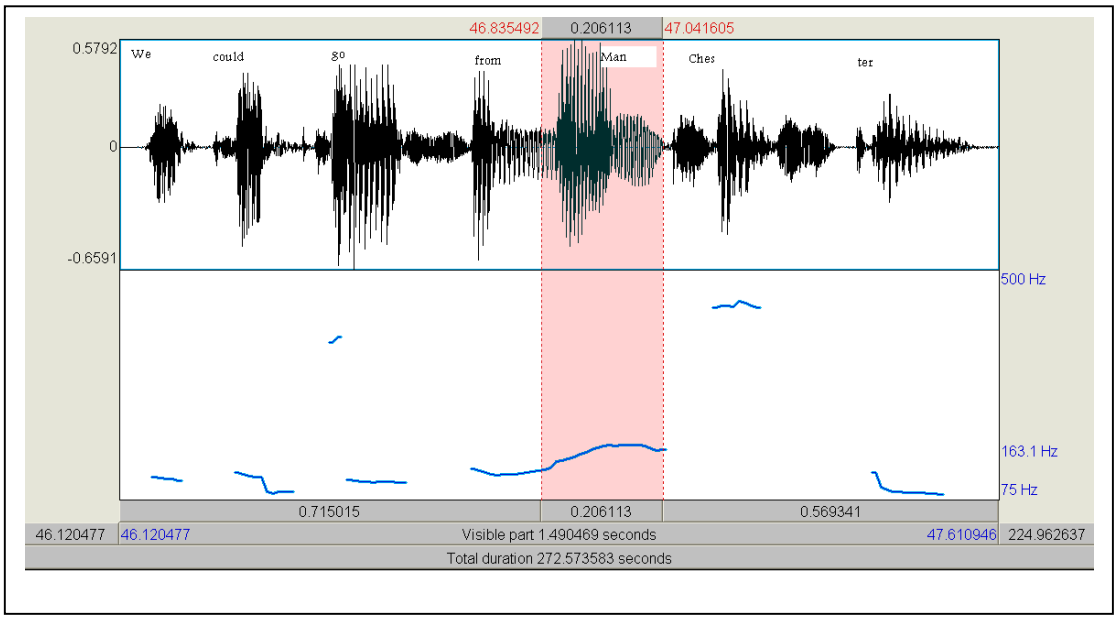
The previous diagram shows the tonic syllable in the sentence "That was a loud noise." This is in the syllable of the word '*loud*' /laud/; this is in the adjective phrase in the sentence. "The adjective or adjective phrase takes the primary accent."(Commissioners, 1844:14) The duration of this syllable is approximately 0.48 second which is long; moreover the pitch varied in this syllable and the vowel sound is very clear. These are the characteristics of tonic syllable.

Table (5-35)

Producing the tonic syllable in the sentence, "That was a loud noise."

Word	Pre		Post	
	Frequency	Percentage %	Frequency	Percentage %
That	33	35.9	1	1.1
Was	5	5.4	5	5.4
A	1	1.1	0	0
Loud	31	33.7	55	59.8
Noise	22	23.9	31	33.7
Total	92	100.0	92	100.0

The students are supposed to place the tonic syllable of the sentence "That was a loud noise." on "*loud*", only 33.7% got it right in the pre. This is quite low due to lacking knowledge that the tonic syllable is placed in adjectives. However the performance of the students has improved and many of the students got it right in the post that is 59.8%. 42.4% of the students placed the tonic syllable on a structure word in the pre and this percentage has dropped to 6.5% in the post.



Graph (5-20)

The sentence “We could go from Manchester.”

The previous diagram shows the tonic syllable in the sentence “We could go from Manchester.” This is in the first syllable of the word ‘*Manchester*’ /mæn/; this is in the last content word in the sentence. The duration of this syllable is approximately 0.21 second which is long; moreover the pitch varied in this syllable and the vowel sound is very clear. These are the characteristics of tonic syllable.

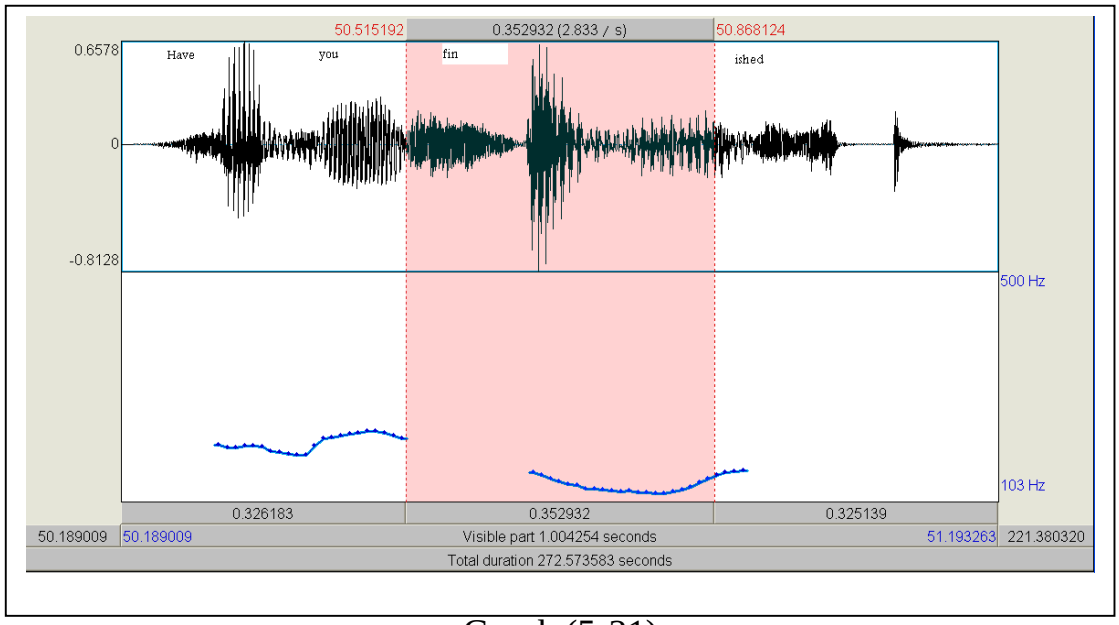
Table (5-36)

Producing the tonic syllable in the sentence, “We could go from Manchester.”

Word	Pre		Post	
	Frequency	Percentage %	Frequency	Percentage %
We	9	9.8	0	0
Could	7	7.6	0	0
Go	46	50.0	0	0
From	17	18.5	1	1.1
Manchester	13	14.1	91	98.9
Total	92	100.0	92	100.0

The students are supposed to place the tonic syllable of the sentence “We could go from Manchester.” on the first syllable of the

word "*Manchester*", only 14.1% got it right in the pre. This is quite low due to lacking knowledge that the tonic syllable is placed in the last content word. However the performance of the students has improved and almost all the students got it right in the post that is 98.9%. 35.9% of the students placed the tonic syllable on a structure word, however this performance has changed and only one student that is 1.1% did that.



Graph (5-21)

The sentence "Have you finished."

The previous diagram shows the tonic syllable in the sentence "Have you finished." This is in the first syllable of the word '*finished*' /fin/; this is the last content word in the sentence. The duration of this syllable is approximately 0.35 second which is long; moreover the pitch varied in this syllable and the vowel sound is very clear. These are the characteristics of tonic syllable.

Table (5-37)

Producing the tonic syllable in the sentence "Have you finished?"

Word	Pre		Post	
	Frequency	Percentage %	Frequency	Percentage %
Have	15	16.3	0	0
You	5	5.4	0	0
Finished	72	78.3	92	100.0
Total	92	100.0	92	100.0

The students are supposed to place the tonic syllable of the sentence "Have you finished." on the first syllable of the word "*finished*", 78.3% got it right in the pre. This is quite good. However the performance of the students has improved and all the students got it right in the post that is 100%.21.7% of the student placed the tonic syllable on a structure word and this has changed in the post and none of the students place it on a structure word.

5.1.8. Analyzing the performance of the students in the three levels regarding the productive test using paired sample statistics:

Pre and post Intonation tests have been done to check the achievement of students a paired sample test have been used for interpreting the output:

Table (5-38)

Productive Tests paired sample statistics

	Level of word		Level of sentence		Level of tonic syllable		Total	
	Pre-	post	Pre-	post	Pre-	Post	Pre-	Post
Mean	3.2717	4.3804	4.9674	7.8370	10.1739	18.1522	18.4130	30.3913
Std. Deviation	1.46087	1.23895	1.76318	1.41637	3.17825	1.14771	4.76284	2.56329
Std. Error Mean	.15231	.12917	.18382	.14767	.33136	.11966	.49656	.26724

The above table shows, Paired Sample Statistics. The Mean for the total intonation pre-test is (18.4) and the Mean for the total intonation post -test is (30.4). This proves that the second hypothesis that the students mis-tone words and sentences (in the level of word, on the level of sentence and on the level of tonic syllable) is accepted. This proves that students' choice of intonation differ from native speakers' choice; this agreed with Ouafew' (2006) that the intonation choices made by non-native speakers concerning lists differ from those made by native speakers. Moreover the above result confirms that the students' performance regarding their choices in different intonation aspects has a lot improved in the post-test after being exposed to intonation.

The means of the three levels are as follows:

- Concerning the level of words in pre-test it is (3.3) and the post -test it is (4.4).
- Concerning the level of sentences in the pre-test it is (4.9) and the post -test it is (7.8)
- Concerning the level of tonic syllable in the pre-test it is (10.2) and the intonation post -test it is (18.2).

These means reflect that students' performance has improved regarding the three questions but they have improved more in the level of tonic syllable, and this is more obvious from the Standard in the 'Pre' it is (10.2) and in the post it is (18.2) which reflects that improvement. This proves that the students understanding of the concept tonic syllable has improved regarding their newly acquired knowledge, that structure words should be de-emphasized while content word should be prominent. Also this could be related to their having better understanding of the different tones and their functions.

The above results contradicted Fajobi (2008) findings in his study regarding Nagerian English Intonation he said: "whether classroom teaching or informal contact with the native speaker(s) of L2, L1 intonation is indeed resistant to elimination by exposure". In this research the students' performance has improved when being taught intonation this result agrees with Bae (1998) and Chapman (2005) who cited improvement in the students' performance regarding different aspects of intonation.

Table (5-39)

Productive Tests (Paired Sample Correlations)

	Question	Correlation	Sig.
Pair 1	Level of word	.009	.932
Pair 2	Level of sentence	.284	.006
Pair 3	Level of tonic syllable	.201	.055
Pair 4	Total mark	.297	.059

The above table shows Paired Samples Correlations, which is used to assess the pre – post reliability of the intonation scores regarding the productive test. It reflects that the r = .279 for the total pre-post tests which is approximately .3 , This shows that it is medium positive

correlation and this supports the test reliability, Considering that the performance of the students is affected by the short time of teaching intonation. It also reflects in both level of sentence and level of tonic syllable there was significance difference in the student performance. Which is .006 and .055 respectively.

Table (5-40)

Productive Tests the Three Levels

Paired sample test

	Paired Differences					T	Sig.(2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the difference			
				Lower	Upper		
Level of word	-1.10870	1.90694	.19881	-1.50361	-.71378	-5.577	.000
Level of sentence	-2.86957	1.92278	.20046	-3.26776	-2.47137	-14.315	.000
Level of tonic syllable	-7.97826	3.15524	.32896	-8.63169	-7.32483	-24.253	.000
Total pre-post tests	-11.97826	4.94359	.51540	-13.00205	-10.95447	-23.240	.000

The above table shows, Paired Samples T test. The significance for the comparison of scores for the total intonation pre - post tests and the three levels: level of words, level of sentences and level of tonic syllable for the intonation pre- post-tests, they are all significant P = (0.0000).

We can tell from the mean in the first table that students have improved after studying intonation. This is because, the effect size is high (difference = mean / standard deviation) (d : -11.9 / 4.9 = - 2.4).

If we subtract the mean of total pre-test from total post –test (30.4 – 18.4 = 12) which means twelve scores to the scale of forty scores. This also proves that their performance has improved by 30 %.

5.1.9. Students exposure to English language at Sudan University of science and technology:

Here the researcher analyzed the teacher and student interviews in details.

A) Teachers' Interview:

The researcher interviewed 10 teachers asking them different questions about the listening and speaking activities incorporated in the syllables they had already taught. Also, whether students have any contact with native speakers and if the students have any activities they do to enhance their English language. Moreover, teachers were asked about the students' attitude regarding intonation when they were taught listening and speaking.

1. Teachers have been asked to give their opinion about the listening and speaking activities incorporated in the syllabus.

First, are these activities good and are these activities enough?

All ten teachers agreed that the time allotted for teaching the listening and speaking is not enough because it is only two hours per week for a semester which is 15 week. One teacher added that student tend to forget what they had in the previous week because of the gab of time. Another suggested that there should more courses for listening and speaking.

Regarding the syllabus itself, eight of the ten the teachers agreed that it is good because generally teachers use good commercial printed materials designed for the purpose of listening and speaking. But one teacher mentioned that some teachers do not use material designed for listening and speaking but they develop their own material, in this case this material depends on the teacher sometimes it is good and sometimes

it is not. One of the teachers added that he thinks that how the teacher handle the text book is of crucial importance, that is to say his way of teaching, also if he is willing to add some interesting other topics like football, current issues in politics, religion, and social life to support the material.

Only one teacher did not agree that the teaching material is good, she said that it depends on the teacher's choice whether it is good or not. This teacher has a very negative attitude towards this point, she thought the material should be fixed and it should not depend on the teacher's choice. She also mentioned that the material developed by teachers need to be evaluated and developed.

One teacher mentioned that she couldn't say whether the material is good or not, because the class could be divided into two: students with good standard in English and students with low standard in English. The weak students do not benefit from most of the activities because they cannot cope with what they hear and follow it or they do not have the right vocabulary to speak. Most of the other activities are only for good students. Thus students must be divided according to their standard.

Teachers also talked about other problems they face during teaching the listening and speaking subject.

Eight of the teachers said that one of the problems is that the lecture rooms are not well equipped for listening and speaking and there is no language labs, no audiovisual aids. Thus they teach listening and speaking in a very de-motivating environment. One of them added that they teach using tape recording which is out of date these days.

Another problem mentioned by seven of the teachers is that the number of students is quite large. The classes are overcrowded with 60 to 100 students in one class. This large number makes it very difficult to give students equal opportunities to participate during a lecture for both

listening and speaking activities. One teacher suggested that students should be divided into smaller groups to make it possible for them to participate. Another teacher added that the noise outside the class also affect the teaching, putting in mind that some classes do not contain speakers. One teacher mentioned that choosing the text book is also problematic, whether to choose American or British text book, which is better and how can a teacher decide.

Second, Teachers have been asked about the degree of the students' participation in the listening activities:

Four Teachers agreed that the students are not ready for listening because they were not used to it in the university infra-structure education, it was not part of their curriculum. Moreover the standard of the students in English language is quite low. This is why only few of them participate in the listening activities. What makes it worse for them is that they were not accustomed to listen specifically from native speakers. Thus only few participate.

Six teachers said that students participate; three said they participate actively, one added especially with songs, another said that they like the listening. Two said they participate in some of the listening activities which they feel motivating, but they do not participate in the ones which they feel difficult or boring.

Third, Teachers have been asked about the degree of the students' participation in the speaking activities:

All teachers said that only few students participate in the speaking activities. Two of them explained that this is due to extreme shyness and fear from committing mistakes particularly in the presence of boys and

girls in the same room, thus who participate are not necessarily better but they are the most courageous . Three teachers said that there is another factor which hinders the students from participating which is their poor standard in the English language especially with regards to their vocabulary. One teacher said that they participate in listening more than speaking. One teacher mentioned that the large number of the students is the main reason behind the lack of participation because students do not have a chance.

One of the teachers said that students could be divided into two groups, those who are motivated would participate, and others who are motivated but shy would refrain from participating, students shyness could be attributed to that in their first experience they were not exposed to speaking skills at school before or even if they were exposed the degree was very limited mainly because it was not examinable. Thus it seems to be an inherited problem.

2. Teachers have been asked to give their opinion about the intonation to be included in the listening material they taught in the classroom.

Four teachers said that; of course intonation is embedded inside the syllabus; there are many exercises on how to tone questions and sentences of different kinds and such things. Two of the teachers argued that the question presaged for an answer is how teachers handle it. One teacher mentioned that teachers are not trained to teach supra-segmental features, this is why some teachers only skip it. He added some other teachers try to go over it quickly; generally teachers do not exert any

effort to teach it either because they are lazy or because they think that the students' standard in English language does not qualify them to such kind of activities. The other teacher who said that it depends on the teacher also thinks that most teachers skip intonation, the reasons he mentioned is the large congested and the time of given for the course make it difficult for the teachers to go over these details.

Four teachers said that intonation is included but very limited that it can hardly be noticed.

Two teachers said that it is not included at all, or it is insignificant and could be in only few exercises.

Then: Teachers were asked whether students regarded intonation as an important part of acquiring a language:

Seven teachers commented that students do not pay much attention to intonation. One teacher mentioned that when students are asked to repeat after the recorded material they either do not want to or they just repeat the way they were accustomed to before. Two of the teachers added that students must be reminded of its importance, and the skilled teacher could change their attitude, but this needs more time and here the time specified for the course is mentioned again. One of them said that because the exercises are few students ignore them completely.

Three teachers think students regard intonation seriously as part of their acquisition of the language. One added that they repeat eagerly

3. Teachers have been asked if students have any activities outside the classroom which contain speaking and listening to native speakers of English:

Four teachers commented that students do not have any activities outside class room that contain listening and speaking. Two added that there is an English club inside university; one teacher said that students do not bother to enroll in it, the other comment that it is not that good and

even if they enrolled in it, it does not add anything to them, and they are not committed to go to the meetings of the club.

Four teachers commented that students have activities outside class room that contain listening and speaking. One said they do listening more than speaking, nevertheless he said these activities are limited, and most of them just listen to songs or watch movies, but even these movies have subtitles and the students read the subtitles, they are not committed on not reading them. Here again one teacher mentioned the English club and said that only few participated, and they majority do not. He said that this is due to their standard in English language. However, the four teachers comment that the students are not committed to doing these activities. One explained by saying the reason is that there is no reinforcement.

Two teachers said only few of students have activities outside class room that contain listening or speaking but most students do not have.

One of the teachers commented that students should be given activities outside class room because students learn outside class room more than they learn inside. His opinion is that first year students are not committed to do these activities but gradually they will come to understand their importance then they will devote time to these outside activities.

Six other teachers said that they haven't tried this approach before. One teacher said she advices students to listen to the news and watch films and that is all. Two teachers agreed that is a good idea and teachers should encourage students on doing outside work, and ask them to report. One mentioned that he never tried this approach, but he tried another approach, what he tried was seminars of different topics inside the lecture room, which needed effort from students to prepare. Another teacher claimed that the standard of the students does not help them to listen to news or movies, and submit a report back either spoken or written. This

teacher added that generally students are not going to do such activities unless they are part of their evaluation; otherwise the students are not motivated.

4. The teachers have been asked if the students have any contact with native speakers:

Four teachers comment that students do not have any contacts with native speakers. One teacher said that teachers generally advice them to go to the British council but most of the students do not go either because they do not have time due to the crowded time table of the university and the home-work given to them as part of the course, or just because they are not motivated. When asked about the native speakers provided by the university as volunteers, two teachers said that they do not benefit much from the native speakers either because of shyness and fear of committing mistakes or because they lack communicative skills. One of the teachers added that this because when students were exposed to native speaker they were in their first year and do not know much about the language, if they have this contact in later years it could be of much benefit.

Three teachers think that some of the students have contact with native speakers but not all. Two said that those who have contact with native speakers benefit a lot because they try to talk and by this they overcome their psychological barrier, this gave them reassurance and confidence. The other teacher said that Sudanese people like to talk to strangers, this is why they try to speak in English with native speakers anywhere, and generally they focus on fluency.

Three teachers said they have a very limited contact with native speakers; these native speakers are generally the volunteers provided by the university. One teacher said that the students do not benefit from these native speakers because students do not concentrate on the accuracy of the language, or the pronunciation, nor the vocabulary; they

concentrate mainly on the communication. Moreover volunteers try to learn Arabic and by this they spend most of the time with the students learning Arabic. She added that another problem with the volunteers is that they insist on their vocabulary and accent which could differ from one volunteer to another, this may confuse students what to follow. The other teacher mentioned that the volunteers are not teachers, they do not know how to teach, and this is why the students do not benefit much from them.

B) Students' Interview:

The researcher conducted a structured interview with 92 students asking them different questions about listening and speaking activities incorporated in the syllabus they had already studied and their contact with native speakers and the activities they perform to enhance their English language. Moreover, they were asked about their attitude regarding intonation before and after studying it. Also the topic of Sudanese intonation had been addressed.

1. Students have been asked to give their opinion about the listening activities incorporated in the syllabus.

First, are these activities good?

50 students (54.3%) answered that they were not good for them; some of them explained that their standard of English language was not good enough at that time to benefit from those activities; others made it obvious that they were not accustomed to listening activities; they couldn't find these useful for them. Few students manifested that these activities were very simple to the extent that it added nothing to them.

This situation reflected that more than half of the students were not satisfied with the quality of the listening activities.

Forty two students (45.7%) were convinced that the listening activities were good because these activities gave them a good start to begin with. Some spoke about the material itself and the topics they listened to and they thought that they were interesting.

Second, are these activities enough: Eighty students (87%) were convinced that the time allotted to the listening activities was not enough because the course was labeled listening and speaking thus it was two hours per week for both listening and speaking activities. Those were an overwhelming majority. Only 11 students (13%) said that the time devoted to listening was enough, some of them believed it was a good start and they had to do other activities outside the classroom, others thought other activities included in other courses will help to achieve the aims intended, few failed to justify their answer.

Third: Students have been asked about the degree of their participation: Fifty nine students (64.1%) admitted that they did not participate or their participation was very limited, in the listening activities inside the classroom, this was one third of the whole class, which was a very large number of students.

Thirty three students (35.9%) claimed that they participated in the listening activities. They even said that they enjoyed participation because it was a new thing to them and some said that it was fun.

2. Students have been asked to give their opinion about the speaking activities inside the syllabus.

First, are these activities good: Fifty five students (59.8%) said that the speaking activities were not good. This number of the students is a little bit larger than the number of students who said that the listening activities

were not god. They said because it was a single course and the time specified for it was two hours per week. Moreover the course was devoted for both listening and speaking skills, they said that they spend most of the lecture time working in the listening activities, and only a very short time of the lecture was spared for the speaking activities and mostly it was at the end of the lecture.

Thirty seven students (40.2%) said that the speaking activities are good and even better than the listening activities, some of those said because listening and understanding native speakers is always difficult, therefore speaking is easier. Some said because the topics were interesting. Others said that both activities are equally good.

Second, are these activities enough? Eighty students (87%) believed Speaking activities were not enough although they were good regarding the material and topics themselves, but they were not enough to facilitate acquisition of the English language. This was the same number of students who think that the listening activities were not enough and they referred the reason to the same cause: that the listening activities, which was one course devoted for both listening and speaking even if it has been concentrated on one skill more than the other still the two hours will not be enough .

Only 12 students (13%) said that the time devoted to this skill was enough. This is the same number of the students who said that the listening activities were enough. They gave the same explanation as for listening, which was that it was only a starting point then they will continue to develop this skill outside the classroom, some of them added that other courses which involved presentation could also help them to promote their speaking skills.

Third: Students were asked about the degree of their participation: Fifty seven students (62%), which is almost the same as listening, admitted that they either participated a little or they did not participate at all. Most of them said they do not have the courage, or their standard of English language at that time did not make it easy for them to participate.

Thirty five students (38%), which is almost the same as listening, claimed that they participate actively or with a good deal in the speaking activities. Most of them explained that they were truly motivated to learn the language and this was the only way of doing so. Others said that the topics were interesting.

3. Students have been asked to give their opinion about the intonation to be included in the listening material they had in the classroom.

First is it included, have they noticed it: Sixty eight students (73.9%) didn't notice the existence of intonation within the listening and speaking course they said with complete confidence that there was no intonation.

Only 24 students (about 26.1) noticed that the intonation was included, but fewer spotted that there were quite good activities in it but without referring to them as intonation. On the other hand most of the twenty four students said that it was included but in a much restricted forms.

Second: Students were asked whether they regarded intonation as an important part of acquiring a language: Before teaching students the intonation most of the students (78 students 84.8%) didn't think that the intonation is an important part of speaking a language and hence acquiring it, only fourteen students said that it is important. However, after the researcher taught them the intonation, eighty four students (91.3%) said that it is important, and worth studying. only eight students (8.7%) kept their previous view about intonation that it is not important.

4. The students have been asked if they have any activities outside the classroom which contain speaking and listening to native speakers of English:

32 (34.8%) students didn't have neither speaking nor listening activities, while 35 (38%) students have both listening and speaking activities. On the other hand 25 (27.2%) have either speaking or listening activities. Those who have listening activities are more than those who have speaking activities, this is 19 (20.7%) having listening activities compared to only 6 (6.5%) having speaking activities, their reason is that it is difficult to find people to talk to using English but it is always easy to listen to different materials in English. Most of them watch television, news, movies and talk shows. Some downloaded data on their mobile phones and laptops, but most of them just listen to songs. The speaking activities included talking to a family member or English clubs or friends whether those friends are native speakers or not.

5. The students have been asked if they have any contact with native speakers:

Only 23 (25%) of these students have contact with native speakers, almost all of them with family members coming from outside Sudan in their vacations for a month and or less, thereby it is a very limited contact for a short period even if it is every year because it depends on how many times they will meat and how much they will be committed to speak English.

All students were taught by a native speaker volunteer, named Rebecca, when they were in their first year for two hours as extra-curriculum activity; they were not examined in these activities, the job of the volunteer was mostly to expose students to English language spoken by a native speaker, by this allowing them to learn from her different

things, mainly ability to communicate, vocabulary, accent, pronunciation, and also to acquire courage to speak the English language.

Most students, that is 78 (84.8%) didn't remember that they were being taught by a native speaker when they were asked if they have any contact with native speakers, leaving only 14 (15.2) students who remembered the native speaker. But even when the researcher reminded them of this native speaker 45 (48.9%) said that they didn't benefit anything because they couldn't understand her mainly because they are not accustomed to native speakers accent and their way of speech, others said that they didn't pay attention to that course since it was not evaluated, some said that the time of the lecture didn't suit them because it was at the end of the day this was why they didn't attend most of the lectures. 47 (51.1) said they benefited mostly a courage to talk, some mentioned other things like vocabulary, accent, and pronunciation.

6. The students have been asked about the intonation the researcher taught to them:

Whether it was good and if they benefited from it: 78 (84.8%) student declared that it was good and they benefited from it many different ways. The most important thing was that most of them didn't know anything about it before the researcher lectures, and the majority concentrated on the functions of intonation specially the attitudinal function that they didn't know that saying the words differently that is to say with a different tone could give the word other different meanings. But when there were asked whether the 10 hours course they have had is enough for them 62(67.4%) students said no that it was not enough, they explained that it was a new area for them this was why they needed more practice in it. 16 (17.4) said that it was enough because it gave them a starting point from which they could continue.

7. The students have been asked about the Sudanese intonation in the colloquial Sudanese and how Sudanese do in their everyday life use intonation: 61 (66.3%) students said that the use of intonation in Sudanese everyday life is excessive and 31 (33.7%) think that it is either moderate or little. Then they were asked whether the Sudanese depend on the intonation's functions to express their different needs, 51 (55.4%) students said that they do not, moreover they said they don't even understand it. 20 out of the 55 explained that is because Sudanese use other things like facial expressions and body language and top of all high and low pitch of voice. 41 students (about 44%) think that Sudanese use and understand intonation perfectly well.

72 (78.3%) students said that using and understanding intonation is related to environment, while 20 (21.7%) said that it doesn't. 68(73.9%) said it is related to culture, while 24(26.1%) said it isn't .65 (70.7%) said that it is related to education, while 27 (29.3%) said it is not. 47 (51.1%) said it is related to social class, while 45 (48.9%) said it is not.

5.1.10. Having a view over Sudanese Arabic Intonation:

The analysis of the Sudanese Arabic sentences said by ten of the subjects:

First sentence: "muna mashet 3suq" as a statement. {Muna went to the market}

The first student tones this sentence "muna mashet 3suq" with a rise. The rise was very clear in the last word "3suq" it reached 279.6Hz. But she added "3nti 3arfa 3no" to give the impression that it is a statement. The second subject also said it with a rise but it was a low rise not a high one in the last word '3suq' it reached 179.2Hz, he also made a rise in 'muna' it reached 205Hz and he made a very clear pause after "muna". 187.2Hz was the maximum Pitch when the sixth subject said this sentence while the minimum pitch was 111.4Hz. This minimum point

was just before the last syllable where it rose again to reach 187.2Hz. Thus he said it with a rise. The tenth subject said the sentence with a little bit of rise. He said the syllable before the last with a pitch that reached 103.6Hz and then it rises to 164.4Hz in the last syllable,

The fifth subject said the statement with a fall. He started the sentence with a tone that could be regarded as a level tone because it did not exceed 148.2Hz and the lowest Pitch was 98.54Hz thus those two points were quite near to each other in range. Considering the last word, He said it with a very clear fall at the last syllable the pitch reached 120.9Hz while in the previous syllable it was 367Hz. This subject said the sentence with a very short duration, it was about 0.68 seconds. The seventh subject said this sentence with a fall at the last syllable. Her pitch of voice falls from 280.4 Hz to 1113.3Hz in the last syllable. The eighth subject said this sentence with fall, her pitch of voice reached 499Hz in the last syllable then fell to 194.2Hz. The ninth subject said the sentence with a little bit of fall. She started saying the sentence with a maximum Pitch of 252.3Hz and started to lower the pitch of her voice a little bit the maximum pitch of the last syllable was 204Hz and then it fell to 188.5Hz.

The third subject also said the sentence with a rise in the word “3suq” but he said it with a rise-fall more than a complete rise. The rise reached 486.5Hz then at the same syllable the fall reached 437Hz.

The fourth subject said the statement with a fall at the last word “3suq”. But she said it more with a fall- rise, starting from 250.3Hz in the last syllable and then a fall, the lowest bitch was170.8Hz then rise again to 206.6Hz.

Second sentence: muna mashet 3suq? (Question) {Muna went to the market?}

The first subject said this question with a high rise in the last syllable the pitch of her voice rose from 246.6Hz to 477.5Hz in the last

syllable. Moreover it was a very clear syllable; the duration of this last syllable was 0.17second from the whole duration for the whole sentence which is 0.78 second. The second subject pronounced the question with a rise at the last word “3suq”, the rise reached 199.6 Hz but he said the word “3suq” differently here he said it with extra long vowel to indicate that it is a question. The duration of the last syllable was 0.2second from the duration of the whole sentence which is 1.2 second. Also there was a little pause after “muna” to indicate that it is a question. The third subject said the question with a high rise the pitch of his voice rose from 159.3Hz to 294.7Hz. The duration of the last syllable was 0.16 second from the whole duration of the sentence which was 0.63 second. The fourth subject said the question with a rise. Her pitch of voice rose from 261.8Hz to 442.8Hz in the last syllable. The duration of the last syllable was 0.16 second from 0.92 second. The fifth subject said the question with a rise. His pitch of voice rose from 163.5Hz to 175.7Hz in the last syllable, but it is important to mention that his pitch of voice was only 108.1Hz in the syllable before the last; this is why it is considered as a rise in the last syllable. The sixth subject said the question with a rise. His pitch of voice moved from 114.7Hz in the syllable before the last to 201.5Hz in the last syllable. The duration of the last syllable was 0.24 second from 0.93 second of the whole sentence. The eighth subject said the question with a rise in the last syllable. Her pitch f voice rose from 261.5Hz to 393.2Hz. The duration of the last syllable was 0.21 second from 1.25 second of the whole sentence. The tenth subject said the question with a rise. But it was more like a level tone because the pitch of his voice rose from 79.3Hz to 136.9Hz thus it is a very low rise. The duration of the last syllable was 0.21 second from 0.95 second of the whole sentence.

The seventh subject said the question with a rise-fall on the last syllable. Her pitch f voice rose to 419.4Hz then fall to 360.4Hz. The

duration of the last syllable was 0.23 second from 0.99 second of the whole sentence. The ninth subject said the question with a rise-fall on the last syllable. Her pitch f voice reached 321.2Hzthen fall to 83.2Hz. The duration of the last syllable was 0.26 second from 0.89 second of the whole sentence.

Third sentence: ni7na masheen 3ri7la mush kida? (certain){We are going on a trip, aren't we?}

Here when saying this question the subjects are supposed to be sure about it.

Nine subjects said this sentence with a rise. The first subject's pitch of voice rose from 230.3Hz to 421.7Hz in the last syllable. The second subject's pitch of voice rose from 136.8Hz to 196Hz in the last syllable. The third subject said this sentence with a bit of a rise but it was more like a level because his pitch of voice only rose from 140.4Hz to 159.8Hz. The fourth subject's pitch of voice rose from 284.1Hz to 420.9Hz in the last syllable. The sixth subject said this sentence with a rise too but the rise started in the word before the last "mush" from 85.57Hz to 140.2Hz and carried on to 161.6Hz in the last word and even to 185.5Hz in the last syllable of the last word "Kida". The seventh subject's pitch of voice rose from 280.7Hz to 412.9Hz in the last syllable. The eighth subject said it with a very clear rise in the last syllable; it rose from 244.8Hz to 474.4Hz. The ninth subject's pitch of voice rose from 231.3Hz to 284.8Hz. The tenth subject's pitch of voice rose from 187.5Hz to 301Hz.

Only the fifth subject said this sentence with much of a level tone. This is clear from the analysis of the pitch of his voice, he started the first syllable in the sentence with 163Hz and finished the sentence in the last

syllable with130.7Hz during the sentence there was not much variation in the pitch.

Fourth sentence: ni7na masheen 3ri7la mush kida? (uncertain){We are going on a trip, aren't we?}

The subjects are supposed to say this sentence while sounding uncertain.

All subjects said this sentence with rise. The first subject said it with a high rise, her pitch of voice rose from 220.6Hz to 280.1 Hz in the last syllable. The second subject's pitch of voice rose from 138.6Hz to 198.8Hz in the last syllable. The third subject did not make a very high rise his pitch of voice rose only from 146.4Hz to 184.4Hz in the last syllable. The fourth subject pronounced this sentence with a high rise her pitch of voice rose from 285.9Hz to 415.6Hz in the last syllable. The fifth subject said it with a rise, but this rise went over more than one syllable, his pitch of voice fall to 102.8Hz in the word "3ri7la" then he took a pause of about 0.83seconds then his pitch of voice rose 142.8Hz in the word "mush" and then rose again to 160Hz in the last syllable of the word "kida". The sixth subject said it with a rise his pitch of voice rose from 158.8Hz in the last syllable to 202.5Hz. The seventh subject's pitch of voice rose from 262.6Hz to 382.5Hz in the last syllable, she paused in the middle of the sentence about 0.89second between "3ri7la" and "mush". The eighth subject's pitch of voice rose from 235.8Hz to 430.2Hz in the last syllable. But there are other changes in the sentence, first there is more than one rise in the sentence the first rise was in the word "3ri7la" her pitch of voice rose to 428.7Hz then there was another rise in the word "mush"; her pitch of voice rose to 277.4Hz. Second, there are two pauses after "3ri7la" for about 0.45 second and after "mush" for about 0.21 second. The ninth subject's pitch of voice rose from 217.5Hz to 277.2 Hz in the last syllable. The tenth subject's pitch of voice rose from 176.7Hz to 245.6Hz.

Fifth sentence: jeet min 3jam?a hasi? {Did you return now from university?}

The first subject said this question with a rise. Her pitch of voice rose from 299.8Hz in the syllable before the last to 490.3Hz in the last syllable. Fourth subject said this question with a rise too. Her pitch of voice rose from 131.5Hz to 478.7Hz in the last syllable. Sixth subject said this question with a rise. His pitch of voice rose from 134.8Hz in the last syllable to 230.5Hz. Eighth subject said this question with a rise. Her pitch of voice rose from 255Hz in the syllable before the last to 465.2Hz. Ninth subject said this question with a rise. Her pitch of voice rose 229.4Hz in the syllable before the last to 344.5Hz. Tenth subject said this question with a rise. Her pitch of voice rose 198.4Hz in the syllable before the last to 272.8Hz.

Second subject said this question with a fall. His pitch of voice rose in the word “3jam?a” to 203.2Hz and then fall in the last syllable of the word “hasi” to 134.6Hz. The focus word was “3jam?a” Third subject said this question with a fall too. His pitch of voice rose in the word “3jam?a” to 259.8Hz and then fell in the last syllable of the word “hasi” to 143.7Hz. The focus word was “3jam?a”. Fifth subject said this question with a fall. His pitch of voice fell from 175.1Hz to 83.44Hz in the last syllable. Seventh subject said this question with a little bit of a fall. Her pitch of voice fell from 271Hz in the last syllable to 240.4Hz

Sixth sentence: mitein jeet min 3jam?a? {When did you return from university?}

The first subject said it with a fall her pitch of voice fell from 487.1Hz on the word “jeet” till it reached 257.1Hz on the first syllable of “3jam?a” then it rose again slightly to 276.9Hz on the last syllable of the same word. The second subject said it with a fall too his pitch of voice fell from 196.2Hz on the word “jeet” to 97.14Hz on the last syllable of

“3jam?a”. The third subject said this sentence with a fall his pitch of voice rose to 478.6Hz in the first syllable of the last word “3jam?a”and then fell to 99.34Hz in the last syllable. The fourth subject said it with a fall her pitch of voice rose to 342.4Hz in the word “min” then fall to 99.75Hz in the last syllable of the word “3jam?a”. The firth subject said this sentence with a fall too. His pitch of voice rose to 209.6Hz in the last syllable of the first word and then fell to 86.15Hz in the last syllable of the last word. The sixth subject pitch of voice started with 183.8Hz in the first syllable of the first word and then fell to 90.44Hz in the last syllable of the last word. The eighth subject said it with a fall. Her pitch of voice fell from 222.5Hz in the first syllable of the last word to 178.8Hz in the last syllable of the same word. The ninth subject started the sentence with 264.5 Hz frequency at the beginning of the sentence, that is to say the first syllable, and then her pitch of voice started to fall gradually till it reached 167.8Hz in the last syllable of the last word. The tenth subject pitch of voice rose to 291Hz in the word “jeet” then started to fall till it reached 111.9 in the last syllable of the last word.

The seventh subjects said this sentence with a rise, her pitch of voice rose from 231.3Hz in the first syllable of the last word to 303.2Hz in the last syllable of the same word.

5.2. Discussion of the results

5.2.1. Students cannot identify different tones on the level of words.

It is recognized that the students understanding of the tone *fall* has improved and they became much better in identifying it after being taught intonation. The right tone for words “two”, “five” and “now” is *fall* the percentages of the students who got it right in the ‘Post’ are: 53.3%, 34.5% and 38% consecutively, which reflect an improvement because in the ‘Pre’ the percentages for the same words are: 34.8%, 21.7% and 19.6%.

When considering the tone *rise* the students understanding of it improved, but not like the tone *fall* and many confuse *rise* with the tone *fall*. The right tone for the words “three”, “six”, and “us” is *rise* the percentages of the students who got it right in the ‘Post’ are: 20.7%, 32.6% and 55.4%consecutively. The percentages of students who mixed it with *fall* are: 42.4%, 31.5% and 16.3%consecutively.

This result confirms what Chapman (2005) found that students faced difficulties with all aspects of discourse intonation, and the most consistent source of difficulties raised by learners was identifying whether the tone is rising or falling.

Regarding the *fall-rise* and *rise-fall* tones, it is clear that the students’ standard in recognizing them has improved after being taught intonation but still many students confuse them together. Before being exposed to the teaching material there was no consistency with the tones they confuse them with, but after having the knowledge of intonation most of them started to mix them together, and this could be a step towards the right direction. The right tone for the words “one” and “you” is *fall-rise* the percentages of the students who got it right in the ‘Post’ are: 25%and 51.1% respectively. The percentages of students who mixed it with *rise-fall* are: 26% and 29.3% respectively. The right tone for the words “four” and “more” is *rise- fall* the percentages of the students who got it right in the ‘Post’ are: 43.5% for both words. The percentages of students who mixed it with *fall-rise* are: 41.3% and 40.2% respectively.

5.2.2 Students cannot identify different tones on the level of sentences.

It is recognized that the students understanding of the tone *fall-rise* has improved and they became much better in identifying it after being taught intonation. The right tones for sentences “No one could say the

cinema was dead.", and "That was what he claimed to be." is *fall-rise* the percentages of the students who got it right in the 'Post' are: 64.1%, 41.3% respectively, this reflected an improvement because in the 'Pre' the percentages for the same sentences are: 59.8% and 39.1% respectively.

When considering the *rise* and the *fall* tones the students have mistaken them together even after being taught intonation.

5.2.3. Students cannot identify tonic syllable.

The percentages of students' performance have improved a lot this is reflected in the ten sentences. The percentages of the right answer of the ten sentences from 1-10 in the 'Pre' are: 42.4%, 43.5%, 18.5%, 51.1%, 43.5%, 48.9%,66.3%,12%,58.7%, and 62% consecutively, while in the post the percentages are: 67.4%, 70.7%, 45.7%, 75%, 59.8%, 70.7%, 83.7%, 42.4%, 79.3%, and 79.3% consecutively, this reflects that the teaching of intonation raised the percentage of students understanding on recognizing the place of the tonic syllable.

Students have acquired new knowledge that structure words are usually de-emphasized to contrast with the focus words. They learnt the difference between content words and structure words regarding intonation, this knowledge has been reflected in their performance, thus in the post test they have an inclination not to choose the structure words as a tonic syllable. This is quite obvious in the second sentence, "of course it is broken" in the 'Pre' 21.7% of the students have chosen ***of*** as the tonic syllable, while in the 'Post' only 1.1% of the students have chosen ***of***. Also the last sentence "have you finished" in the 'Pre' 25% of the students have chosen ***have*** as the tonic syllable, while in the 'Post' only 7.6% have chosen ***have***. This result is consistent with what Chapman (2005) reported that students face difficulties in identifying the

tone unit "were far more positive about this feature of discourse intonation than with listening for different tones."

5.2.4. Students cannot produce different tones on the level of words.

It is clear that the students' standard in producing different tones has improved -on the level of word - after being taught intonation but still many students confuse the tones together.

When considering the tones *fall* and *rise* the students understanding of them has improved, but not very much because many mix them together; except for the word "four" with a *fall* most students said it right in the pre (87%), and most of them said it right in the post (88.1). this could be because it is the last word in the list of words and this could be spontaneous for the students to say it with a fall without even releasing it.

Regarding the *fall-rise* and *rise-fall* tones, it is clear that the students' standard in recognizing them has improved after being taught intonation but still many students confuse them together.

Students tend to use the fall tone more in the post without any regard to the tone they were expected to use. The second prominent tone is the rise. Thus students either use rise or fall tone most often.

Table (5-41)

The percentage of the tones on the level of words

Tone	% pre	% post
Fall	44.56	31.63
Rise	33.04	29.68
Fall-rise	11.94	19.46
Rise-fall	10.43	19.24
Total	100	100

From the above table it is clear that students tends to use either fall with 44.56% or rise with 33.04% in the pre concerning all words an there is a very limited use of the tones fall-rise and rise-fall.the performance of students has changed and they tend to use different tones.

5.2.5. Students cannot produce different tones on the level of sentences.

It is quite clear that the students have a good understanding of the production of tone *fall* for statements and the production of the tone *rise* for *yes* and *no* questions, but this knowledge has been promoted after being taught intonation and much more students started to say it right. The percentages of the students who got it right in the pre are, 54.3% for statement with fall and 76.1% for questions with rise. The performance of students has improved in the post 91.3% and 87% respectively got it right in the post. This manifest that they have prior knowledge about toning different questions but the teaching of intonation enhanced this knowledge.

When considering the performance of students regarding the *yes and no* questions and *wh-* questions the performance of the students before being taught intonation was also quite good. The percentages of the students who got them right in the pre are 83.7% and 71.7% respectively. But this performance has become much better and in post 94.6% and 93.5% respectively got them tight. This proves that many students understand the way of toning sentences but many more benefited from the teaching.

Attitudinal function of intonation is to some extent a new area for the students this is why when they tried to tone certain and uncertain question it was a little bit difficult. The researcher chose a question tag “They are coming on Tuesday, aren’t they?” and asked them to tone first

they must sound certain and then they must sound uncertain. Generally, students were taught that question tags are toned with a rise this is why only 10.9% tone it right for certain in the pre, but more tone it right for uncertain in the pre that is 51.1% that shows their way of toning sentences. However in the post the attitude changed and many more started to understand the way of toning certain and uncertain statements or questions. This is very clear from the percentages 33.7% tone the certain question right and 90.2% got the uncertain right in the post.

When the students tried to differentiate between two semantic meanings; by saying the same sentence twice “Those who sold quickly made a profit.”; each time putting the unit boundary in a different place, they found this part challenging. Only 18.5% of the students got it right in the pre for the two meanings. But in the post their comprehension of the use of tonic boundary to differentiate meaning improved a lot and 67.4% of the students got it right for the first meaning in post and 72.8% of the students got it right for the second meaning in the post. 16.3% and 20.7% respectively of the students said the first sentence and the second sentence without bothering themselves by putting any tonic boundary at any place in the sentence they just read it. But this percentage changed and in the post only 6.5% and 4.3% respectively read the sentence without paying attention to tonic boundary they tried even if they did not succeed.

The students were asked to read the sentence “He can’t see clearly” first as a whole and then with a little pause after see. This was made clear for them by putting a comma after see. Thus while saying first there is one thought group, on the other hand while saying the second there are two. For the students saying the sentence as one though group was much easier, thus 76.1% said it right in the pre and more students said it right in the post that is 88%. But saying it as two thought groups was much

problematic for them, only 38% said it right in the pre, but the performance of the students improved and their understanding of the mechanism of putting tonic boundaries become much well and 67.4% of them got it right in the post.

From all the above it is clear that students lack the proficiency in social conversation by using intonation to express different functions of intonation; this agrees with the findings of Hewings (1993) that the students are not well aware of the role of intonation in social conversation.

On the other hand, above information proved that students before being taught intonation their performance in producing different tones was poor, it was difficult for them to produce tones correctly. This agrees with what Osama (2004) found on another aspect of phonology which is stress: that students found problems in placing stress when handling English language.

5.2.6. Students cannot produce tonic syllable.

Students were not accustomed with certain knowledge in the English language that structure words are usually de-emphasized to contrast with the focus words. Also that generally in statements it is the last content word that should be emphasized if the speaker has no intention to emphasize another word. Moreover in conversation it is the new information which is usually focused on to make it very clear to notice in contrast with old information. Another point is that in the case of adjective phrase the focus falls on the adjective. After the students have been taught intonation they learnt much more about these ideas.

In the tests the following sentences: “We could go by bus.”, “The car was where I’d left It.”, “How much is the biggest one.” “It was too cold.” “We could go from Manchester.” and “have you finished?” the focus word is supposed to be the last content word that is bus, left,

biggest, cold, Manchester and finished. The percentages of the students who put it in the right content word in the pre are 25%, 5.4%, 29.3%, 31.5%, 14.1%, and 78.3 consecutively, this performance is quite low for five of six of the sentences. But after being taught intonation they learnt that it is usually the content word which is supposed to be the focus word not the structure words, and this content word is usually the last word in the sentence. This knowledge has been reflected in their performance, thus in the post test they tend not to choose the structure words as a focus word when they read the sentences. The percentages for the post are as follow: 82%, 79.3%, 96.7%, 40.2%, 98.9%, and 100% consecutively it is quite obvious the students' performance has improved. This is more manifested from the percentages of the students who choose structure words in the pre and post. In the pre the percentages are: 35.9%, 22.9%, 40.3%, 22.9%, 35.9%, and 21.7% consecutively, these percentages have dropped either to zero or mostly to 3.3% for each sentence. Considering the sentence "Here it is" the focus word is on *Here* which is the only content word. In the pre 56.5% got it right while in the post 100% got it right. Considering structure word 43.5% of the students in the post put the focus word in structure words while in the post this percentage dropped to zero.

In the test the following sentences "Of course it's broken." and "I knew it would go wrong" "of course and I knew" these two phrases give the impression that previous information have been mentioned. Thus it goes under the category old thought and new thought. From this the focus words are on *course* and *knew*. The percentages of the students who got them right in the pre are 58.7% and 23.9% respectively. However the performance of the students improved and in the post more students got them right that is 39.5% and 75% respectively. Considering the structure

words none of the students put the tonic syllable in a structure word in the post while in the pre the percentages are 17.4% and 27.2% respectively.

In the sentence “That was a loud noise.” The focus word is *loud*, which is the adjective in the adjective phrase, 33.7% of the students got it right in the pre while in the post the students understanding became much better and 59.8 got it right in the post. Many students put the focus in structure word in the pre that is 42.4%. This percentage decreased to 6.5% in the post.

Students have acquired new knowledge that structure words are usually de-emphasized to contrast with the focus words. They learnt the difference between content words and structure words regarding intonation, this knowledge has been reflected in their performance, thus in the post test they have an inclination not to emphasis the structure words as a tonic syllable. Thus before studying intonation they had difficulties in placing the tonic syllable in its right place, this finding is quite near to what Setter, Stojanovik and Martinez-Castilla reported on another aspect of phonology which is stress, they reported that "Arabic learner performed worse at contrastive stress placement."

The highest percentage in a sentence which the students placed the tonic syllable on structure word in the pre is 43.5% in the sentence “Here it is.” This percentage dropped to 0% in the post. While the higher percentage of putting the tonic syllable in a structure word in the post is 6.5% in the sentence “That was a loud noise.” 5.4% of the students put it on *was* this could be attributed to the effect of the mother tongue because in the mother tongue there is an inclination to emphasize that something is in the past *was*.

5.2.7. Teachers' and Students Interviews:

5.2.7.1. Listening and Speaking

1. Teachers' opinion about the listening and speaking activities.

All ten teachers agreed that the time specified for teaching the listening and speaking is not enough because they have this course for only one semester for two hours per week and this does not help to improve the students' performance. This agrees with Elnaji (2007) findings that the lack of effective pronunciation activities is a problem in improving students' performance.

Eight of the ten the teachers, which is a majority, agreed that the syllabus itself is good because generally is a material designed for the purpose of listening and speaking.

Moreover teachers addressed other problems they face during teaching the listening and speaking subject. One of the problems all teachers mentioned is that the lecture rooms are not well equipped for listening and speaking and there is no language lab. Another problem most of the teachers is that the number of students is quite large. One mentioned that choosing the text book is also problematic.

Regarding the participation of the students; four Teachers agreed that only few of the students participate in the listening activities. Seven teachers said that students participate but the degree of their participation differs mostly according to the topics.

Most of the teachers said than only few students participate in the speaking activities. This is due to different reasons, the standard of the students their courage and shyness.

2. Students' opinion about the listening and speaking activities. The listening activities:

When students talked about the listening activities: 54.3% of the students found that the listening activities were not good for them; most of them attributed this to their standard of English language at that time that it was not good. From this it is obvious that they were weak students, and the listening material did not motivate them, a good material must motivate both weak and good students. However few students said that the material was too simple and it didn't add anything to them, it is obvious from their statements that their standard of English language was quite good, they were not motivated too, and this will only leave the students who had average standard in English language. From this it could be concluded that the listening material was not good because it left out both weak and good students without benefitting from it. It seems also that students are not well prepared for the listening activities.

Moreover 87% of the students thought that the activities were not enough. Listening activity is one of the weakest skills for the students, in the previous question many students answered that they felt weak in this area, and also they are not accustomed to it, because it was not incorporated in their previous syllabi. From this it is of a paramount importance to give it more attention and increase the hours devoted to it in the curriculum. Moreover two hours per week for any skill to be perfectly acquired is not enough. From this it could be concluded that the listening material is not enough because the time allotted for it is limited.

When asked about the degree of their participation; 64.1% of the students admitted that they do not participate actively in the class. This is a very high percentage, they are learning a language thus they must employ all their effort and time to do so. Only 35.9% of the students

participate actively in the class and comment that they enjoy the listening activities.

Both teachers and students agreed that listening and speaking activities included in the curriculum are not enough this result goes with the finding of Elnaj (2007): that the lack of effective pronunciation activities is one of the main reasons of the student's problems in pronunciation.

The speaking activities:

59.8% of the students said that it is not good, the students didn't speak here about the topics which they discussed during the course, but they referred to the time of the speaking during the lecture, so they said that it is not enough and that the listening skill is being emphasized more than the speaking, generally the two skills are connected together and the activities of listening must contain speaking, but the students explained clearly that they prefer to have activities with speaking separately. From this it could be concluded that the speaking material is not good because it doesn't give the students the span of the time they need. Moreover, the students themselves are not wise enough to notice that their participation in listening activities should be part of their attempts to improve their speaking skills. 40.2% of the students though is good and spoke about the topics themselves and explained that the topics were interesting and they prefer speaking to listening.

An overwhelming majority that is 78% of the students said that the speaking activities are not enough. This leads back to the same important point which is, it is one course to teach both listening and speaking skills and the time allotted for it is only two hour per week which is not enough. Moreover the time specified for it during the lecture

is quite short. From this it could be concluded that the speaking material is not enough because it is two hour per week for both listening and speaking. Only 13% though that it is a starting point and that they have other subjects that contain speaking like the presentations.

When asked about how actively they participate in these activities; 62% of the students said that they did not participate actively in the class in the speaking activities. They must employ all their effort and time to learn a new language specially that it is their area of specialization. Only 38% said they participate either because the topics were interesting or because they were really motivated and they exert any effort they can to do so.

5.2.7.2. Intonation included in the syllabus

1. Teachers' opinion about the intonation to be included in the listening material they taught in the classroom.

Four teachers agreed that intonation is included in the course of listening and speaking. But the teaching of it depends on the teacher and how he handles it. Moreover teachers need to be trained to teach supra-segmental features. Some teachers do not bother themselves by teaching supra-segmental features either because they were not trained or because they think the students' standard in English language does not qualify them to study it or because of large classes that such activities need more time. Elnaji (2007) reached a conclusion that teachers were not qualified to teach such aspects. His finding agreed with what the researcher has reached here.

Four teachers said that intonation is included but very limited that it can hardly be noticed. Two teachers said that it is not included at all, or it could be insignificant and could be in only few exercises.

When asked whether students regarded intonation as an important part of acquiring a language: Eight teachers comment that students do not pay much attention to intonation. They do not regard it as important. Two teachers think students regard intonation seriously as part of their acquisition of the language.

2. Students' opinion about the intonation to be included in the listening material they had in the classroom.

73.9% of the students didn't notice the existence of intonation in the course they studied, even those who noticed it said that it is very limited. This strengthened the idea that they are not well prepared for both listening and speaking activities, this is why they do not notice supra-segmental features that surround the language. About 26.1% noticed that there is intonation in the syllabus, however most of them thought that it is restricted and not well explained and with no elaboration. This is also what Balal (2011) found that only 21% of the students care for supra-segmental features.

However, 91.3% of the students after being taught intonation are convinced that it is important part of acquiring a language, those teaching hours opened their eyes and changed their opinion about supra-segmental features specially intonation. While before being exposed to the teaching material of intonation 84.8% of the students did not regard it as important. This proves that it is one of the areas that are mostly neglected. This agrees with Hewings (1993) finding that lack of awareness of the role of intonation in social conventions play a major role in the choice the students make.

5.2.7.3. Extra-curriculum activities:

1. Teachers' opinion about the students speaking and listening activities outside the class

Four teachers comment that students do not have any activities outside class room that contain listening and speaking. Four teachers comment that students have activities outside class room that contain listening and speaking. Two teachers said only few of them have activities outside class room that contain listening or speaking but most students do not have. Even those who have activities they are mostly listening and most students are not committed to doing them.

Seven teachers liked the idea of giving the students activities outside class room that contain listening and speaking, but only three tried it before.

Five teachers comment that students have a very limited contact with native speakers. Two of them said that these native speakers are generally the volunteer provided by the university. Two said that those who have contact with native speakers benefit a lot mostly in communication.

Five teachers said that the students either do not have contact with native speaker or if they have they do not benefit from these native speakers mainly because these native speakers are not teachers and also students do not concentrate on the accuracy. Moreover the volunteers spend most of the time trying to learn Arabic instead of teaching the students English.

2. The students' activities outside the classroom which contain speaking and listening to native speakers of English:

Despite that 65.2% of the students have activities outside the classroom including both listening and speaking or either listening or

speaking, only 28 (30.4%) are committed to practice these activities that leave 64 (69.6%) who either do not have any activity or are not committed to doing them, which is a very high number. This reflects that the students are not serious about improving their standard in English language.

On the other hand only 25% of the students have contact with native speakers; this is only a quarter of the total number of the students. Those students' contact with native was very limited and they didn't benefit much from it. Thus in the natural environment it is difficult for the students be exposed to English language.

48.9% of the students didn't benefit from the native speaker assigned by the university administration to help them improving their English language; the main reason is that they were exposed to this experience in their first year of studying the language, and they have a problem with understanding the native speakers. This agrees with Al-fatlawi (2008) result that the students have deficiency in comprehending the foreign accent.

5.2.8. Other questions concerning "Students' interview":

1. The students have been asked about the intonation the researcher taught to them.

If they benefited from it:

84.8% said they benefit a lot and that the functions of intonation were new to them and they concentrated on the attitudinal function. This proves that they didn't know how to use it before studying it. Moreover 67.4% said that it was not enough because it was a new area for them. From this it is obvious that they need more practice in this area. Only 17.4% thought that it is enough because they started to notice it and they will start practicing by themselves.

2. The students have been asked about the Sudanese intonation in the colloquial Sudanese.

How do Sudanese in their everyday life use intonation:

66.3% said that the use of intonation in Sudanese everyday life is excessive. 55.4% said that Sudanese do not depend on intonation functions to express their needs, and they do not understand it. This explains why students do not use intonation in a good way in the English language, because they do not depend on it in their own language. And the excessive use in the native language could be transferred and lead to overlapping in the second language.

78.3% of the students said that it is related to environment and 73.9 said it is related to culture, fewer students concentrate on social-class and education.

From all this it is clear that the students of Sudan University of Science and technology are not well exposed to English language. Thus, this definitely affect their standard in English language especially their acquiring of supra-segmental features, they were not taught these features and they were not well exposed to English language. The syllabus is not enough they do not participate actively in the class concerning both activities listening and speaking they do not have activities outside class room that contain listening and speaking and if they do they are limited and most of them are not committed for doing them and they do not have contact with native speakers and only few have and even fewer benefitted from it.

5.2.9. Looking into Sudanese Arabic intonation:

When investigating the Sudanese Arabic intonation regarding all tones the researcher came out with the following:

1. The first and second sentences:

Concerning the first and second sentences the first sentence was a statement “muna mashet 3suq.”and the second was a question “muna mashet 3suq?”. Four of the subjects said both sentences with a rise tone. Those subjects were the first the second the sixth subjects and the tenth subject. However the subjects differentiated between the two sentences using other ways.

The first subject said the statement with a rise and then the question with a rise too. But the rise in the question was much higher than in the statement it reached 477.5 Hz while in the statement the rise only reached 279.6 Hz. The duration of the last syllable in the statement was 0.21 second from the whole sentence which was 1.05, the duration of the last syllable of the question was 0.23 second from the duration of the whole sentence which was 0.53 second. Thus she pronounced the last syllable of the question with a higher rise and a longer duration.

When the sec. subject tried to say the statement he reached 179.2Hz when he tried to say a question he reached 199.6 Hz Hz which is a little bit higher but he made other changes as well when pronouncing the two sentences. While pronouncing the first sentence he made a first high rise on the word ‘muna’ it reached 205Hz then he made a very clear pause after it by that making two tonic boundaries, when saying the word “3suq” he said the last syllable of it with duration about 0.19 sec. When saying the second sentence he said it with a little bit longer duration it reached about 0.23 second. Also there was a little pause after “muna” shorter than the first sentence to indicate that it is a question.

The sixth subject’s pitch of voice rose to 187.2Hz in the statement while in the question it rose to 201.5Hz. He said the two sentences with no ***pause***s. The duration of the first sentence was 0.81 second and the second 0.86 second, the duration of the last syllable was 0.17second in

the first sentence while in the second it was 0.22 second. Thus there was no much difference in the pronunciation of the two sentences.

The tenth subject pitch of voice rose in the first sentence to 164.4Hz and in the second to 136.9Hz. This subject did not raise his pitch of voice higher than in the statement instead he lowered it.

Two subjects said the statement with a fall and when they came to the question they said it with a rise, those were the fifth and eighth subjects. Other two subjects said the statement with fall but when they came to the question they said it with a rise-fall tone.

The third subject said the first sentence with a rise-fall, while the fourth subject said the first with a fall-rise, both of them said the second with a rise.

From all the above it could be concluded that there is no consistency in the intonation of the statement considering these subjects. This conclusion goes with what Alharbi (1991) found concerning Kuwaiti dialect of Arabic that the distribution of pitch contours as related to sentence types is hardly systematic. Subjects used other techniques to differentiate between the statement and the question. These techniques included using higher pitch in the question more than the statement and using different durations for focus words. Moreover this is not like the English intonation where it is almost a clear cut that for statements it is a fall tone while for yes- no questions it is a rise.

2. The third and fourth sentences:

Concerning the third and fourth sentences, both are the same question “ni7na masheen 3ri7la mush kida?” it is supposed be toned first while sounding certain and then while sounding uncertain. Almost all subjects said both with a rise tone except for one subject who said it with a level tone when trying to sound certain. All subjects tried to do other

techniques when trying to differentiate between being certain and uncertain.

The first, second, fifth, seventh, and eighth subjects pronounced the two sentences with different durations. They said the third sentence with a duration not exceeding 1.31, 1.83, 1.15, 1.28, 14.1 sec. consecutively. While when trying to say the fourth, they said it with a little bit longer duration to sound uncertain; the duration were as follow: 1.88, 1.89, 2.02, 2.17, 2.61 sec. consecutively. These subjects tried to use another technique that is a little pause in the fourth sentence to have different tonic boundaries. The first fifth and seventh subjects made a little pause after the word “3ri7la”. The second subject made a little pause after “mush”. The eight made two pauses after “masheen” and “mush”. The fifth subject not only said the third sentence without any pause but he also said it with a level tone while trying to sound certain.

The third, fourth, ninth and tenth subjects toned the fourth sentence with a shorter duration than the third, the duration are 1.04, 1.63, 1.35, 1.08 sec. respectively for the third and 0.84, 1.09, 1.22, 1.04 sec. respectively for the fourth. The third, ninth, and tenth subjects did not made any pauses. The fourth subject said the third sentence with a little pause after the word “3ri7la” while she said the fourth without any pause.

Concerning the sixth subject there was no significant difference between the two sentences.

It could be concluded that five subjects of the sample used longer duration for uncertain sentence while four used longer duration for certain sentence. This reflects that even this technique is not unified between the subjects and the subjects tried to use the pauses to differentiate between the two meanings by using different intonation boundaries. However almost all used a rise tone, which differs from the English intonation where there is consistency to use fall for certain and rise for uncertain.

3. The fifth and sixth sentences:

When considering the fifth and sixth sentences the fifth was a yes and no question “jeet min 3jam?a hasi ”while the sixth was a long answer question “mitein jeet min 3jam?a”.

Almost all subjects said the sixth sentence with a fall that is nine out of ten subjects, while most of them said the fifth sentence with rise that is six out of ten.

Three subjects toned both sentences with a fall; those were second, third and fifth subjects. In the fifth sentence the pitch of voice of the second and third subjects rose in the word “3jam?a” to 203.2Hz and 259.8Hz respectively then fall in the last syllable of the word “hasi” to 134.6Hz. and 143.7Hz. respectively. The focus word for both subjects was “3jam?a”. When the fifth subject said this question his pitch of voice fell from 175.1Hz to 83.44Hz in the last syllable. Thus the focus word was “hasi”. In the sixth sentence the second subject said it with a fall pitch of voice started to fall on the word “jeet” from 196.2Hz to 97.14Hz on the last syllable of “3jam?a”. The third subject concentrated on one word his pitch of voice rose to 478.6Hz in the first syllable of the last word “3jam?a”and then fell to 99.34Hz in the last syllable of the same word. The fifth subject started from the beginning of the sentence his pitch of voice rose to 209.6Hz in the last syllable of the first word “mitein” and fell gradually till it reached 86.15Hz in the last syllable of the last word.

From all this it is obvious that there is concentration on two tones, the fall and rise in the SCA. It also reflected that the subjects of the study used other techniques to represent the different functions and the concentration is not mainly on intonation.

5.2.10.Arabic and English Intonation:

Analyzing the sentences and comparing them to the English intonation, concerning the same statement and once as a question, in English language speakers say the statement with a fall and the question with a rise. In the SCA concerning the statement it has been found that there is no consistency concerning which tone to use some (4 out of 10 subjects) used the fall tone while others (4 out of 10 subjects) used the rise tone. And few used fall-rise and rise-fall (1 out of 10 subjects for each). When considering the question more subjects used the rise (8 out of 10 subjects) and few used rise-fall (2 out of 10 subjects). Thus the intonation in SCA differs from the intonation of statement concerning statement but it similar concerning questions. When examining the English language the transfer of this to English language was limited because before studying intonation 54.3% of the subjects said the statement with a fall and 76.1% said the question with a rise, these are quite good percentages and it reflects that the subjects understanding of the difference between the intonation of English and their SCA is quite good but their performance improved after being taught intonation and it raised to 91.3% correct tone for the statement and 87% correct tones for the question.

Concerning the sentences which were intended to make the subjects sound certain and uncertain. It is clear from the way the subjects responded that they do not differentiate between these two attitudes using intonation. This is clear because almost all subjects used the rise tone for both sentences; concerning the third sentence 9 out of 10 used the rise and concerning the fourth sentence all of them used the rise. Thus it has been found that the subjects used other techniques and they did not depend on the intonation to differentiate between the two attitudinal

meanings, not like in English language where they use fall for certain and rise for uncertain.

When considering the performance of subjects with regard to the certain and uncertain in English language it has been found that in the pre 75% used the rise tone for certain sentences while in English they should be said with a fall and only 10.9% said it with a fall. Also that 51% used the rise tone for uncertain which is right in the intonation of English but still 25% mistaken it with the fall. This performance could be attributed to transfer from SAC, which is the tendency to use rise tone more often. The performance of subjects after being exposed to intonation has improved and more students got it right in the post test, that is 33.7% of the students said it with fall for the certain, and 90% said it with rise for uncertain. Here again it is clear that the students can correct the use of rise tone more than the use of fall tone because the rise is more used in their mother tongue.

Concerning the long answer questions there is a kind of consistency which is quite similar to English intonation; almost all subjects said it with a fall (9 out of 10). Here concerning English intonation subjects faced no difficulty toning this question, 71.7% of the subjects toned it right in the pre test and even more subjects toned it right in the post test that is 93.5% , this reflects that it has been easier for them to tone this question because it is quite similar to their mother tongue.

It is clear that there is a kind of consistency with regard to the intonation of long answer questions. Almost all subjects of the study used the fall tone for this kind of questions. Here this is much like the use of fall in English intonation. But when considering the short answer question it is found that there is no consistency, the majority used the rise tone but still some used the fall tone, which differs from English

intonation. When considering the yes-no questions many of the subjects used the rise. There were two yes-no questions the frequencies were 10 sentences which were said with a rise and 8 which were said with a fall and 1 with a rise-fall and another 1 with a fall-rise. Thus the intonation in SCA is not stable despite that more subjects used rise for yes-no questions but still many used different other tones.

However, the transfer of this inconsistency to English language was limited. There were two yes-no questions regarding the English test given to the students, the percentages of the subjects who got the right tone in the pre test were 76.1% and 83.7 respectively and in the pos test were 87% and 94.6% respectively. From this it is clear that many subjects used the right tone before studying intonation but their performance became even better after the studying.

English is an intonational language and Arabic is an intonational language too, but from all the above it is clear that there are some differences between the usage of intonation in the two languages regarding the different functions required by each language, this agrees whit Chen (2004) findings. He studies British English and Dutch and concluded that there was difference in the usage of intonation across languages.

From all the above it is clear that there is a kind of transfer in some aspects of English intonation, this does agree with Bae (1998) who studied Korean languages (one tonal language and another non-tonal language) he concluded that: the transfer of L1 has been confirmed he added that intonation language speakers are better than tone language speakers after practicing and this what this study has proved. This is also one of Ahmed's (2003) findings who examined the pronunciation problems of Sudanese students, he found that there is an influence from

the mother tongue and there is intra-lingual error in the pronunciation of the students.

5.3. Results:

5:3.1. Students abilities to distinguish various tones when hearing them.

1. Students' performance regarding the receptive test as total has improved after being taught intonation by about 20%.
2. Students' performance regarding the receptive test has improved after being taught intonation regarding the three levels level, of word level, of sentence and level of tonic syllable but the improvement is quite obvious concerning the level of sentence.
3. Students' recognition of the tone *fall* regarding isolated words in the receptive test has improved but when regarding the tone *rise* many students have mistaken the tone *rise* with *fall.*
4. Concerning the level of words, before being exposed to the teaching material students could not recognize *fall-rise* and *rise-fall* and tend to confuse them with different tones *fall*, *rise*, *fall-rise* and *rise-fall*, however after having the knowledge of intonation most of them started to mix them together only, *fall-rise* with *rise-fall* and vice versa.
5. Concerning the level of sentence students recognition of the tone fall-rise has improved.
6. Concerning the level of sentence students could not differentiate between *fall* and *rise* tones even after being taught intonation.
7. Students have acquired new knowledge, that structure words are usually de-emphasized to contrast with the focus words. They have learnt the difference between content words and structure words and they have started to apply this knowledge regarding intonation.

5.3.2. Students abilities to tone sentences correctly.

1. Students' performance regarding the productive test as total has improved after being taught intonation by about 30%.

2. Students' performance regarding the productive test has improved after being taught intonation regarding the three levels, level of word level of sentence and level of tonic syllable but the improvement is quite obvious concerning the level of tonic syllable.

3. Students' production of the tones *fall* and *rise* regarding isolated words in the productive test has improved but these tones persist to form a problem for them, many use them interchangeably.

4. Concerning the *fall-rise* and *rise-fall* tones, regarding isolated words in the productive test it is clear that the students' standard in recognizing them has improved after being taught intonation but still many students confuse them together.

5. Students tend to use the tones *fall* and *rise* more often regarding isolated words in the productive test in the pre, in the post they started to use other tones as well.

6. Students ability of toning questions and their knowledge in this area was quite good before they were taught intonation but this knowledge and their ability become much better after they were taught intonation.

7. Most of the students did not know the attitudinal function, thus they did not know how to differentiate between certain and uncertain expressions before being exposed to intonation materials but after being taught intonation their understanding improved a lot.

8. Students did not know how to differentiate between two semantic meanings by using intonation, as it was a new area for most of the students. After studying intonation many students developed knowledge in this area.

9. Placing a tonic boundary was a problematic area for the students but after studying intonation they have developed good understanding in this area.

10. Students acquired new knowledge concerning structure words and content words, before having the knowledge of intonation many of them put the focus on structure words but when they have gained better understanding students started to put the focus on content words.

11. Students did not know the idea of thought groups, and new and old information in conversation. Gaining this knowledge affected their choices towards choosing 'new information' in sentences as focus word.

5.3.3. The students' exposure to English language, at Sudan University of science and Technology.

1. Both teachers and students agreed that listening and speaking activities incorporated in the syllabus are not enough because it’s only two hours per week for both listening and speaking. Most teachers regarded the syllabus prescribed as a good syllabus.

2. Students regard speaking activities as not good and not enough because they are very limited and do not give the students the space of time they need to express themselves, and not good because they left both good and weak students out.

3. According to the teachers and students themselves: The students show serious derelictions of duty concerning their participation in listening and speaking skills, most of the students do not participate actively in the class.

4. Both teachers and students themselves agreed that; Students are not well prepared for both listening and speaking activities.

5. Students did not notice supra-segmental features that surrounded the language. 73.9% of them didn’t notice the existence of intonation in the listening and speaking course they have studied. But 91.3% of the students after being taught intonation regarded it as important part of acquiring a language.

6. Five teachers out of ten agreed that intonation is included in the syllabus but it depends on the way of teaching to benefit from it. The other five teachers said that it is either not included or it is very limited.

7. Most teachers regarded students as not paying much attention to intonation. Most teachers do not teach intonation either because they were not well trained or because they under estimate their students' ability of understanding it

8. 69.6% of the students either do not have any listening and speaking activity outside the classroom or they are not committed to performing them.

9. 25% of the students have limited contact with native speakers; this is only quarter of the students of the sample of the study, and they didn’t benefit much from it. Regarding the native speaker assigned by the university administration to help them improving their English language, 48.9% of the students didn’t benefit from getting in contact with them.

10. 84.8% concentrated on the functions of intonation specially the attitudinal function because it was a new area for them.

11. The excessive use of intonation in the native language could be transferred to the second language which led to overlapping in the different functions of intonation.

12. Students do not use intonation in a good way in the English language to express different functions, because they do not depend on it in their own language. All ten interviewed teachers agreed that the time specified

for teaching the listening and speaking activities is not enough because they have this course for only one semester for two hours per week.

13. Lecture rooms are not well equipped for listening and speaking and there is no language lab. The number of students is quite large for performing listening and speaking activities.

14. Students poor exposure to English language affected their acquisition of supra-segmental features

5.3.4. Sudanese Arabic intonation compared to English intonation.

1. When considering the Sudanese colloquial students tend to use the rise tone more than the other tones when toning different sentences.

2. Considering the statement it is clear that there is no consistency when the subjects of the study tried to tone it.

3. Subjects of the study used other techniques to differentiate between the same sentence said as a statement and as a question in SCA. These techniques are: using higher pitch in the question more than for the statement, and using different durations for focus words.

4. Subjects of the sample of the study do not use different intonation patterns to differentiate between certain and uncertain questions. Instead they use different duration for the focus words and by using different intonation boundaries. But even this technique is not unified between the subjects and they use it differently.

5. For the long answer questions it is found that the subjects of the study used the fall tone.

6. For short answer questions it is found that most of subjects used the rise tone but still some used the fall tone.

7. The tendency to use a rise pitch in different sentences in SCA was transferred into English language

8. There is a limited transfer concerning the use of fall for statement in English language. Many students used this tone before studying intonation but many more improved after being taught.

9. There is clear transfer from SCA in the sample of the study when they tried to differentiate between certain and uncertain expressions. Because in their mother tongue they tend to use rise tone at both situations and they use other techniques.

10. Considering long answer questions both languages used a fall to tone these kinds of questions this is why there was a positive transfer in the sample.

11. The transfer from SCA considering yes-no question was limited and many student toned this kind of question right before being taught intonation but their performance improved much after.

Chapter Six

Results, Recommendations, and Suggestions for Further Studies

6.1. The most important results:

When comparing the students performance before and after being taught intonation the most important results are:

1. The performance of the students' concerning the receptive test as total has improved by about 20%; regarding the three levels, level of word, level of sentence and level of tonic syllable but the improvement is quite obvious concerning the level of sentence.

2. Students' recognition of all tones regarding isolated words in the receptive test has improved but still some confuse *fall* with *rise* and *fall-rise* with *rise-fall*

3. Concerning the level of sentence students recognition of the tone fall-rise has improved more than other tones.

4. Students have acquired a new knowledge that structure words are usually de-emphasized to contrast with the focus words. They have learnt the difference between content words and structure words and they have started to apply this knowledge regarding intonation.

5. Students' performance regarding the productive test as total has improved by about 30%; regarding the three levels, level of word level of sentence and level of tonic syllable, but the improvement is quite obvious concerning the level of tonic syllable.

4. Students' production of the all tones regarding isolated words in the productive test has improved but still some students continue to have problems.

6. Students tend to use the tones *fall* and *rise* more often regarding isolated words in the productive test in the pre, in the post they started to use other tones as well; and this has been found to be due to a transfer from the mother tongue.

7. Students did not face problems when toning questions in the pre-test, however their knowledge in this area has improved in the post-test. The problematic areas for the students were the use of attitudinal function and the differentiation between two semantic meanings by using intonation. This was clear in the pre but in the post their performance improved much better. Moreover this was confirmed from the interview with students, they said that they were fascinated by the attitudinal functions of intonation.

8. Students developed good understanding in placing a tonic boundary. Also they started to comprehend the idea of thought groups and new and old information in conversation. Gaining this knowledge affected their choices when choosing new information in sentences.

9. Listening and speaking activities incorporated in the syllabus are not enough because these are only two hours per week for both listening and speaking. They are not good because they are very limited and left both good and weak students out. However most of the students do not participate actively in these activities. Mainly because they are not well prepared for these activities

10. Students did not notice intonation in the listening and speaking course they have studied, and they did not regard it as important before studying it; Teachers comment that intonation is either poorly taught or not taught at all.

11. Few of the students have limited contact with native speakers, and most of them do not have listening and speaking activities outside the class room.

12. Students do not use intonation in a good way in the English language to express different functions, because they do not depend on it in their own language. However, students' poor exposure to English language affected their acquisition of supra-segmental features

13. When considering the SCA students tend to use the rise tone more than the other tone when toning different sentences.

14. Subjects of the study used other techniques to differentiate between different functions in SCA. These techniques are: using higher pitch, and using different durations for focus words and by using different intonation boundaries. But even this technique is not unified among the subjects of the study and they use it differently.

15. For the long answer questions it is found that the subjects of the study used the fall tone. For short answer questions it is found that most of them used the rise tone but still some used the fall tone.

16. There was a positive transfer considering long answer questions because both languages used a fall to tone these kinds of questions. There is a limited transfer concerning statements and yes-no questions. Many students toned them correctly even before studying intonation.

17. There is clear transfer from SCA in the sample of the study when they tried to differentiate between certain and uncertain expressions. Because in their mother tongue they tend to use rise tone at both situations and they used other techniques.

18. Lecture rooms are not well equipped for listening and speaking activities and there is no language lab. The number of students is quite large for performing listening and speaking activities during the time allotted for the lecture.

6.2. Recommendations

1. The listening and speaking course should be intensified to enable students to be exposed to listening materials as much as possible which will allow them to be accustomed to different tones regarding different attitudes and situations. Through this students will achieve a better understanding in producing and identifying intonation. Moreover attention should be drawn to intonation and its importance while listening to other people or when they strive to be understood.

2. The exercises which contain listening and repeating should be increased to allow the students to master the production of different tones depending on the arising situations.

3. Exercises containing the attitudinal function of intonation should be intensified, such as the activities connected with the attitude of the speakers thus instead of asking the students is it a fall or a rise it could be asking them is the speaker satisfied or not from their tone of voice. This may help them to know how to differentiate between tones.

4. Students attention should be drawn to the use of different tones in the English language to try to overcome the problem of the transfer from the mother tongue.

5. Students should have more exercises related to grammatical functions and particularly structure words and content words. This area has been found to be quite understandable to students; hence light should be shed upon this domain.

6. Exercises like placing a tonic boundary and differentiating between different thought groups; also identifying new and old information in conversation were found to be interesting to students; thus in order to

develop their intonational knowledge more exercises of this sort should be included in the syllabus.

7. Supra-segmental features and particularly intonation is important; so its practice should not be limited to one course only. This is why Supra-segmental feature and particularly intonation should be diffused in different syllabuses in the curriculum of the English language.

8. Volunteers provided by the university should not be restricted to the first year only; they should have more contact with students in the further semesters. Moreover they should have some kind of teacher-training programmes to be well equipped for teaching.

9. There should be training programmes for teachers to qualify them to teach supra-segmental features.

10. Teaching of listening and speaking skill should be more than one course, and the extra-curriculum activities should be encouraged by the English department.

11. There should be a kind of a course which includes speaking and different activities such as performing drama. This should have continuous assessment (to be marked).

12. There should be a well equipped laboratory for teaching listening and speaking skills. Moreover the number of students in each class should not exceed 30 students.

6.3 Suggestions for Further Studies

The researcher presents the following areas that could be tackled by the future researchers:

1. Investigating Sudanese Colloquial Arabic Phonological Features, and other Techniques Employed by the Speakers.

2. The Effect of Transfer from Sudanese Colloquial Arabic into English language.

3. Examining students' production of English vowels and diphthongs and mistakes committed in pronunciation and the right duration of vowels.

4. Evaluation of Sudanese pronunciation problems concerning all aspects of language from consonants and vowels and supra-segmental features and connected speech in English language.

References

Abd Mawla, M.M. (2009) unpublished M.A., Phonology of Fur language, University of Khartoum.

Ahmad, K. A. (1987) Ph.D., Intonation of a Gulf Arabic Dialect: Zubairi, Department of Linguistic Science University of Reading

Ahmed, A.E. (2003) unpublished M.A., Phonological Error Analysis of the Spoken English of Al-Neelain Fourth Year-Students (Remedial study) Al-Neelain University.

A lego, J. (2006) *British or American English: A handbook of word and grammar patterns*. Cambridge: Cambridge University Press.

Al-fatlawi, A.K. (2008) unpublished Ph.D, The Effect of Accents on Listening Comprehension of Students in Teachers' Training Institute, Islamic University of Omdurman.

Alharbi, M.L. (1991) Ph.D. Formal analysis of intonation: The case of the kuwaiti Dialect of Arabic, Heriot—Watt University.

Aoyama, K. & S. Guion. (2007). Prosody in second language acquisition: Acoustic analyses of duration and FO range. In O.-S. Bohn & M. Munro, eds. *Language experience in second language speech learning. In honor of James Emil Flege*, John Benjamins: 281–297.

Aviles, A.J. (2008) Partial M.A. The Phonology and Morphology of the Dar Daju Daju Language, University of North Dakota

Ayom, E.B. (1980) Partial M.A. Some Aspects of Dinka Bor Phonology and Nomina1 Plural Formation, University of Khartoum.

Bae, M.S. (1998) Ph. D. Contrastive phonological analysis of Kyunsang, Korean and English: Interference from a first language with tones-in acquiring non-tone language intonation, University Of Sussex.

Balal, E.M. (2011) Ph.D., Phonological Problems Affecting the Teaching/ Learning Process of ELT (A case study of Sudanese secondary school students) Al Neelain university.

Bashir, A. (2010) Ph.D. Phonetics and Phonological Study of Tima Language, University of Khartoum.

Beaken, Mike (2009) Teaching discourse intonation with narrative, ELT Journal: English Language Teachers Journal Volume 63/4 October 2009; doi:10.1093/elt/ccp002, Oxford University Press(pp.342-352) available at http://web.ebscohost.com.proxy-bc.researchport.umd.edu/ehost/pdfviewer/pdfviewer?sid=6c66d06b-874c-49e7-94565966dd37d18e%40sessionmgr12&vid=2&hid=9

Best, C.T. (1995) A Direct Realist View Of Cross-Language Speech Perception. In W. Strange (ed.) *Speech Perception and Linguistic Experience: Theoretical and Methodological Issues in Cross-Language Speech Research* (pp.171-206). Timonium, MD: York Press.

Braun, B. a._ Kochanski, G. Grabe, E. and Rosner, S. (*2006)* **Evidence for attractors in English intonation,** *Phonetics Laboratory, University of Oxford, 41 Wellington Square, Oxford OX1 2JF, United Kingdom*

Brazil, D. (1994a) Pronunciation for Advanced Learners of English. Student's Book. Cambridge: Cambridge University Press.

Brazil, D. (1994b) Pronunciation for Advanced Learners of English. Teacher's Book. Cambridge: Cambridge University Press.

Brazil, D. (1997) The Communicative Value of Intonation in English. Cambridge: Cambridge University Press.

Brown, P. and Levinson, S.C. (1987) *Politeness. Some Universals in Language Usage*. Cambridge: Cambridge University Press.

Burnham, D. K. (1986). Developmental loss of speech perception: Exposure to and experience with a first language. *Applied Psycholinguistics*,**7**(3)

Cauldwell, R. and Allan, M. (1999) Phonology. The University of Birmingham.

Celce-Murcia, M. 1996. Teaching Pronunciation: A Reference for Teachers of English to Speakers of Other Languages. Cambridge: Cambridge University Press.

Chahal, D. (2001). Modeling the intonation of Lebanese Arabic using the autosegmental-metrical framework: a comparison with English. PhD thesis, Department of Linguistics and Applied Linguistics, The University of Melbourne.

Chapman, Mark (2007) Theory and practice of teaching discourse intonation ELT Journal Volume 61/1 January 2007; doi:10.1093/elt/ccl039 Oxford University Press

Chen, A, Gussenhoven, C, and Rietveld, T , (2004) Language Specificity in the Perception of Paralinguistic Intonational Meaning, LANGUAGE AND SPEECH, Kingston Press Ltd 47 (4), 311 –349

Chen, A., Rietveld, T., & Gussenhoven, C. (2001). Language specific effects of pitch range on the perception of universial intonational meaning. *Proceedings of the 9th Eurospeech*, Vol. 2

Chomsky (2006) Language and Mind ,Cambridge, Cambridge university press.

Clements, G.N and Rialland, A. (2005) Africa as a Phonological Area, Sorbonne Nouvelle, Paris.

Clennel, C. 1997. 'Raising the pedagogic status of discourse intonation teaching'. ELT Journal 51/2:117–125.

Collinge,N.E. (2005) An Encyclopedia of Language, Taylor and Francis E-library, New York.

Commissioners of National Education in Ireland, (1844) An Introduction to the Art of Reading With suitable Accentuation and Intonation, 2nd ed. Directors of the Commissioners of National Education, Dublin.

Coulthard, M. (1993) An Introduction to Discourse Analysis, New York, Longman.

Cruttenden , A. (1997) Intonation, Cambridge, Cambridge University Press.

Cruz-Ferreira, M. (1984). Perception and interpretation of non-native intonation patterns. In M. P. R. van der Broecke & A. Cohen, Eds. *Proceedings of the 10th ICPhS*. Utrecht. Dordrecht: Foris

Crystal, David (2008)**A Dictionary of Linguistics and Phonetics,** *6th Edition.*© 2008 David Crystal. ISBN: 978-1-405-15296-9

Dalton, C. and B. Seidlhofer. 1994. Pronunciation. Oxford: Oxford University Press.

Dupoux, E., Pallier, C., Sebastián, N., & Mehler, J. (1997). A distressing deafness in French? *Journal of Memory and Language,* **36**.

El-isa, S. (1982) Ph.D. A Study of Dynamic Features in Irta:-Hi spoken Arabic with particular reference to stress, and intonation, Faculty of arts of the University of Glasgow.

Elnaji, E.D. (2007) unpublished Ph.D., entitled The English Pronunciation Problems Encountered by Sudanese Secondary School Students and teachers A Comparison

Between Spine6 and Headway Intermediate, Islamic University of Omdurman.

Fajobi, E.O.(2008) Ph.D. The Impact Of Yoruba Prosody OnThe Intonation Of Nigerian English University Of Sussex.

Fattash,M. (2000) Ph.D. The Problem of English Curriculum Design At An-Najah National University, Sudan University of Science and Technology.

Flege, J. E. (1995). Second language speech learning: Theory, findings and problems. In W. Strange (Ed.), *Speech perception and linguistic experience: Theoretical and methodological issues in cross-language research* (pp.). Timonium, MD: York Press.

Fromkin, V. Rodman, R. Hyams, N. (2003) An Introduction to Language, 7th Ed. Wadsworth, United States.

Fur, H.I. (2011) unpublished M.A, entitled Arabic and Persian Sounds In Frame work of Contrastive and Applied Linguistics Al-Neelain University. (written in Arabic language)

Gillbert, J.B. (2008) Teaching Pronunciation using the Prosody Pyramid, Cambridge University Press, Cambridge.

Gillian, B. 1990. Listening to Spoken English. Harlow: Longman.

Gimson, A.G. (1967), An Introduction to the Pronunciation of English, Bristol, T.W. Arrowsmith Ltd.

Gussenhoven, C. (2002). Intonation and interpretation: Phonetics and phonology. In B. Bel & I. Marlin (Eds.), *Proceedings of the Speech Prosody 2002 Conference* (pp.). Aixen- Provence: Laboratoire Parole et Langage.

Gussenhoven, C. (2004). The Phonology of Tone and Intonation, Cambridge, Cambridge University Press.

Gutierrez Díez, F. (2001) Estudio acústico de la entonación de enunciados con la function de acuerdo y reserva en inglés y catalán. *Estudios de Fonética Experimental* (vol 11) Barcelona: Universidad de Barcelona.

Halliday, M.A.K. (1994) An Introduction to Functional Grammar. Arnold, London.

Halliday, M.A.K. and Greaves, W. (2008) Intonation in The Grammar of English.Equinox, London.

Harley, T. (2005) The Psychology of Language From Data to Theory 2nd Ed. Hove and New York, Taylor & Francis e-Library

Harmer, J. (2002) The Practice of English Language Teaching, 3rd ed. Pearson Education Limited, Malaysia.

Hellmuth, S.J. (2006)Ph.D. Intonational pitch accent distribution in Egyptian Arabic, University of London

Hewings, M. J. (1993), Ph.D. entitled The English Intonation Of Non-Native Speakers, University of Birmingham.

Huang, T. (2001). Tone perception by speakers of Mandarin Chinese and American English. *Ohio State University Working Papers in Linguistics*.

Hyman, L. 2001"Tone systems". In Martin Haspelmath, Ekkehard Konig, Wulf Oesterreicher and Wolfgang Raible, eds. *Language Typology and Language Universals: An International Handbook*. Berlin, New York: Walter de Gruyter, 1367–80: 1368

Jackson, H. (1982) Analyzing English, Introduction to Descriptive linguistics, 2nd ed. Pergaman Press, Germany.

Jenkins, J. 1998. 'Which pronunciation norms and models for English as an International Language?' ELT Journal 52/2: 119–126.

Kilpatrick, E.B. (1979) Partial M.A. preliminary Phonology of the Bongo Language, University of Khatoum

Kuo, C.L. (2008) Ph.D. entitled Interpreting Intonation in English-Chinese Spoken Language Translation, The University of Manchester.

Ladefoged, P. (2001), A course in phonetics, 4th ed. Heinle & Heinle, Boston.

Lecumberri, M.L.G. (1995) Ph.D., Intonational Signalling of Information Structure in English and Spanish, University of London

Lee, Y.S., Vakoch, D., & Wurm, L. (1996). Tone perception in Cantonese and Mandarin: A cross-linguistic comparison. *Journal of Psycholinguistic Research*, **25**,

Lim, L. (2009) *English World-Wide* 30:2, 218–239. doi 10.1075/eww.30.2.06limissn 0172–8865 / e-issn 1569–9730 c John Benjamins Publishing Company:230

Mahadin, R. Jaradat, A. (2011) ***The Pragmatic Function Of Intonation In Irbid Dialect Acoustic Analysis Of Some Speech Acts*** *International Journal of Humanities and Social Science Vol. 1 No. 9 [Special Issue]*

Mallett, (2008) The primary English Encyclopedia, The Heart of the Curriculum, 3rd ed. Routledge, New York.

Morley, J. (1991) ÎThe Pronunciation Component in Teaching English to Speakers of Other Languagesâ. TESOL Quarterly 25/1 51-74.

Mukoshy, I.A. (1984) PhD, entitled The Sounds and Morphemes of Fulfude (An examination of Fulflude phonology and morphology) university of Khartoum.

Mustafa, M.H. (1979) Partial M.A. Phonology and plural formation in Maiak, University of Khartoum

Nancy, (2005) SPSS for Intermediate Statistics: Use and Interpretation,2nd ed. New Jersey, Lawrence Erlbaum Associates, Publishers.

O'Connor, J.D. (2008) Better English Pronunciation, 2nd ed. Cambridge University Press, Cambridge.

Ohala, J. (1983). Cross-language use of pitch: An ethological view. *Phonetica*, **40**.

Osama, E.O (2004) M.A. The interference of Arabic stress in speaking English language, Omdurman Islamic University.

Ouafeu (2006) in his paper entitled: Listing intonation in Cameroon English speech, *World Englishes*, Vol. 25, No. 3/4, pp. 491 500. Blackwell Publishing Ltd.

Palmer, E. (1924) English Intonation With systematic exercises, 2nd ed. W. Heffer and Sons, Cambridge.

Parker, R. and T. Graham. (2009) An Introduction to the Phonology of English for Teachers of ESOL. Revised Edition. Brighton: ELB.

Pike, K.L. (1972) General Characteristics of Intonation. In: *Intonation*, Dwight Bolinger (ed.), pp. 58–82. Penguin Books.

Pirt, G. (1990) Discourse intonation problems for non-native speakers. In M. Hewings (ed.) *Papers in Discourse Intonation*. Monograph 16, English Language Research, University of Birmingham.

Pisoni,D. B., Lively, S. E., & Logan, J. S. (1994). Perceptual learning of non-native speech contrasts: Implications for theories of speech perception. In J. C. Goodman & H. C.

Polka, L. (1995). Linguistic influences in adult perception of non-native vowel contrasts. *Journal of the Acoustical Society of America*, **97**(2)

Ramírez, D. (2006) A Study of Intonation Awareness and Learning in Non-native Speakers of English, Language Awareness Vol. 15, No. 3

Regerson, P. & Gilbert, J. B (2005) Speaking Clearly Pronunciation and Listening Comprehension for Learners of English, Cambridge, Cambridge University Press.

Roach, P. 2005, English phonetics and Phonology, 8th printing, Cambridge, Cambridge University Press: 15

Roca, I. Johnson, W.(2005)A Course in Phonology, 8th printing, Blackwell, Oxford.

Rogerson, P. (2011) English Phonology and Pronunciation Teaching, Chennai, Continuum International publishing group.

Setter, J. Stojanovik, V. Martínez-Castilla, P. (2010)*International Journal of Applied Linguistics*, Nov2010, Vol. 20 Issue 3, p368-385, 18p, 3 Charts; DOI: 10.1111/j.1473-4192.2010.00253.x

Snow, D. (1995) Formal regularity of the falling tone in children's early meaningful speech. *Journal of Phonetics* 23,

Snow, D. (2006) Regression and Reorganization of Intonation Between 6 and 23 Months Child Development, March/April 2006, Volume 77, Number 2, Pages 281 – 296

Snow, D. and Balog, H. (2002) Do children produce the melody before the words? A review of developmental intonation research. *Lingua* 112.

Soltani, M.A.(2007),contrastive analysis of English- Persian Intonation-available at Http://www.isba.ir/e-book/soltani

Spratt, M. Pulverness, A. Williams, M. (2010) 8th p. The TKT Teaching Knowledge Test Course. Cambridge, Cambridge University Press:14

Stibbard, Richard **(**1998**)*Teaching English Intonation with a Visual Display of Fundamental Frequency*** The Internet TESL Journal, Vol. IV, No. 1, January 1998 http://www.hkbu.edu.hk/~stibbard/, Hong Kong Baptist University http://iteslj.org/

Tench, P. (1996) *The Intonation Systems of English*. London: Cassell. Werker, J. F., & Tees, R. C. (1992). The organization and reorganization

of human speech perception. In M. Cowan (Ed.), *Annual Review of Neuroscience*, **15**,

Yip, M. (2002) *Tone*. Cambridge: Cambridge University Press.

Jong, K. and Zawaydeh, B.A. (1999) ***Stress, Duration, And Intonation In Arabic Word-Level Prosody***, Journal of Phonetics Vol. **27**/1: 3-22 January 1999. Article No. jpho.1998.0088 Available online at http://www.idealibrary.com

Yeou, M. Embarki, M. and Al-Maqtari, (2007) S. ***Contrastive Focus And F0 Patterns In Three Arabic Dialects*** *Nouveaux cahier s de linguistique française 28, 317-326.*available online at, http://www.isle.illinois.edu/speechprosody2010/papers/100445.pdf

Yokwe, E.M. (1978) M.A. Bari language , University of Khartoum.

المراجع العربية:

- أبو حطب، فؤاد وآخرون مناهج، مناهج البحث وطرق التحليل الإحصائي في العلوم النفسية والتربوية والإجتماعية، الأنجلو المصرية، القاهرة 1991م.

- الاغا، إحسان وآخرون، البحث التربوي (مناهجه- عناصره-أدواته)مطبعة مقداد، فلسطين، 1999م.

- شفيق، محمد/ البحث العلمي والخطوات المنهجية لإعداد البحوث الإجتماعية، المكتب الجامعي، الإسكندرية، 1996م.

Appendices

Appendix (1)

Total pre-receptive test scores

Percent	Frequency	Scores	
2.2	2	4.00	Valid
2.2	2	5.00	
3.3	3	6.00	
6.5	6	7.00	
16.3	15	8.00	
20.7	19	9.00	
9.8	9	10.00	
14.1	13	11.00	
14.1	13	12.00	
5.4	5	13.00	
1.1	1	14.00	
1.1	1	15.00	
2.2	2	17.00	
1.1	1	19.00	
100.0	92	Total	

Appendix (2)

Total post receptive -test

Percent	Frequency	Scores	
1.1	1	7.00	Valid
2.2	2	8.00	
2.2	2	9.00	
2.2	2	10.00	
2.2	2	11.00	
8.7	8	12.00	
19.6	18	13.00	
12.0	11	14.00	
10.9	10	15.00	
9.8	9	16.00	
8.7	8	17.00	
5.4	5	18.00	
2.2	2	19.00	
1.1	1	20.00	
3.3	3	21.00	
1.1	1	22.00	
1.1	1	23.00	
3.3	3	27.00	
3.3	3	28.00	
100.0	92	Total	

Appendix (3)

Total pre- productive test

Cumulative Percent	Valid Percent	Percent	Frequency		
1.1	1.1	1.1	1	6	Valid
2.2	1.1	1.1	1	9	
5.4	3.3	3.2	3	10	
8.7	3.3	3.2	3	11	
15.2	6.5	6.5	6	12	
19.6	4.3	4.3	4	13	
23.9	4.3	4.3	4	14	
25.0	1.1	1.1	1	15	
30.4	5.4	5.4	5	16	
38.0	7.6	7.5	7	17	
50.0	12.0	11.8	11	18	
56.5	6.5	6.5	6	19	
64.1	7.6	7.5	7	20	
68.5	4.3	4.3	4	21	
79.3	10.9	10.8	10	22	
88.0	8.7	8.6	8	23	
91.3	3.3	3.2	3	24	
92.4	1.1	1.1	1	25	
93.5	1.1	1.1	1	26	
97.8	4.3	4.3	4	27	
98.9	1.1	1.1	1	28	
100.0	1.1	1.1	1	31.00	
	100.0	100.0	92	Total	

Appendix (4)

Total post productive test

Cumulative Percent	Valid Percent	Percent	Frequency		
1.1	1.1	1.1	1	22	Valid
2.2	1.1	1.1	1	24	
3.3	1.1	1.1	1	25	
6.5	3.3	3.2	3	26	
12.0	5.4	5.4	5	27	
22.8	10.9	10.8	10	28	
34.8	12.0	11.8	11	29	
47.8	13.0	12.9	12	30	
64.1	16.3	16.1	15	31.00	
78.3	14.1	14.0	13	32.00	
89.1	10.9	10.8	10	33.00	
97.8	8.7	8.6	8	34.00	
98.9	1.1	1.1	1	35.00	
100.0	1.1	1.1	1	36.00	
	100.0	100.0	92	Total	

Appendix (5)

Interviews

Dear doctor

Due to your outstanding reputation as a well known scholar, I would like you to be a referee for the following interviews. They were set to measure the following objective:

- To examine the degree of students' exposure to the English language, at Sudan University of science and technology.

I'm doing my Ph.D. in phonology under the title "The Impact of Intonation on students listening and speaking skills"

Your time and effort is appreciated.

Thank you very much.

Areig O.A. Mohamed

Research Student at SUST

- Questions of the two interviews

Teachers' interview

1. * To what extent are the students' exercises of listening activities enough to facilitate their acquisition of English language?
   * How actively do they participate in these activities?
2. * To what extent are the students' exercises of speaking activities enough to facilitate their acquisition of English language?
   * How actively do they participate in these activities?
3. * Do these activities include anything about supra-segmental features, specifically intonation?
   * If they do, do students regard them seriously as part of their acquisition of the language?
4. * Do students have any extra- curriculum activities, outside the classrooms, which include listening and speaking? If there are, what are they?
   * How much are they committed to do these activities?
   * Do you give them outside exercises, if you do what kind of exercises?
5. Do students have any contact with native speakers? Do students benefit from this? Illustrate?

   *What kind of language activities do they practice with the native speakers assigned by the university?

Students' interview

1. * To what extent are the exercises of listening activities enough to facilitate your acquisition of English language?

* How actively do you participate in these activities?

2. * To what extent are the exercises of speaking activities enough to facilitate your acquisition of English language?

* How actively do you participate in these activities?

3. * Do these activities include anything about supra-segmental features, specifically intonation?

* If they do, do you regard them seriously as part of your acquisition of the language?

4. * Do you have any extra- curriculum activities, outside the classrooms, which include listening and speaking? If there are, what are they?

* How much are you committed to do these activities?

5. Do you have any contact with native speakers? Do you benefit from this? Illustrate?

   * What kind of language activities do you practice with the native speakers assigned by the university?

6. What is your idea about the ten hour of intonation given to you?

* Is the material good?

* is it enough?

7. What do you think about Sudanese use of intonation in ordinary colloquial speech?

* How much do they use intonation?

* To what extent do they understand it?

* Do you think it is related to environment, education, culture, or social class?

Appendix (6)

Receptive and productive tests

Dear Doctor

Being an eminent scholar in your field I would like your helpful contribution to drive my research towards excellence through refereeing the tests attached.

I'm trying my hand at a Ph.D. in phonology under the title "The impact of intonation on students' listening and speaking skills." Your effort and time is appreciated. I would be most grateful.

Thank you very much.

Areig O.A. Mohamed

Research Student at SUST

Receptive test

* The words and sentences of this test are taken from Roach 2005. Students are going to listen to these sentences from the CD attached with the book.

Listen carefully to each section you hear while you are listening try to answer the following questions:

Question one: Identify the tone you hear by choosing the appropriate tone:

Words/ tones	Fall	Rise	Fall-rise	Rise-fall
One				
Two				
Three				
Four				
Five				
Six				
Now				
You				
More				
Us				

Question two:

What are the tones of the underlined tonic syllables of each of the following sentences choose the right tone:

Sentence / tone	Fall	Rise	Rise-fall
Now here's the wea<u>ther</u> forecast.			
You didn't say anything about <u>rates</u>.			
A few years ago they were <u>top</u>.			
No one could say the cinema was <u>dead</u>.			
Is there <u>any</u>thing you wouldn't eat.			
Have you ever considered <u>writ</u>ing.			
That was what he <u>clai</u>med to be.			
We try to do our shopping in the <u>market</u>.			
But I <u>never</u> go there now.			
It wouldn't be difficult to find <u>out</u>.			

Question three: Identify the tonic syllable in each of the following sentences by underling it:

1. We could go by bus.
2. Of course it's broken.
3. The car was where I'd left it.
4. How much is the biggest one.
5. I know it would go wrong.
6. It was too cold.
7. Here it is.
8. That was a loud noise.
9. We could go from Manchester.
10. Have you finished?

Productive test

These words and sentences are taken from Roach 2005 and Cruttenden, 1997. In this test the data is recorded.

Question one: Produce the following tones as transcribed:

1. Yes.	2. Yes.	3. Yes.ˇ	
4. Wellˇ.	5. Well.	6. Well.ˇ	
7. Noˆ.	8. No.	9. four.	10. Four.

Question two: Say the following sentences with the most appropriate tones:

1. The price is going up. (as a statement).
2. The price is going up? (as a question)
3. Did you park the car?
4. Where did you park the car?
5. They are coming on Tuesday aren't they? (certain)
6. They are coming on Tuesday aren't they? (uncertain)
7. Those who sold quickly made a profit. (**MEANING:** A profit was made by those who sold quickly.)
8. Those who sold quickly made a profit. (**MEANING:** A profit was made quickly by those who sold).
9. He can't see clearly. (One accent, one phrase.)
10. He can't see, clearly. (Two accents, two phrases.)

Question three: Say the following sentences concentration on the tonic syllable

1. We could go by bus.	2. Of course it's broken.
3. The car was where I'd left it.	4. How much is the biggest one.
5. I know it would go wrong.	6. It was too cold.
7. Here it is.	8. That was a loud noise.
9. We could go from Manchester.	10. Have you finished?

Appendix (7)

Referees

The Tests' Referees

1. Dr. Mahmoud Ali Ahmed: Associate professor at college of language, Sudan University of Science and Technology.

2. Dr. Mohamed Eltayeb: Assistant professor at college of language, Sudan University of Science and Technology. Registrar of the college

3. Dr. Nada Sid Ahmed Eljack: Assistant professor at college of language, Sudan University of Science and Technology. Head of Requirement Department.

4. Ahmed Abdelrajman Donna: Assistant professor at college of language, Sudan University of Science and Technology, Head of translation department.

5. Dr. Maha Abdu Aldaui: Assistant professor at college of linguistics, university of Khartoum, head of linguistics department.

6. Dr. Abeer Mohamed Ali Bashir: Assistant professor at college of linguistics, University of Khartoum, as well as dean of Chinese institute at University of Khartoum,

The Interviews' Referees

1. Dr. Mahmoud Ali Ahmed: Associate professor at college of language, Sudan University of Science and Technology.

2. Dr. Mohamed Eltayeb: Assistant professor at college of language, Sudan University of Science and Technology. Registrar of the college

3. Dr. Nada Sid Ahmed Eljack: Assistant professor at college of language, Sudan University of Science and Technology, Head of Requirements Department.

4. Ahmed Abdelrajman Donna: Assistant professor at college of language, Sudan University of Science and Technology, Head of translation department.

Appendix (8)

Example sheets for correcting the productive test

First Question: Words

Second Question: Sentences

Third Question: Tonic syllable

Appendix (9)

The SCA sentences the student said:

1. muna mashet 3suq” as a statement. {Muna went to the market}

منى مشت السوق.

2. muna mashet 3suq?” as a question { Muna went to the market?}

منى مشت السوق؟

3. ni7na masheen 3ri7la mush kida (certain){We are going on a trip, aren’t we?}

نحنا ماشين الرحلة مش كدة؟(متأكد)

4. ni7na masheen 3ri7la mush kida (uncertain){We are going on a trip, aren’t we?}

نحنا ماشين الرحلة مش كدة؟ (غير متأكد)

5. jeet min 3jam?a hasi {Did you return now from university?}

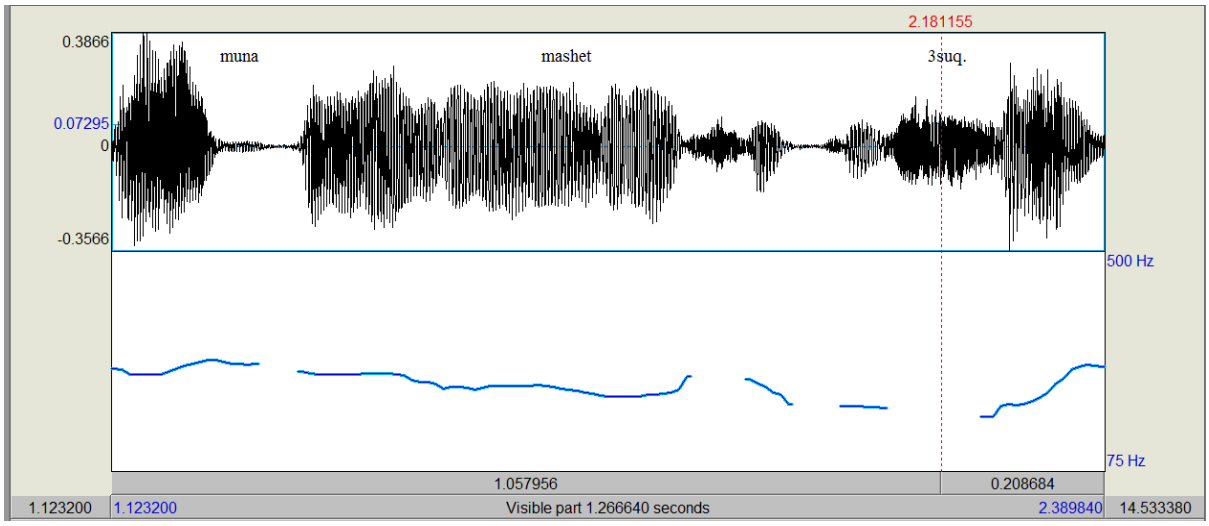
جيت من الجامعة هسي؟

6. mitein jeet min 3jam?a {When did you return from university?}

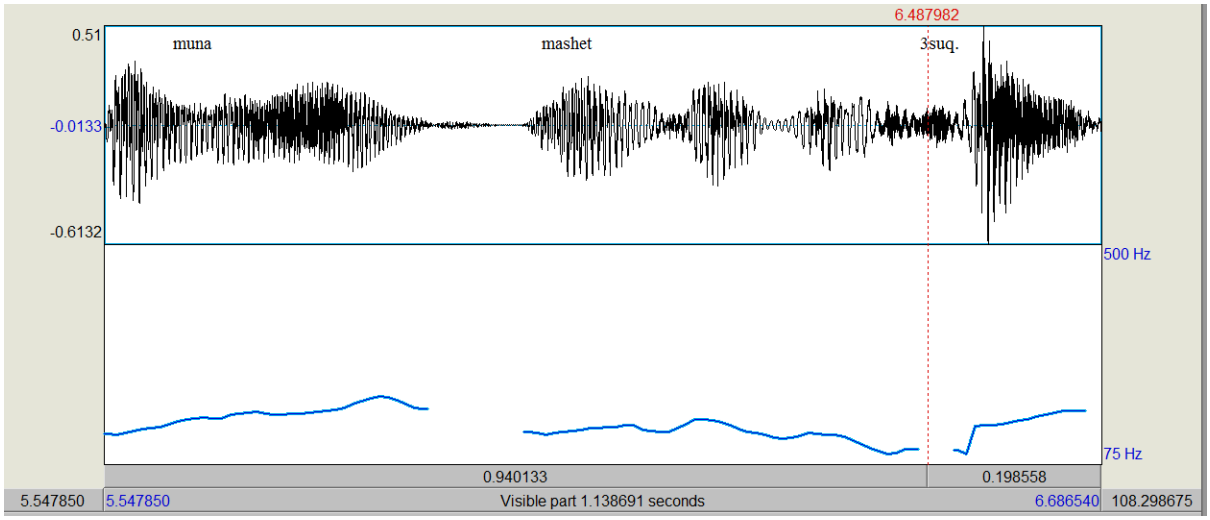
متين جيت من الجامعة؟

Appendix (10)

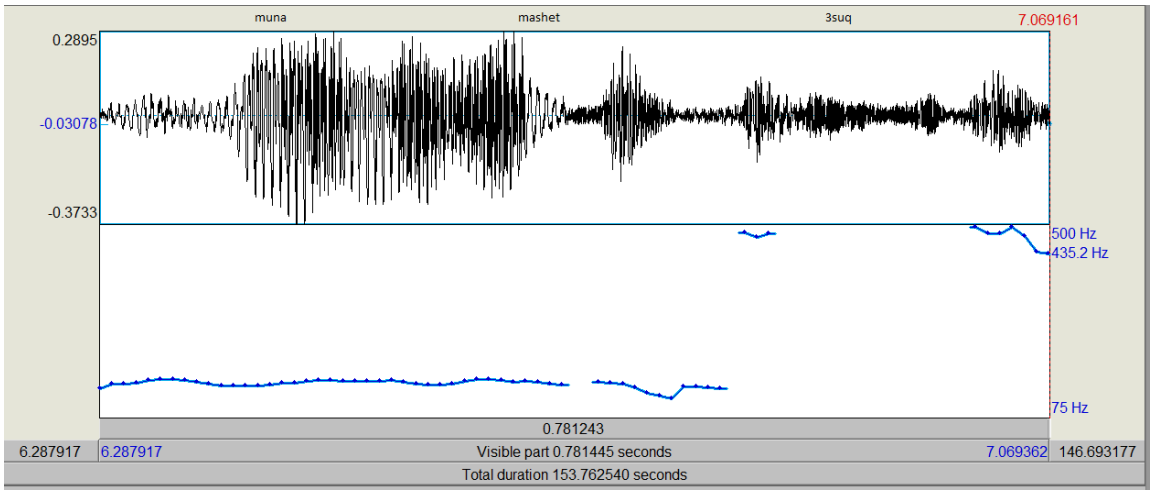
The diagrams of the First sentence: muna mashet 3suq.(statement) {Muna went to the market.}



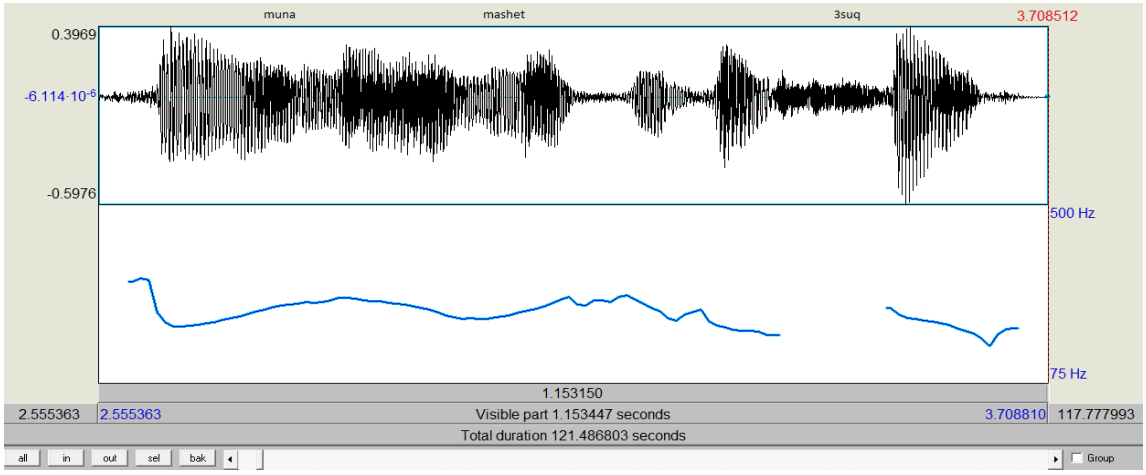
1st student 1st sentence



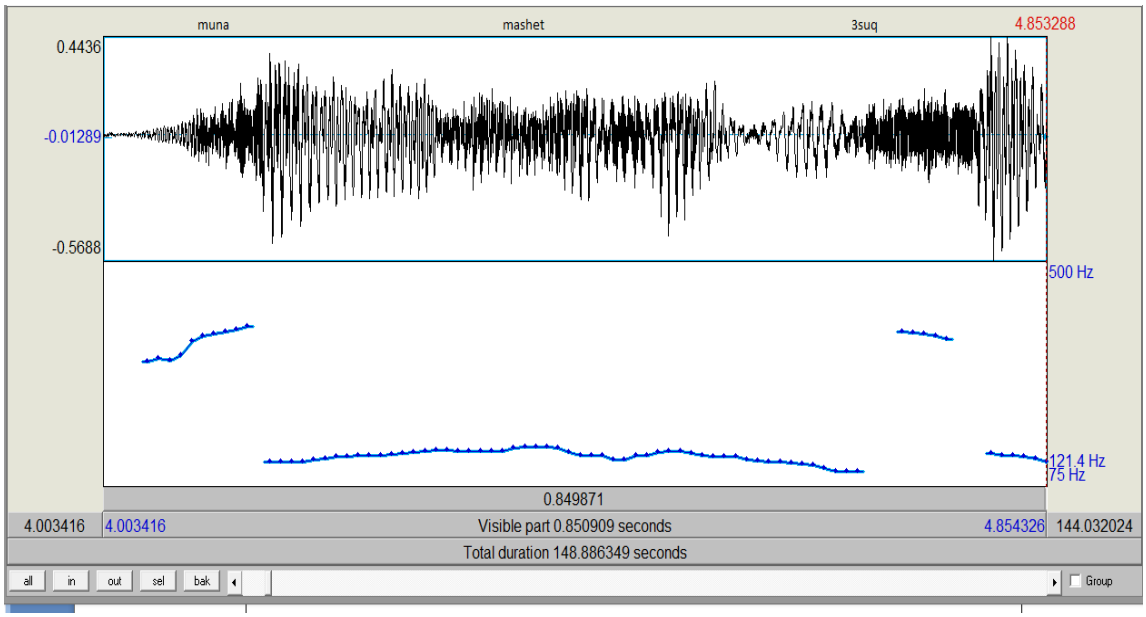
2nd student 1st sentence



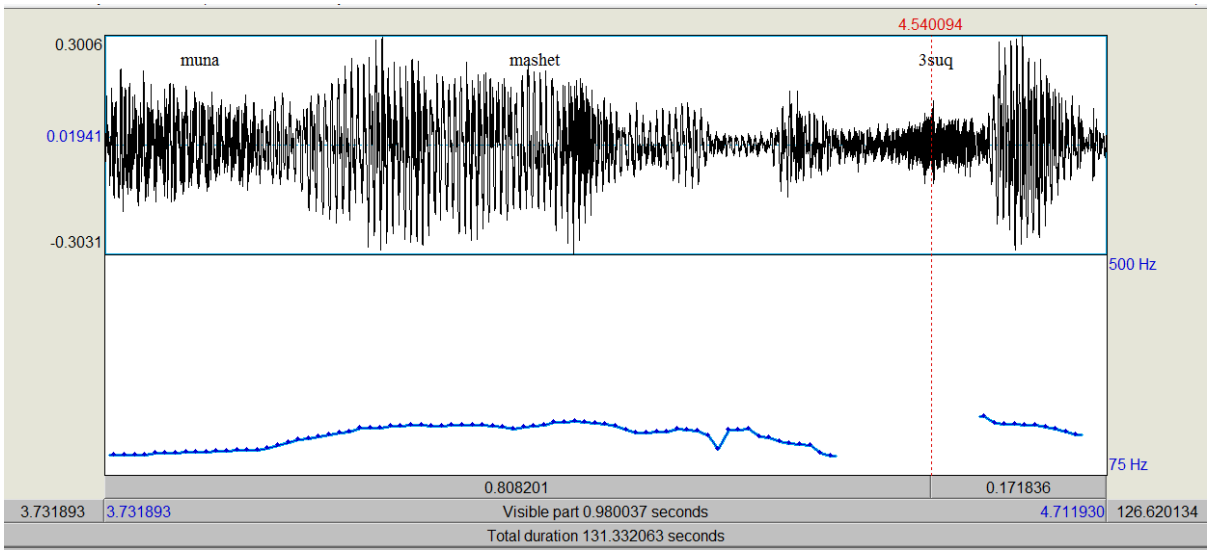
3rd student 1st sentence



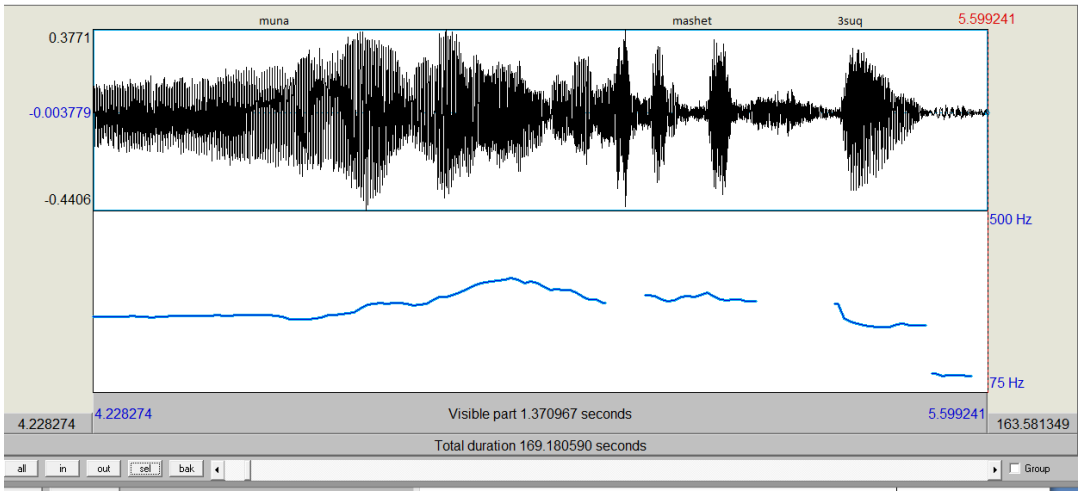
4th student 1st sentence



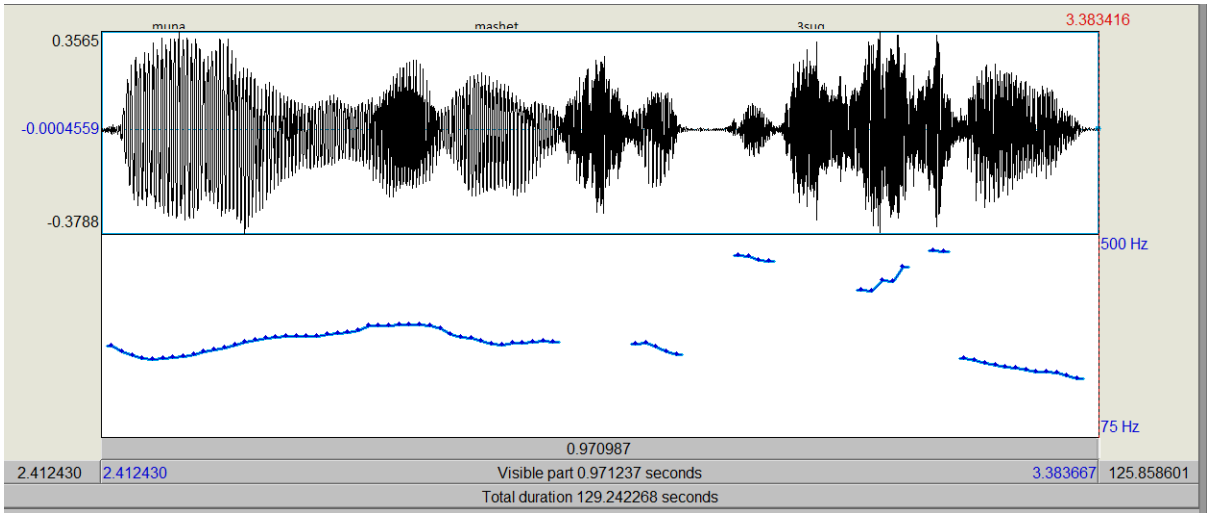
5th student 1st sentence



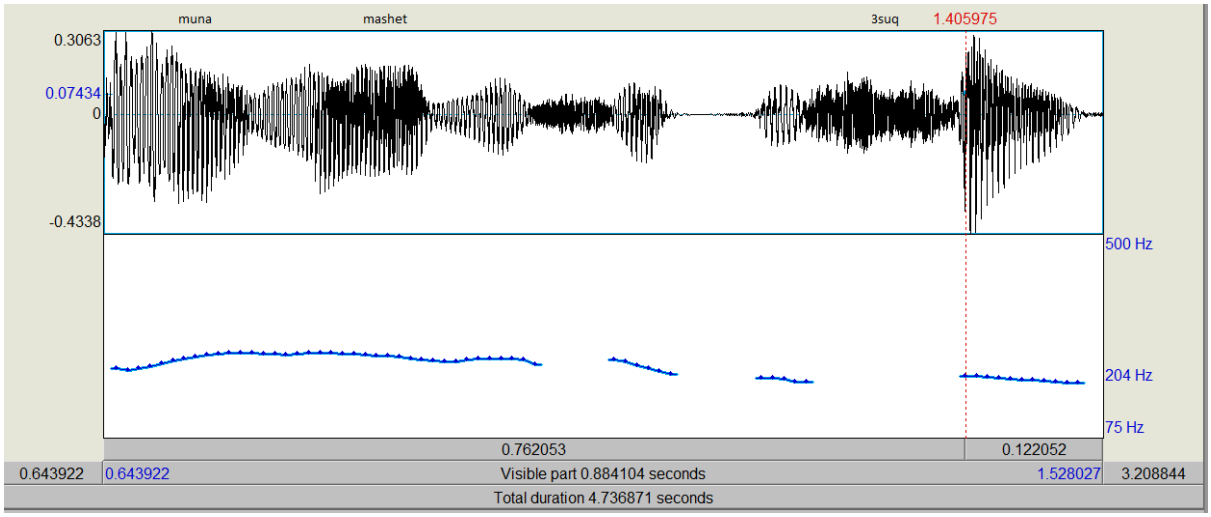
6th student 1st sentence



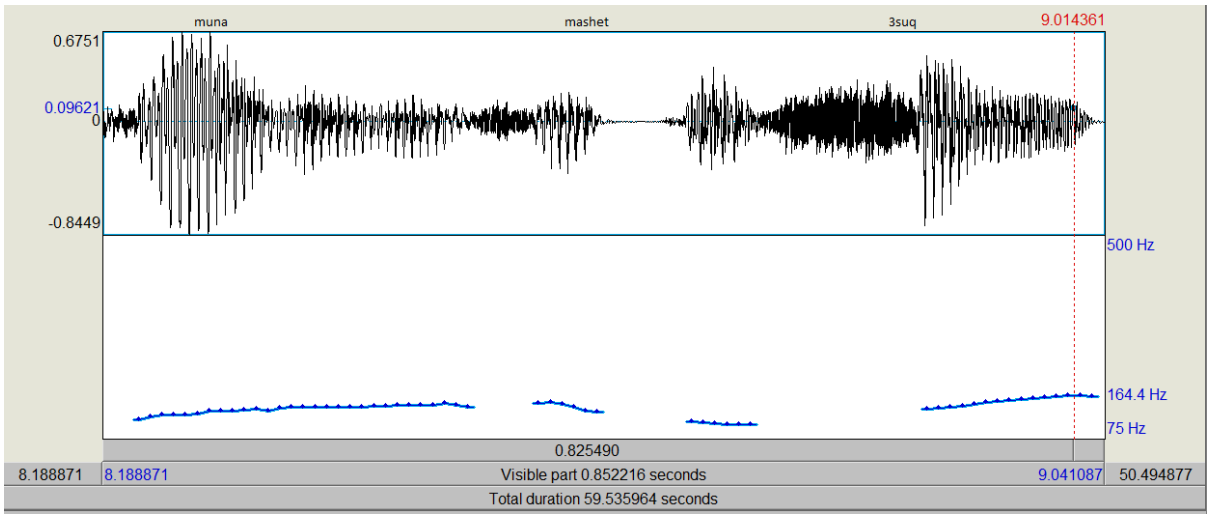
7th student 1st sentence



8th student 1st sentence



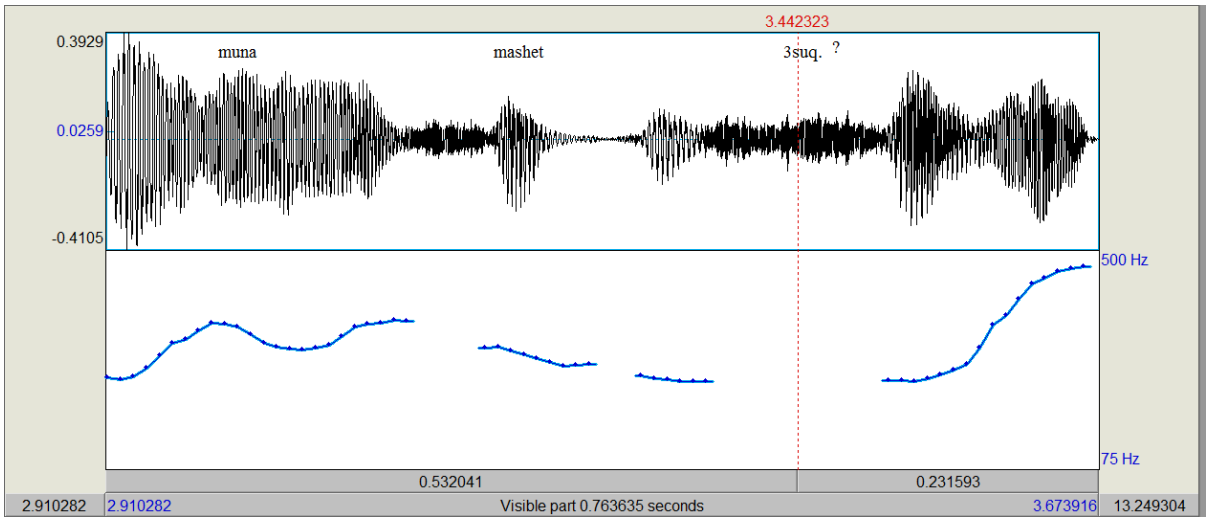
9^{th} student 1^{st} sentence



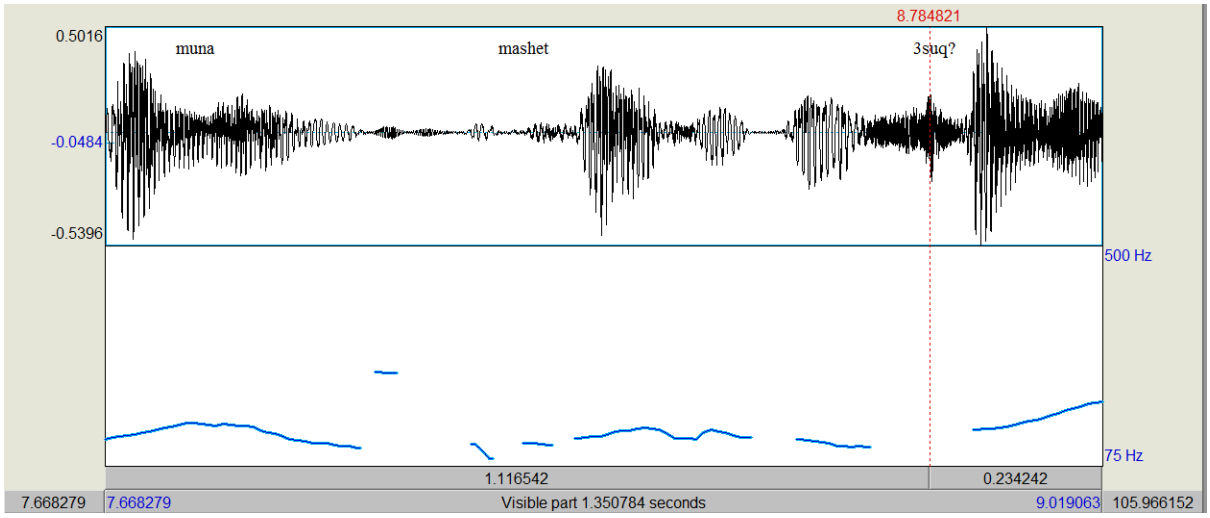
10^{th} student 1^{st} sentence

Appendix (11)

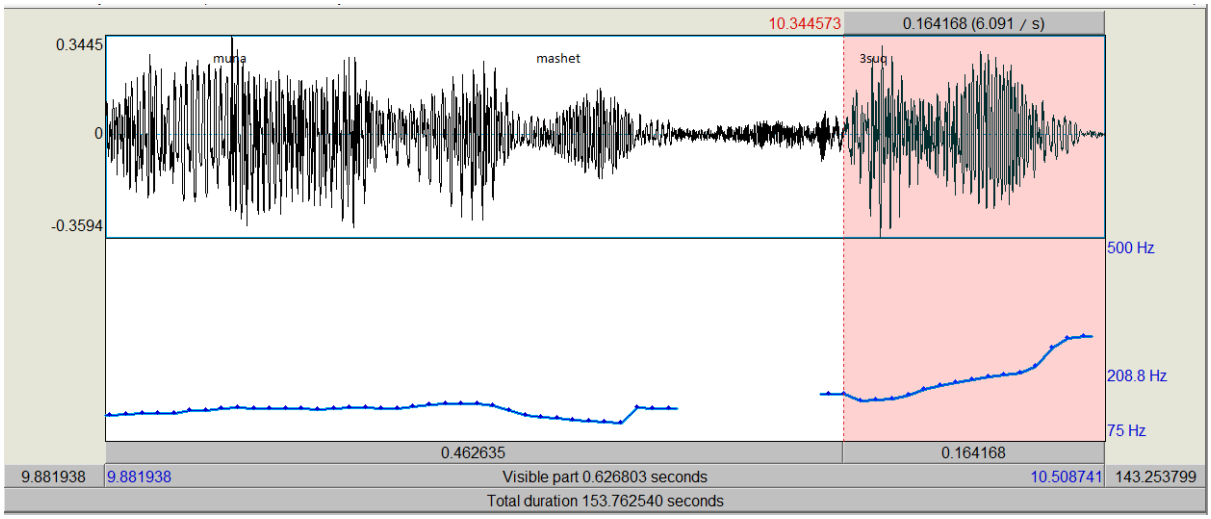
The diagrams of the Second sentence: muna mashet 3suq? (Question){ Muna went to the market?}



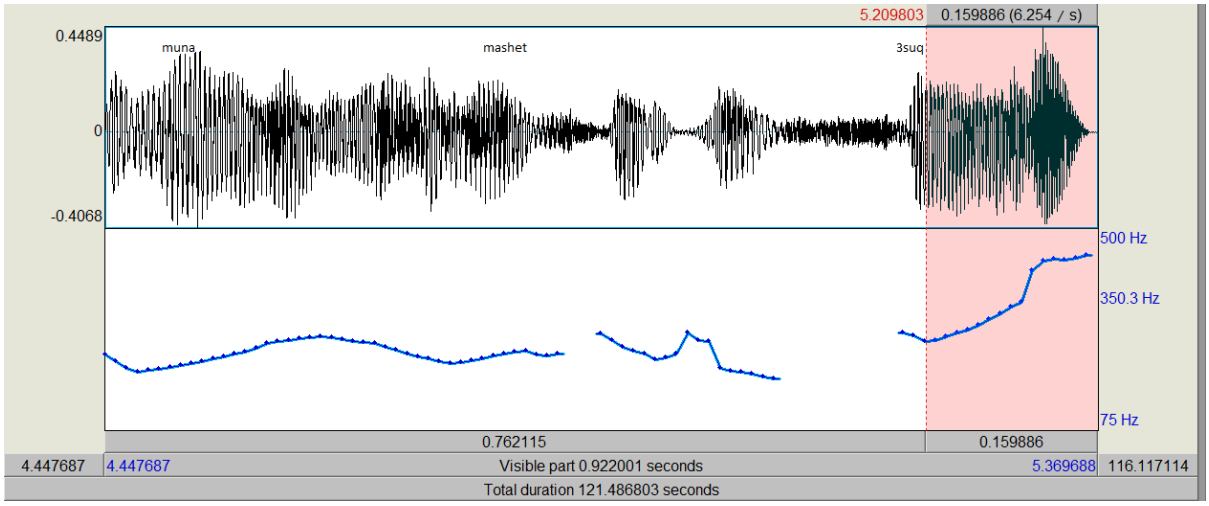
1st student 2nd sentence



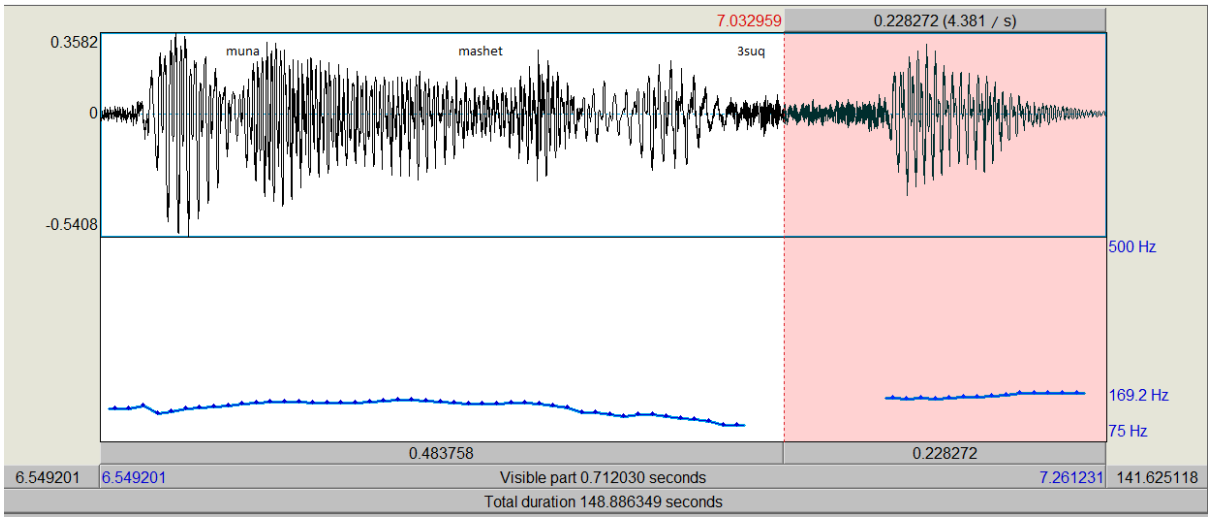
2nd student 2nd sentence



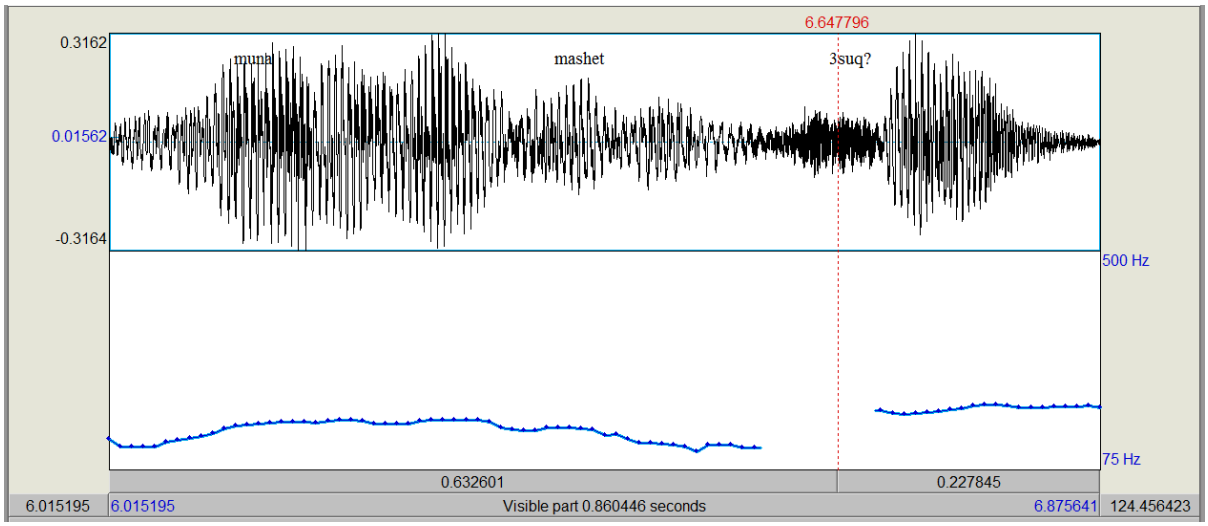
3rd student 2nd sentence



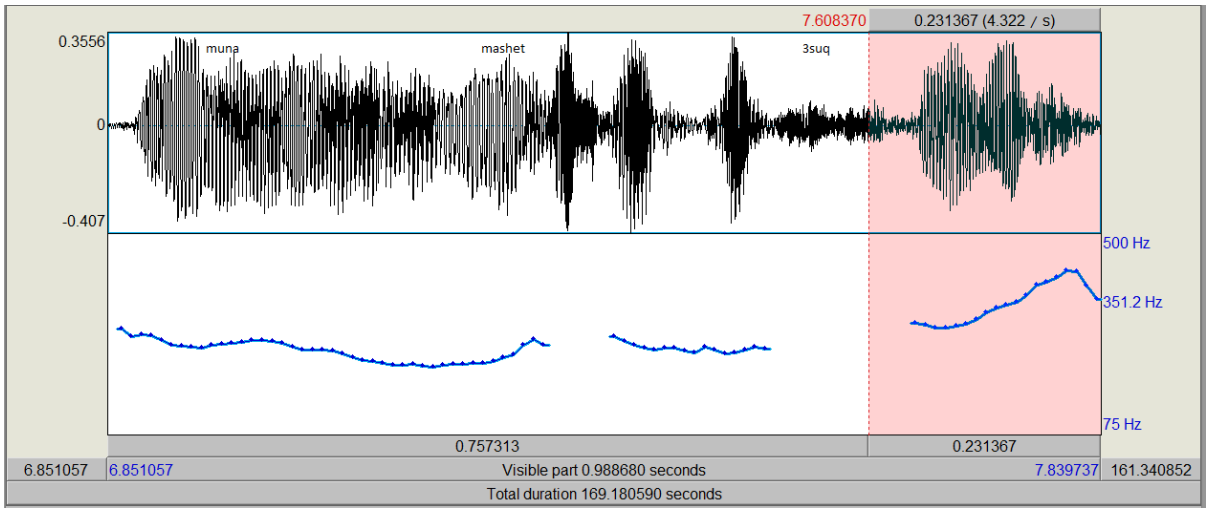
4th student 2nd sentence



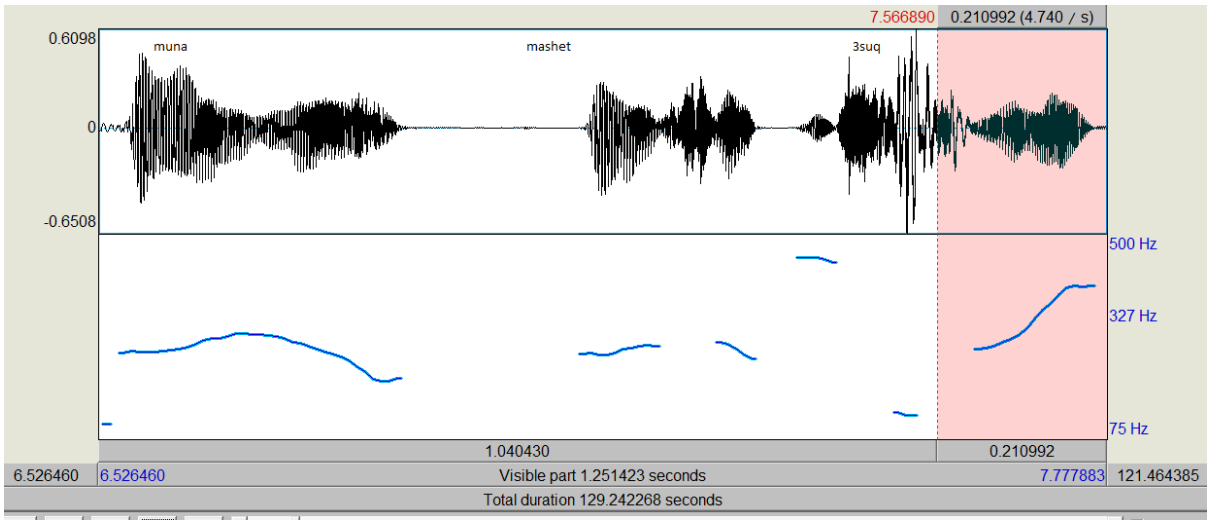
5th student 2nd sentence



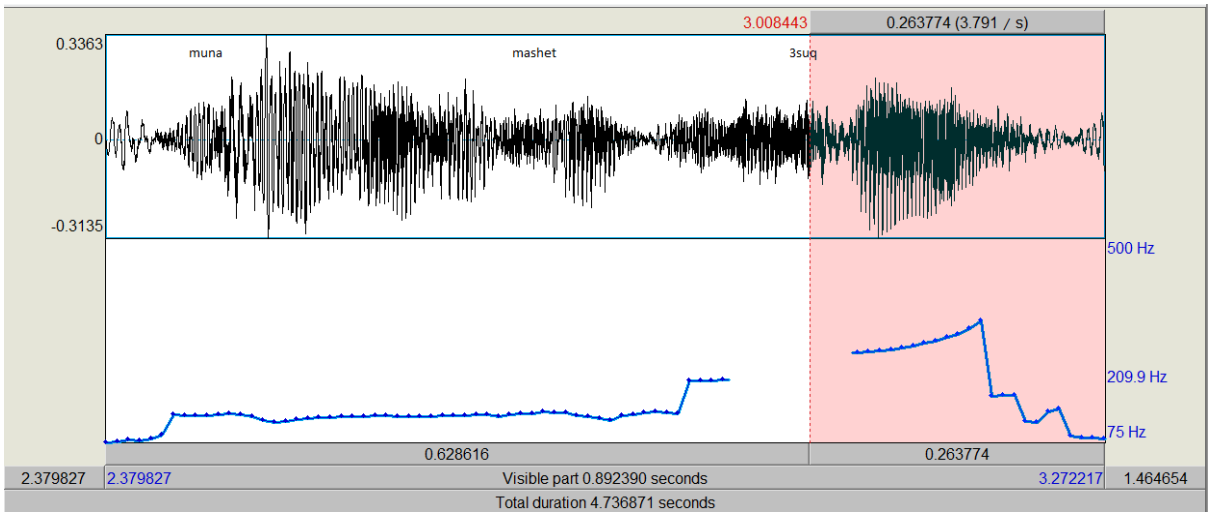
6^{th} student 2^{nd} sentence



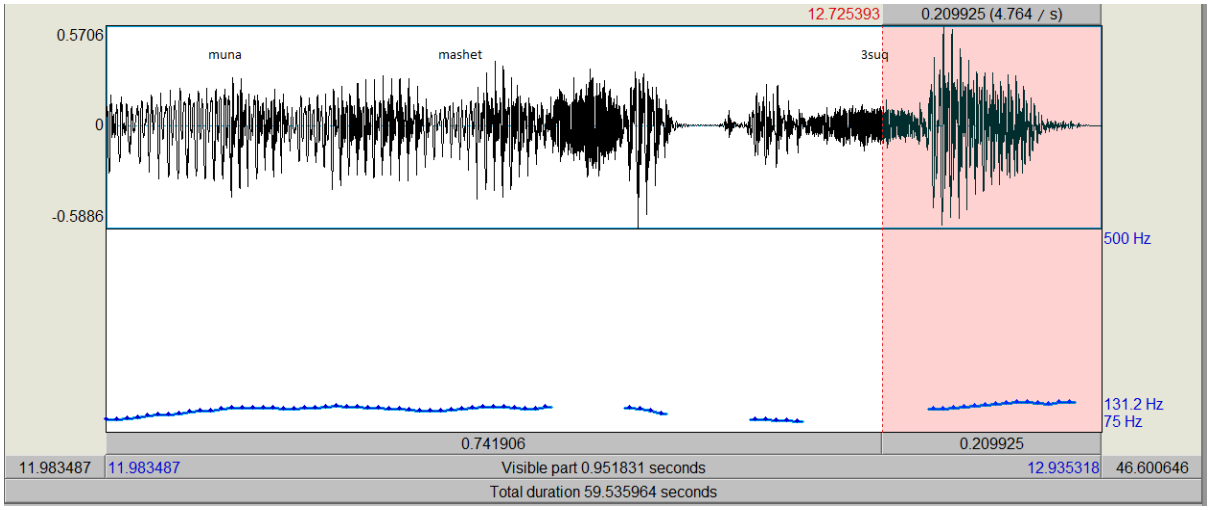
7^{th} student 2^{nd} sentence



8^{th} student 2^{nd} sentence



9^{th} student 2^{nd} sentence

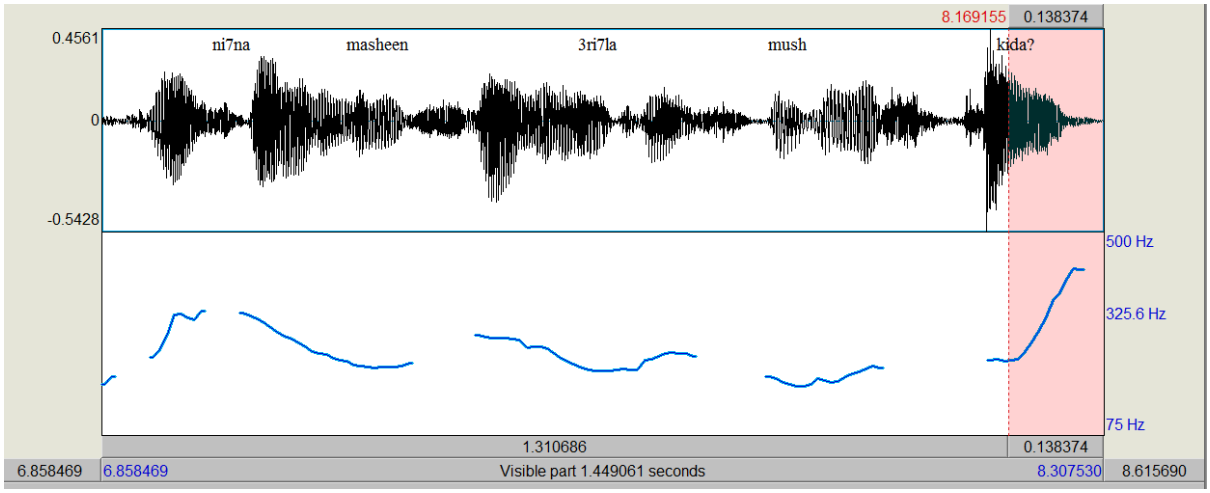


10^{th} student 2^{nd} sentence

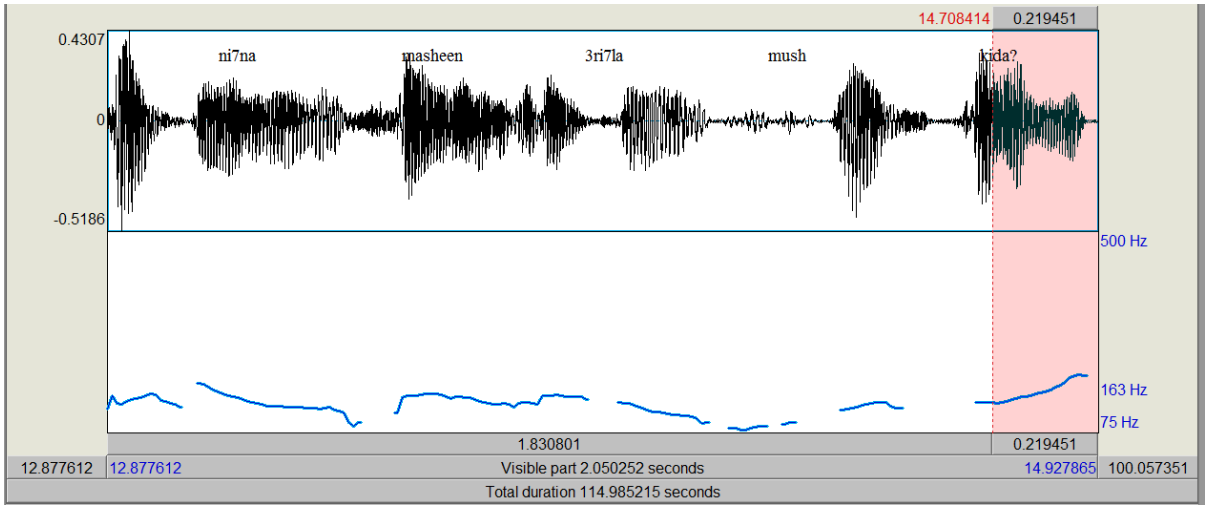
Appendix (12)

The diagrams of the Third sentence: ni7na masheen 3ri7la mush kida?

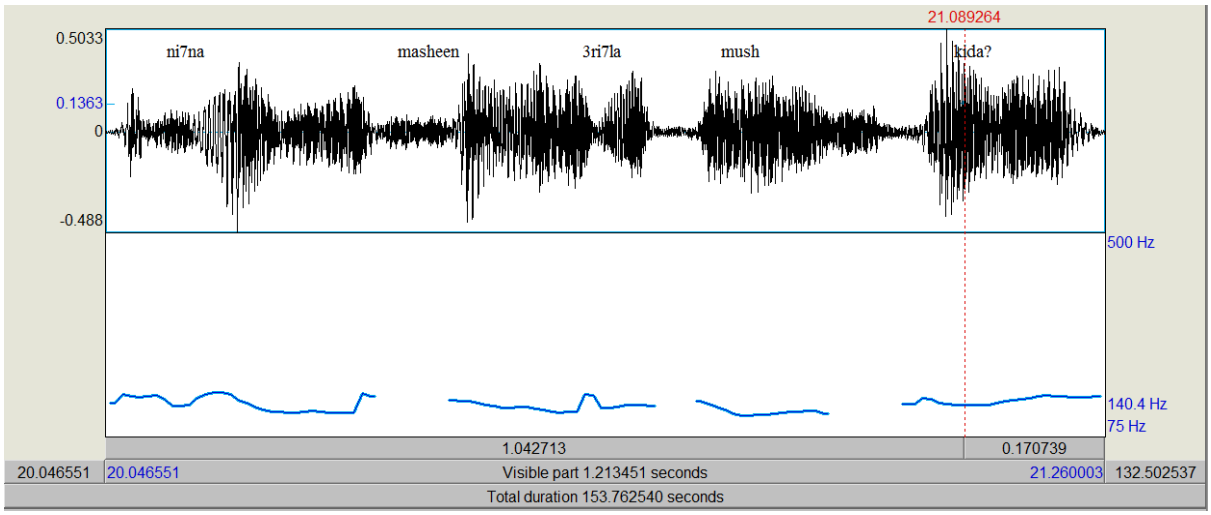
(certain){We are going on a trip, aren't we?}



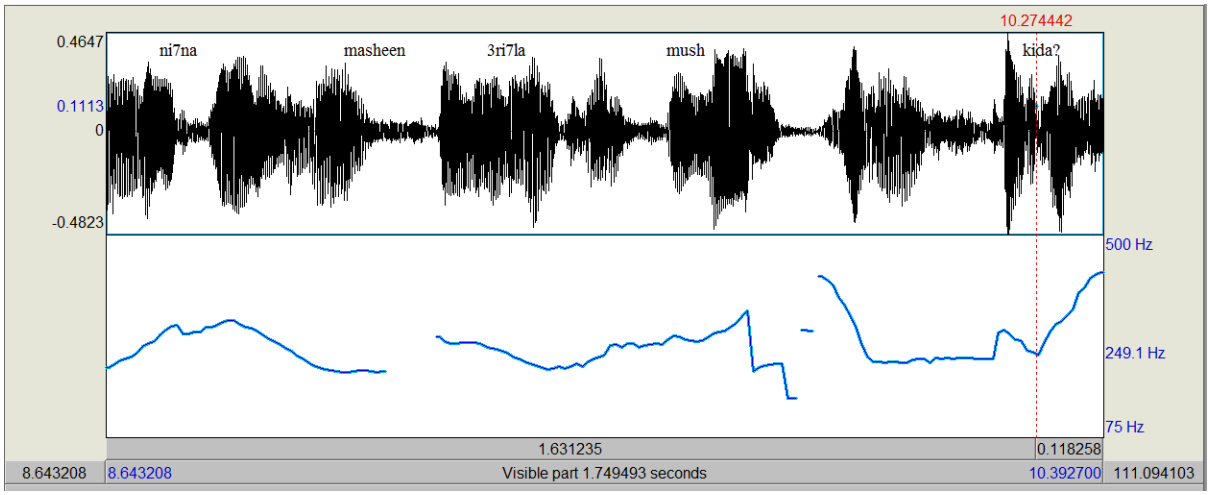
1st student 3rd sentence



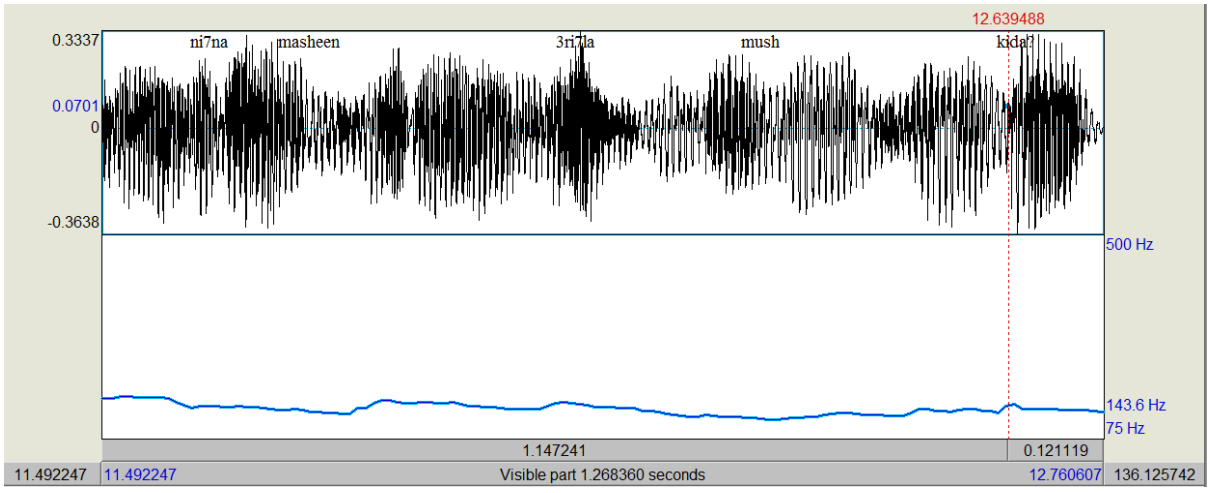
2nd student 3rd sentence



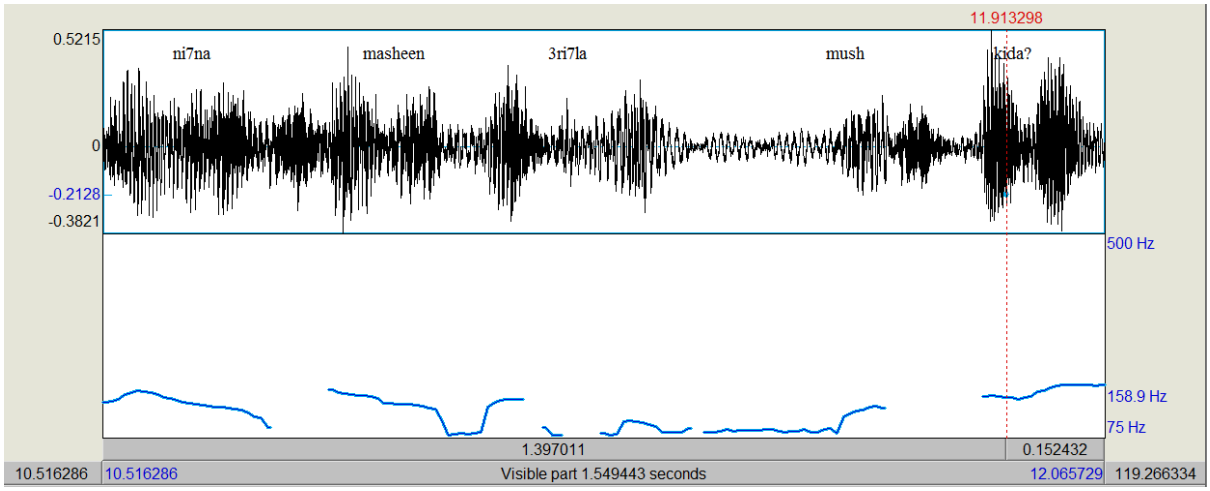
3rd student 3rd sentence



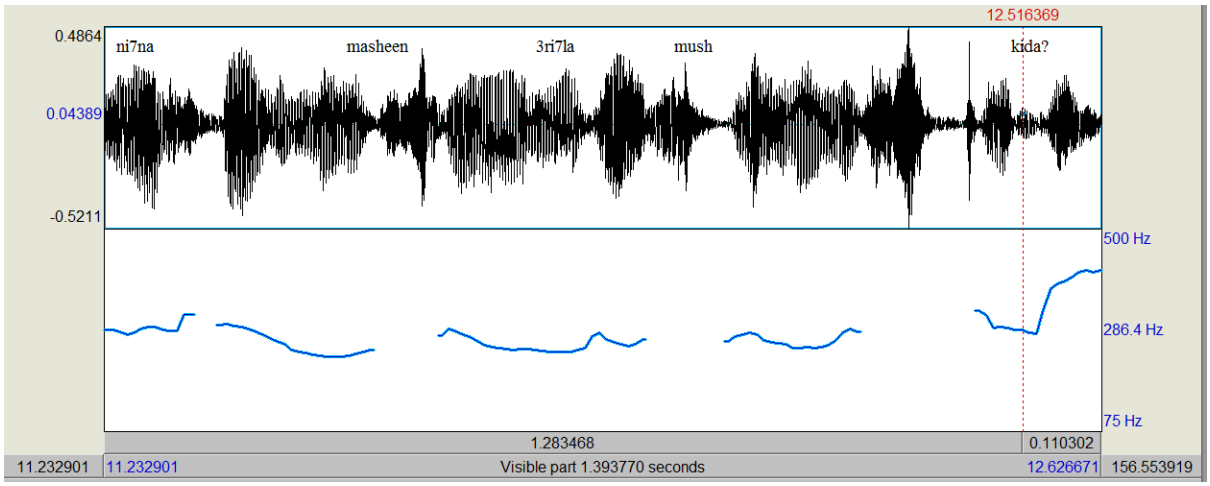
4th student 3rd sentence



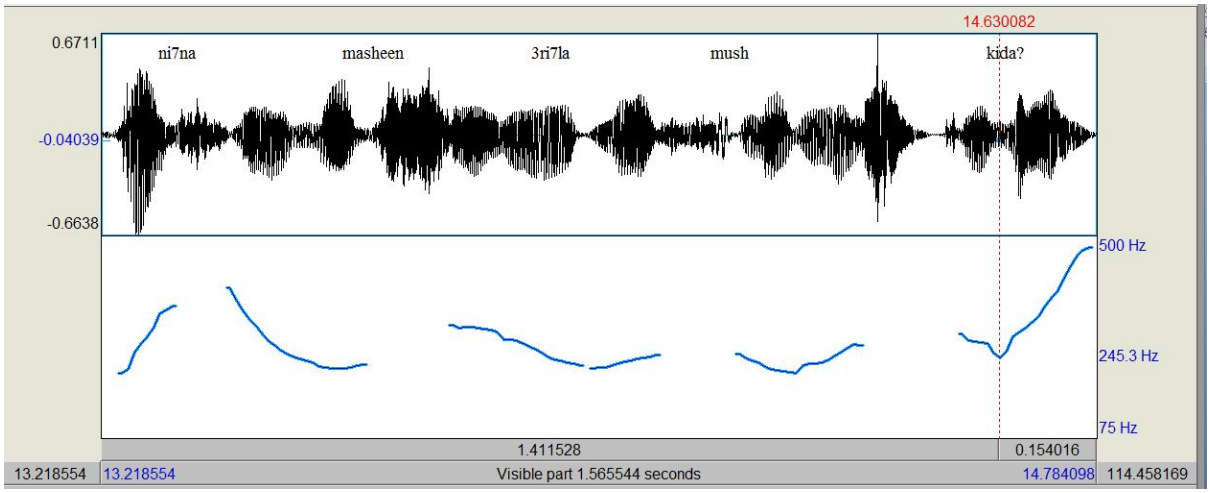
5th student 3rd sentence



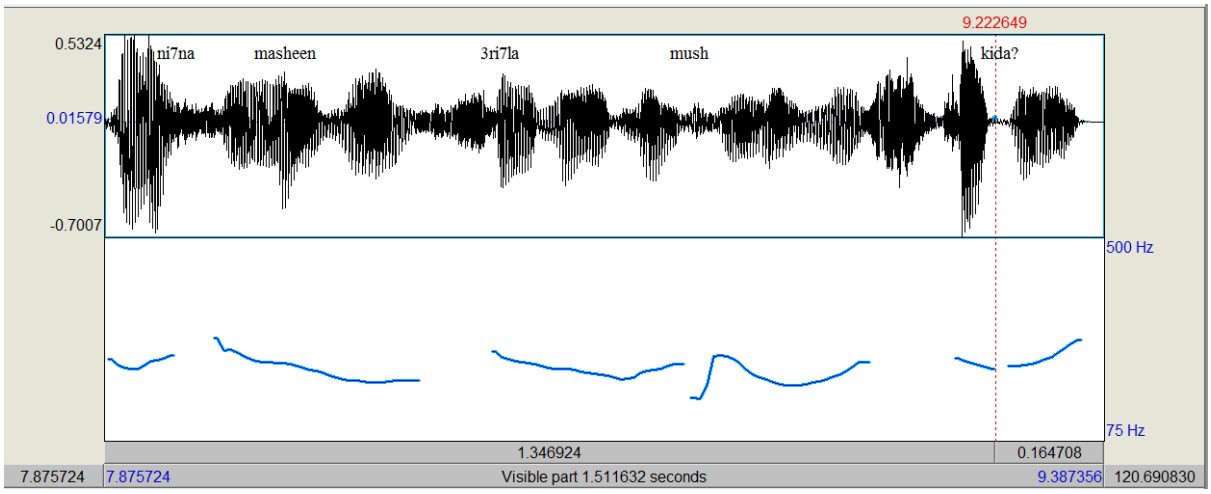
6th student 3rd sentence



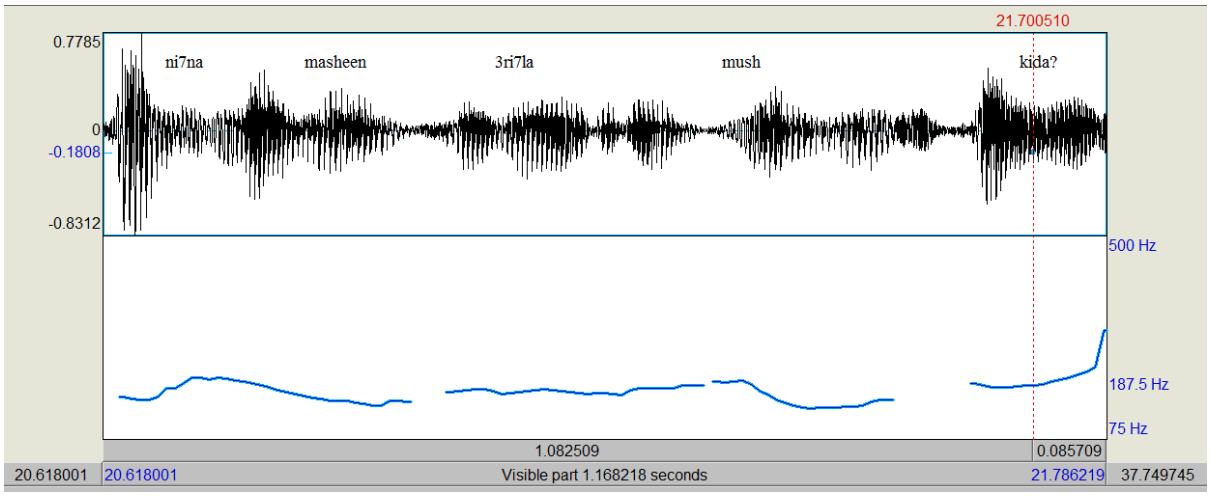
7th student 3rd sentence



8th student 3rd sentence



9^{th} student 3^{rd} sentence

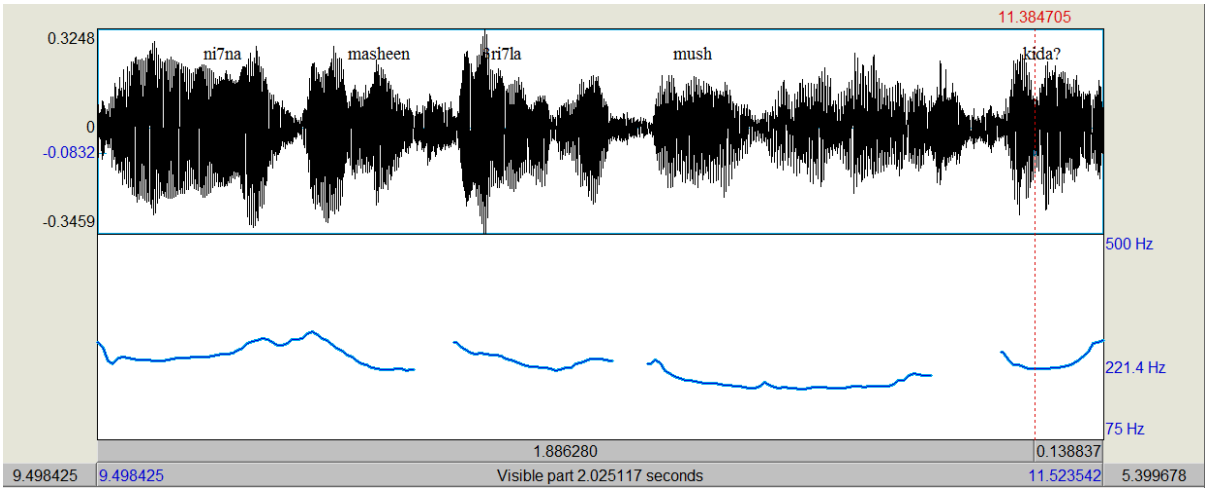


10^{th} student 3^{rd} sentence

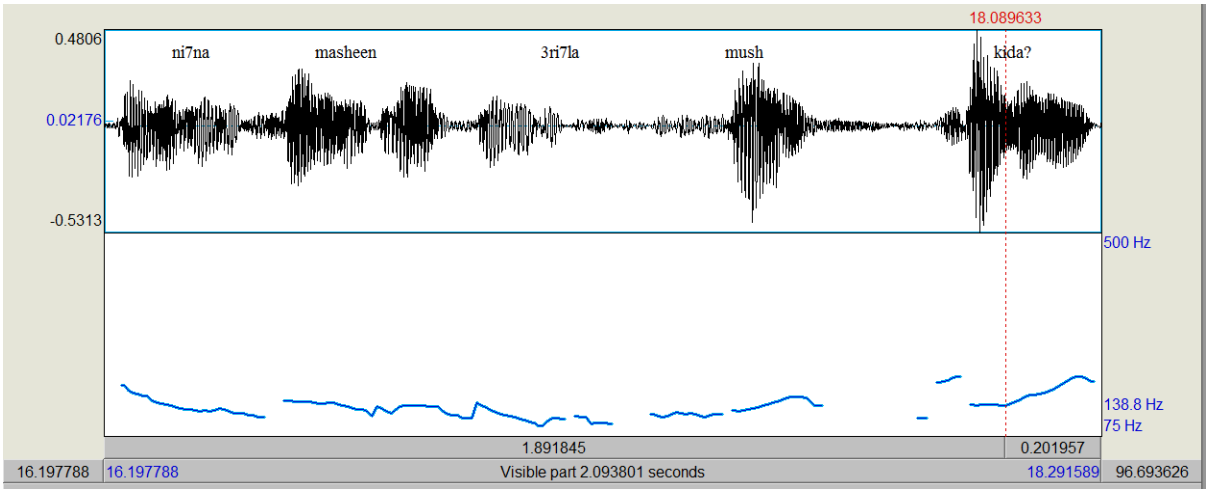
Appendix (13)

The diagrams of the Fourth sentence: ni7na masheen 3ri7la mush kida?

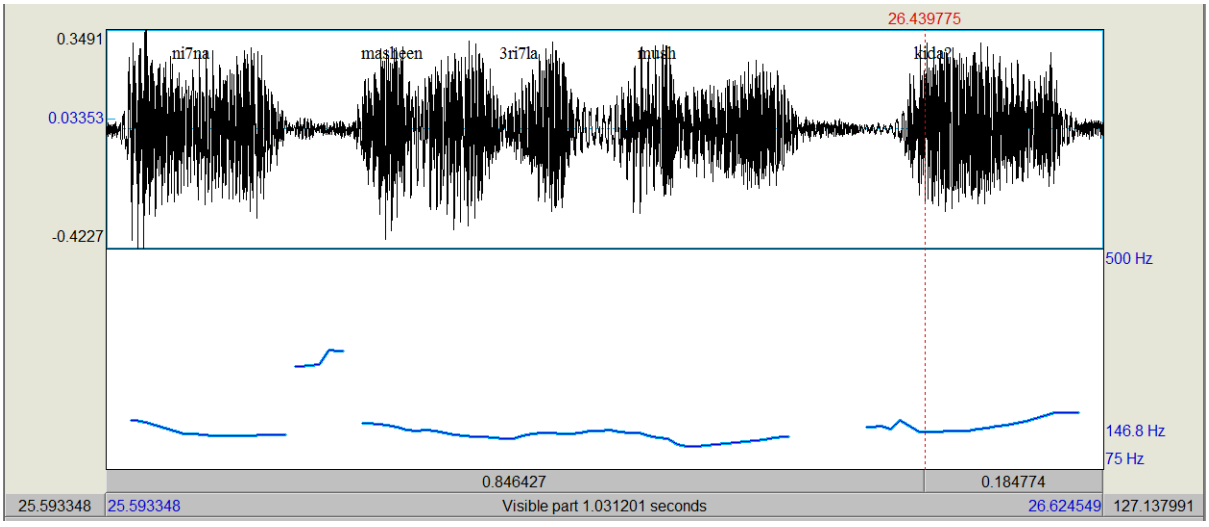
(uncertain){We are going on a trip, aren't we?}



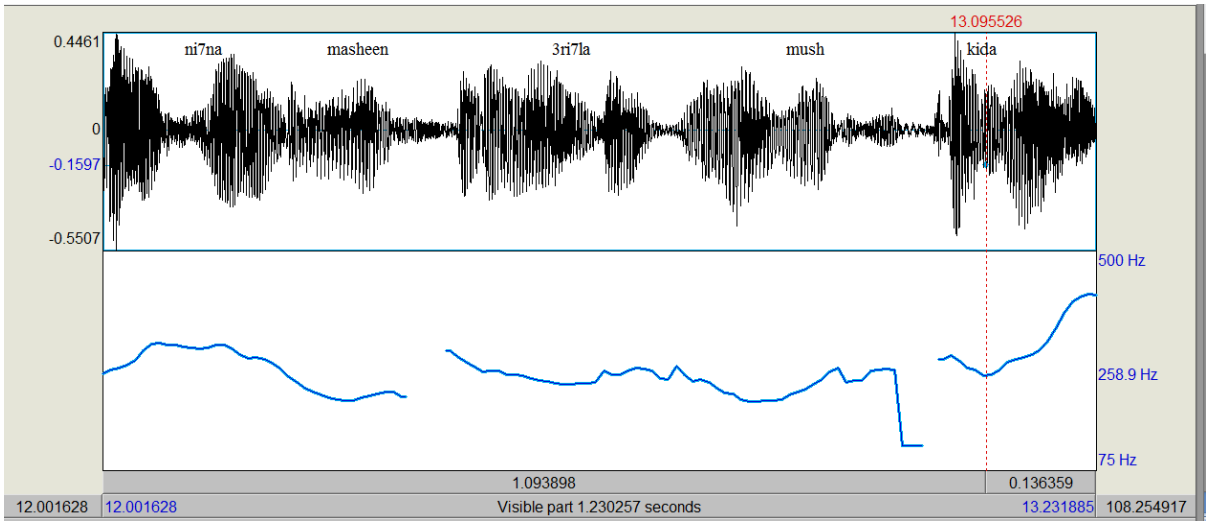
1st student 4th sentence



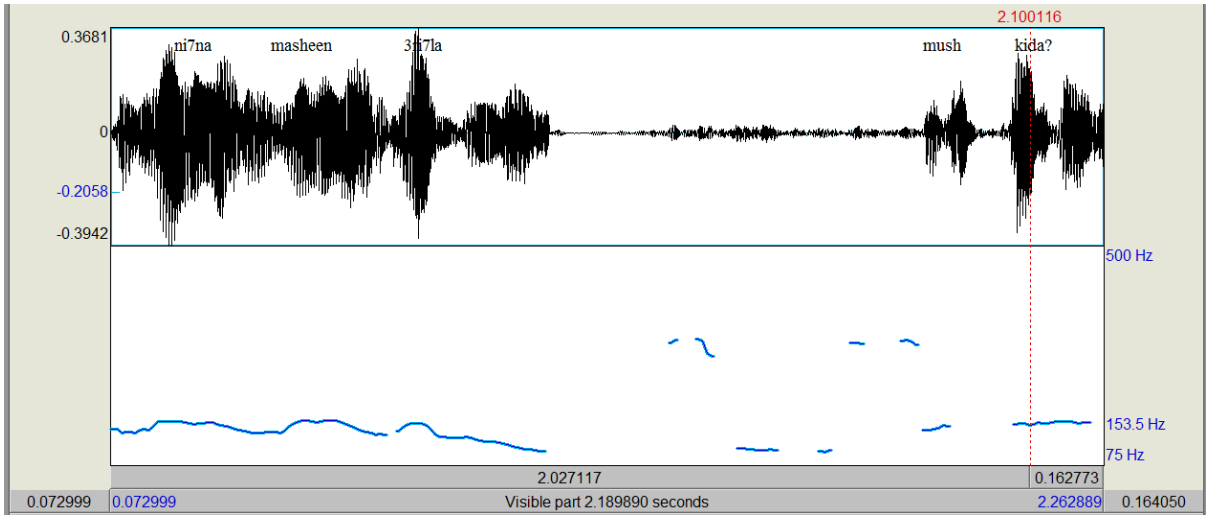
2nd student 4th sentence



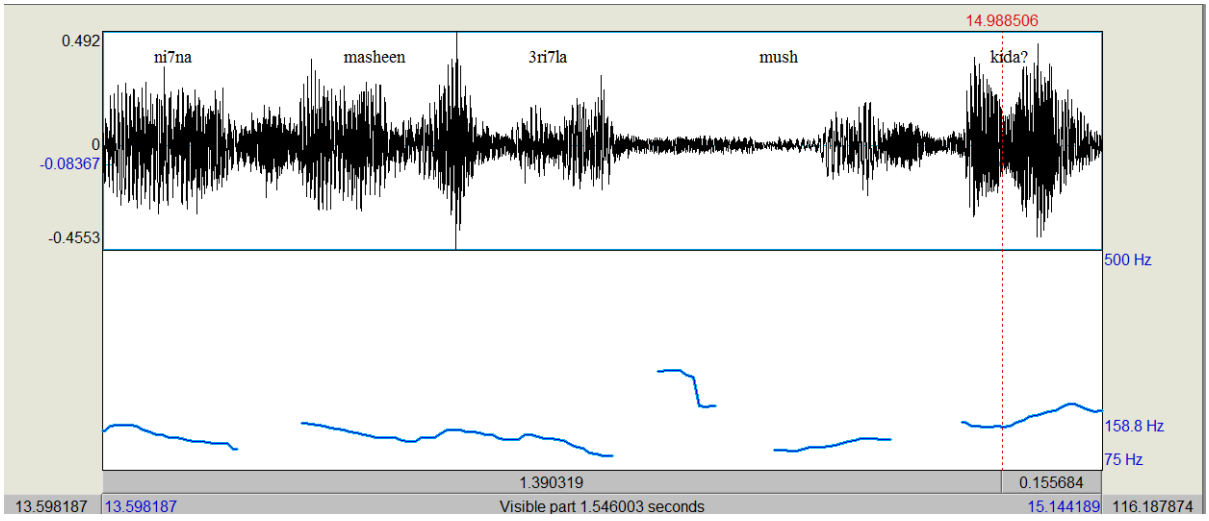
3rd student 4th sentence



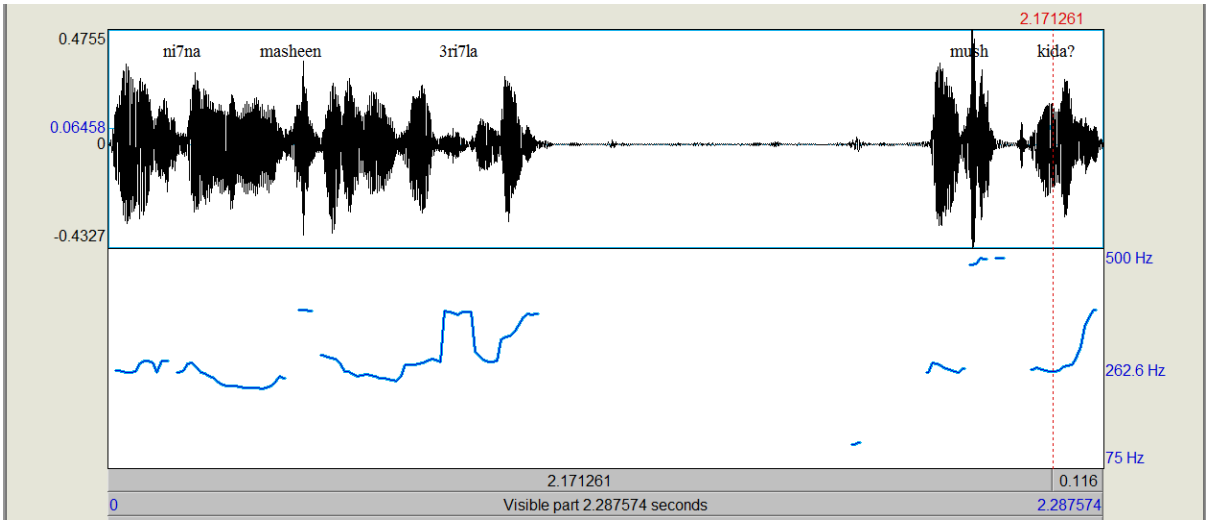
4th student 4th sentence



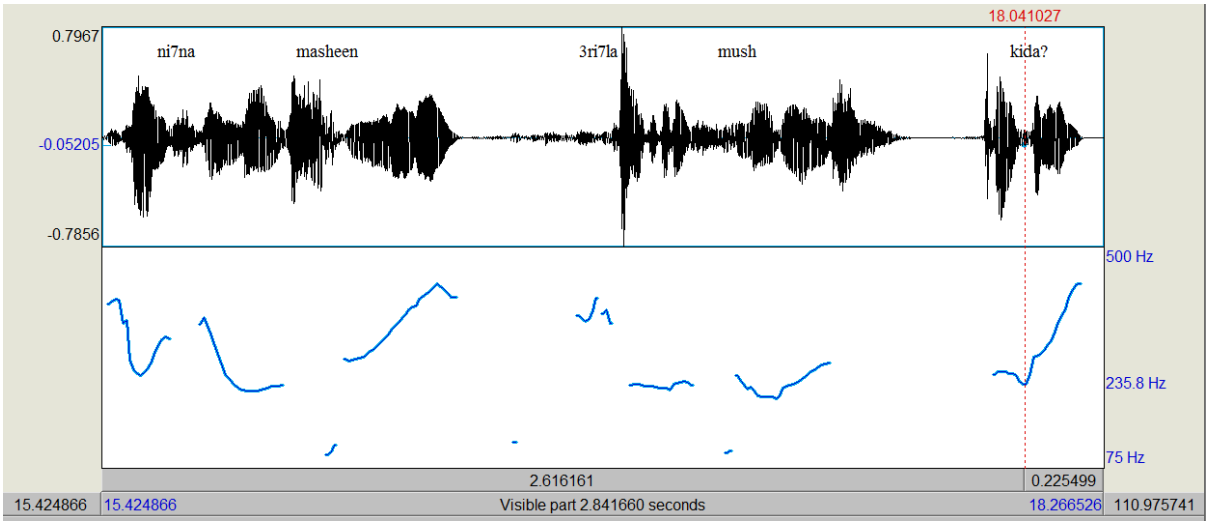
5th student 4th sentence



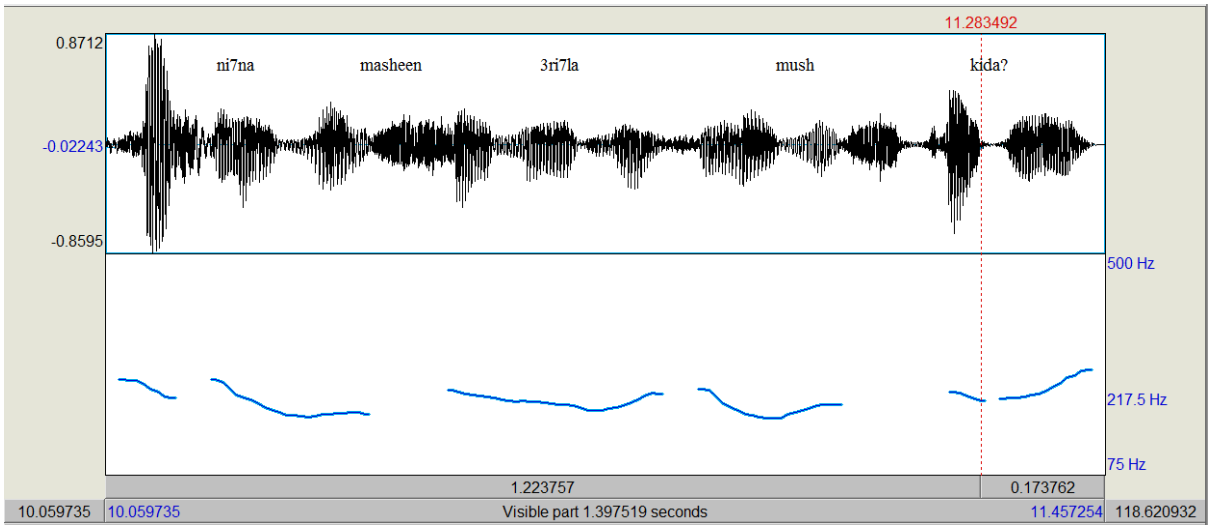
6th student 4th sentence



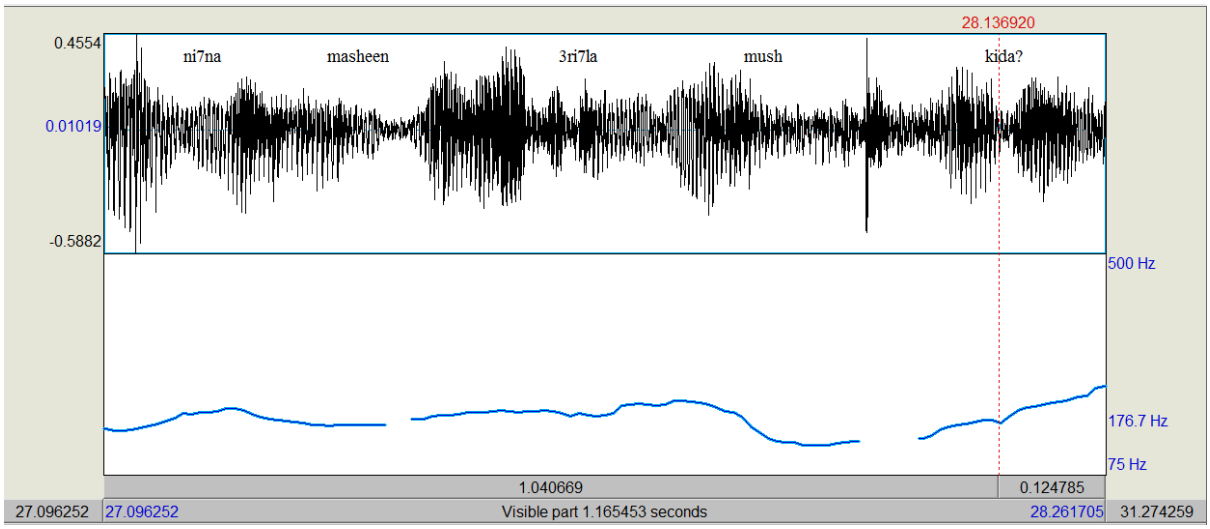
7th student 4th sentence



8th student 4th sentence



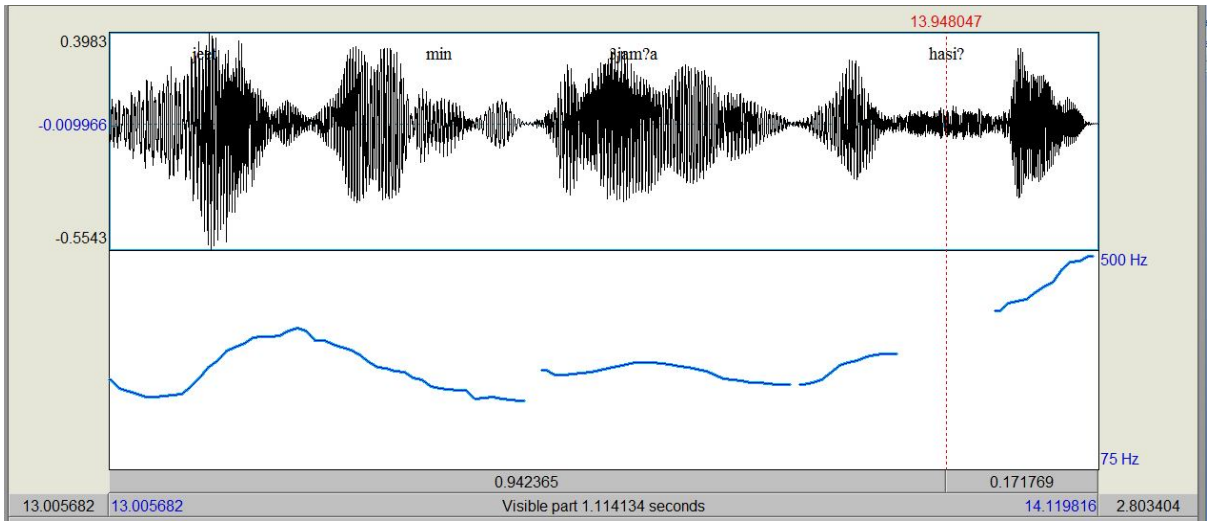
9^{th} student 4^{th} sentence



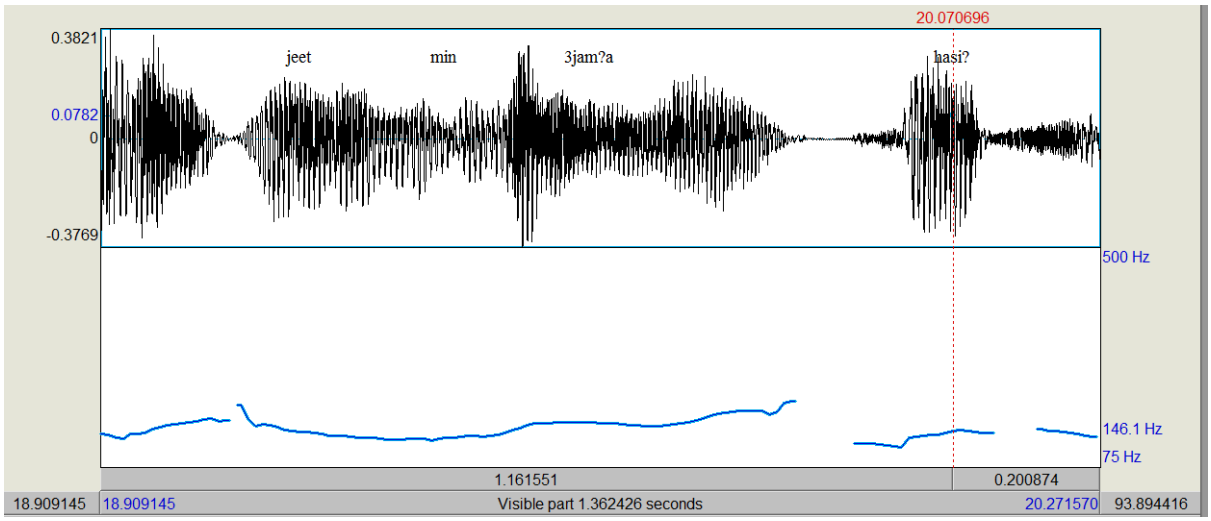
10^{th} student 4^{th} sentence

Appendix (13)

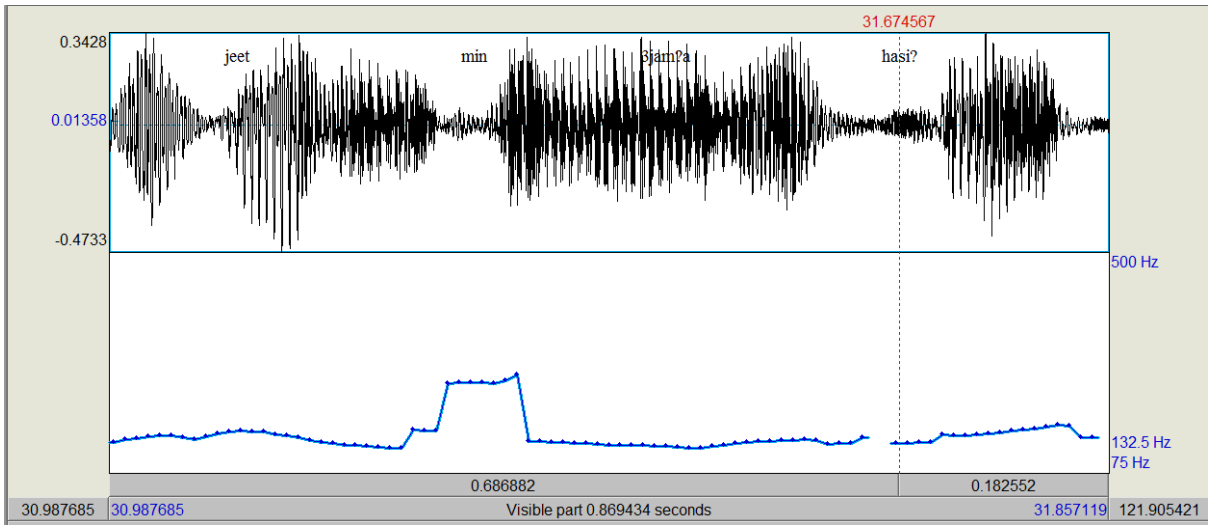
The diagrams of the Fifth sentence: jeet min 3jam?a hasi? {Did you return now from university?}



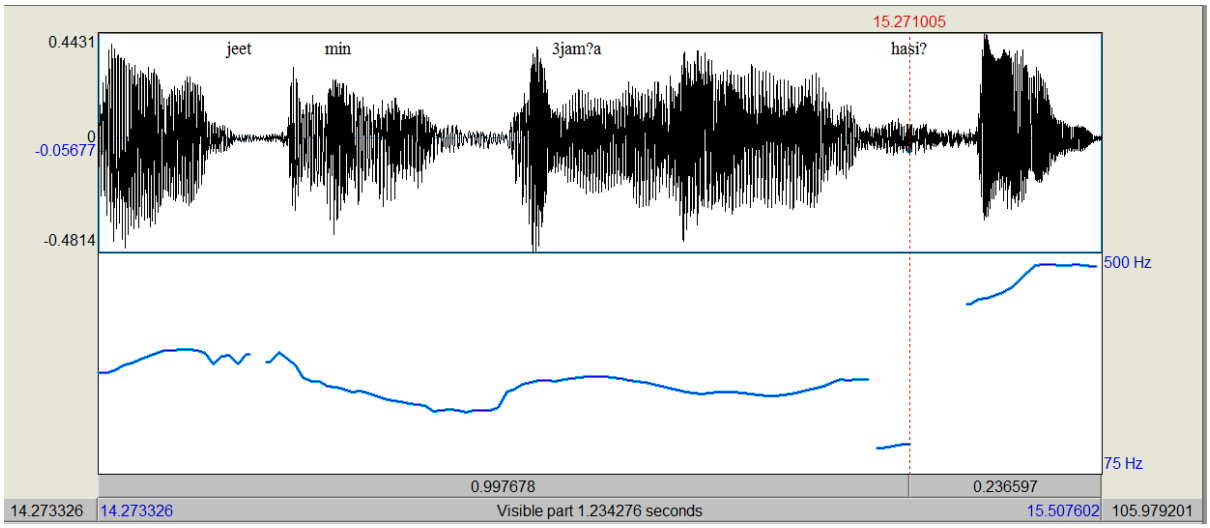
1st student 5th sentence



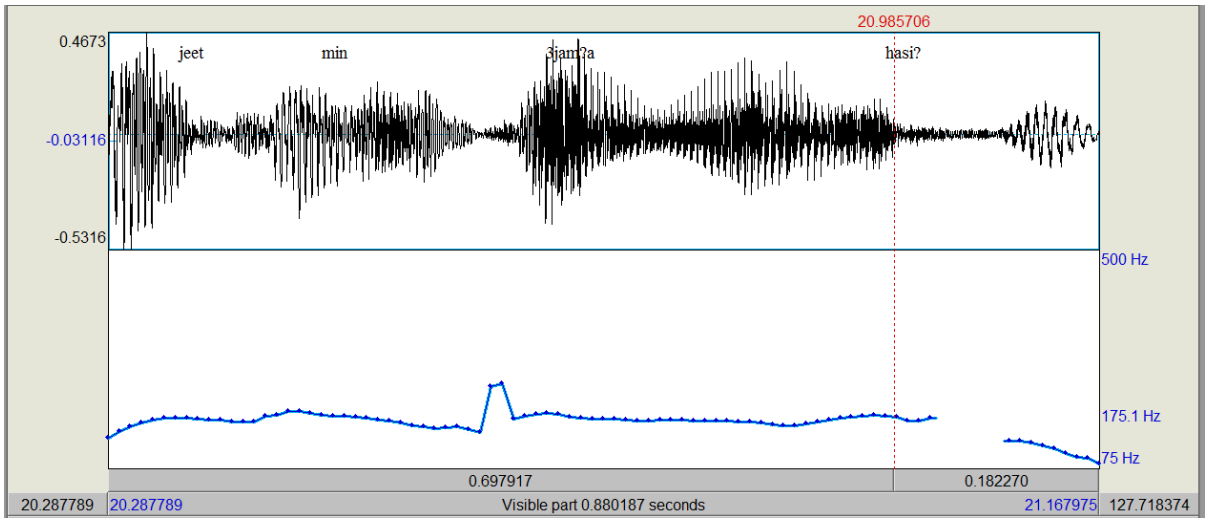
2nd student 5th sentence



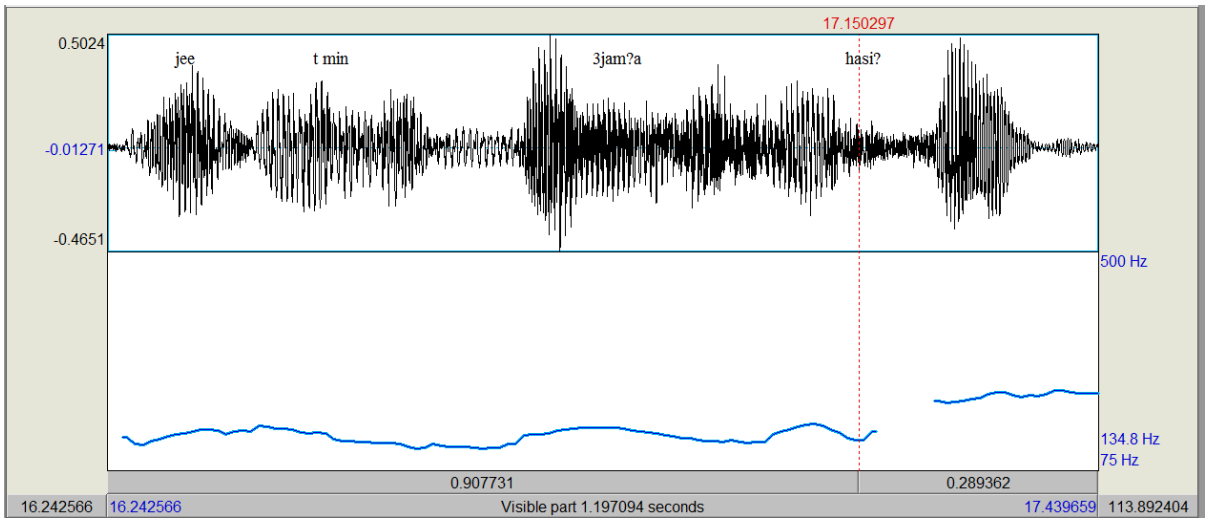
3rd student 5th sentence



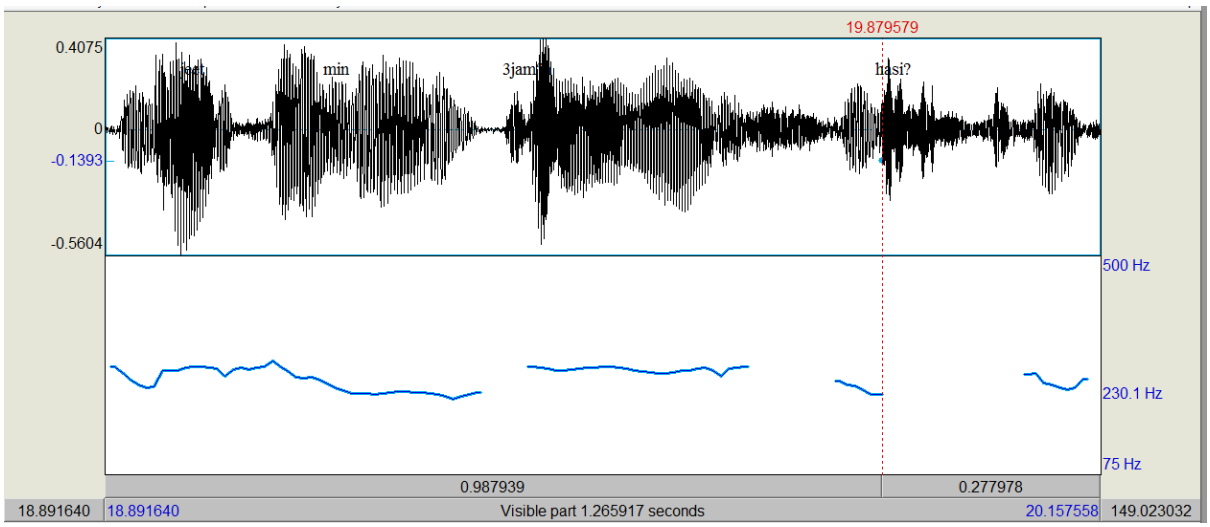
4th student 5th sentence



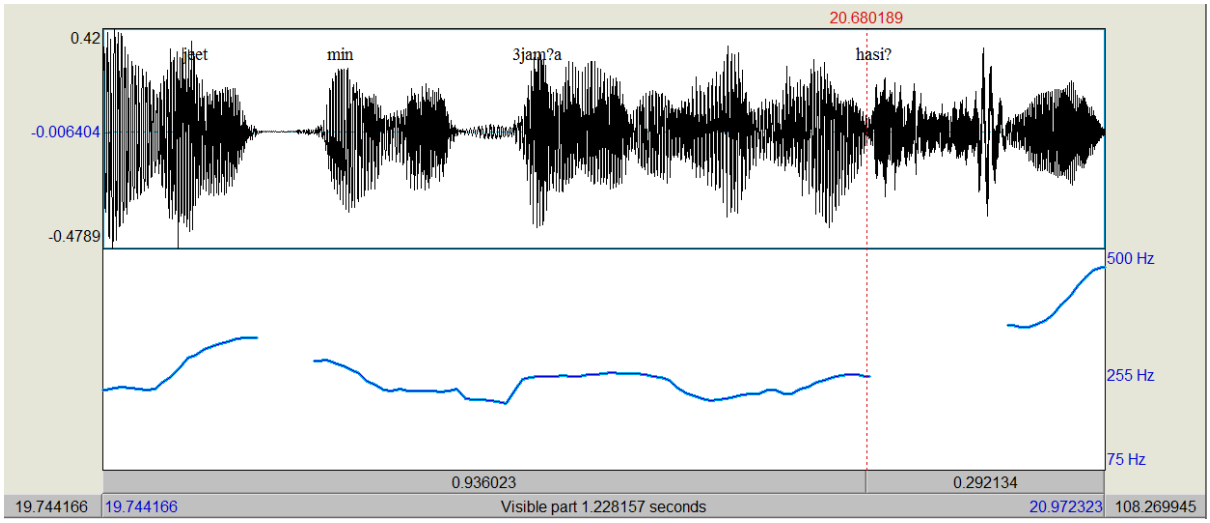
5th student 5th sentence



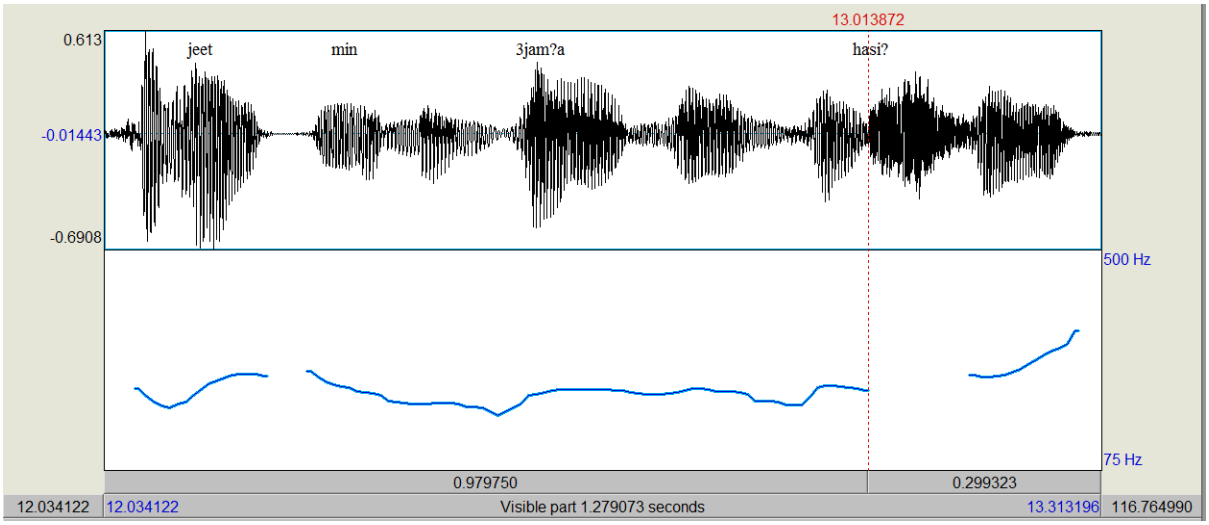
6th student 5th sentence



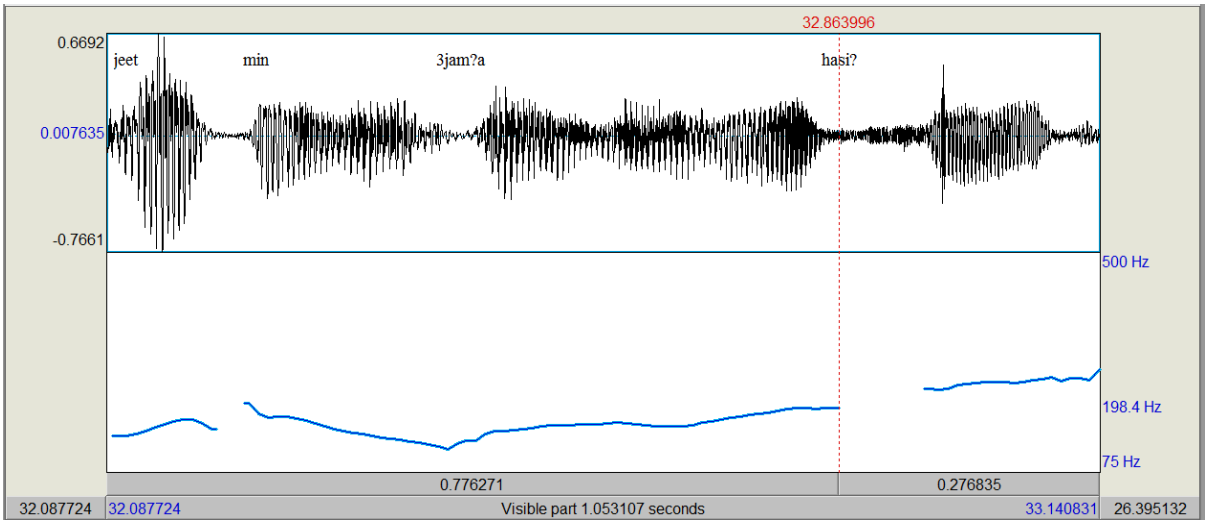
7th student 5th sentence



8th student 5th sentence



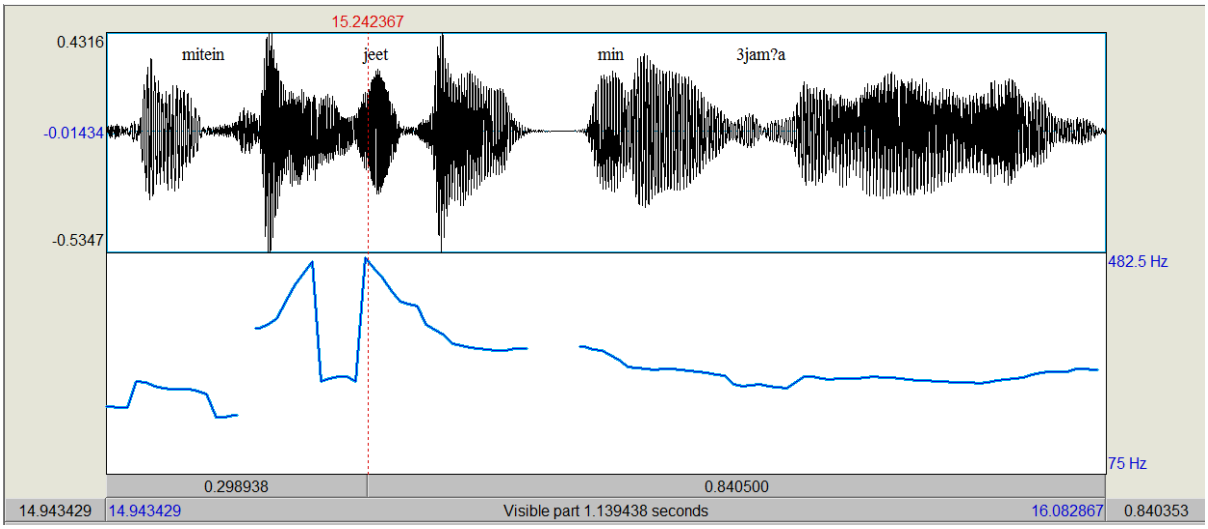
9^{th} student 5^{th} sentence



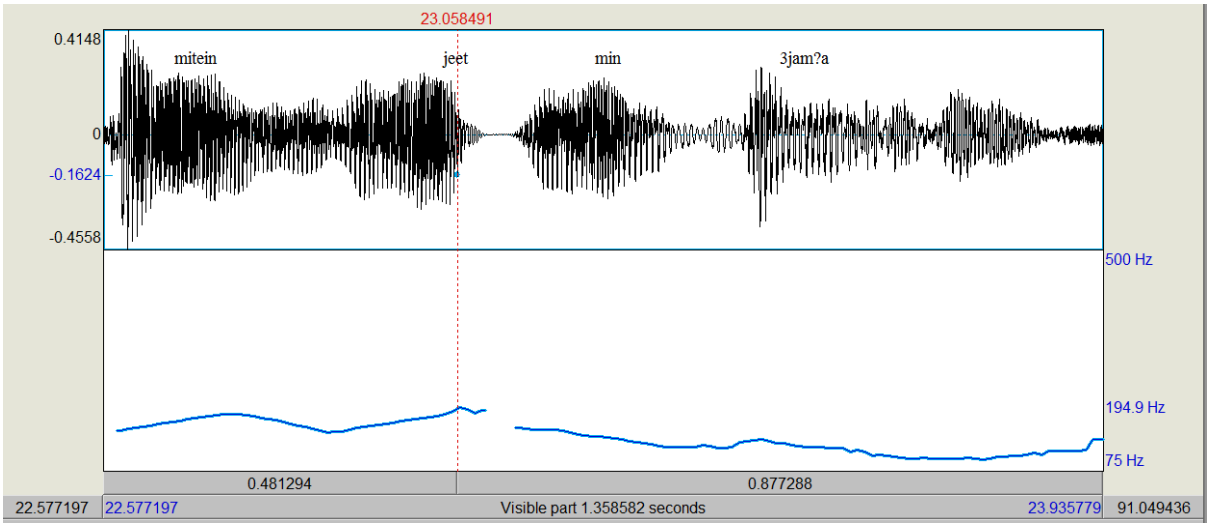
10^{th} student 5^{th} sentence

Appendix (14)

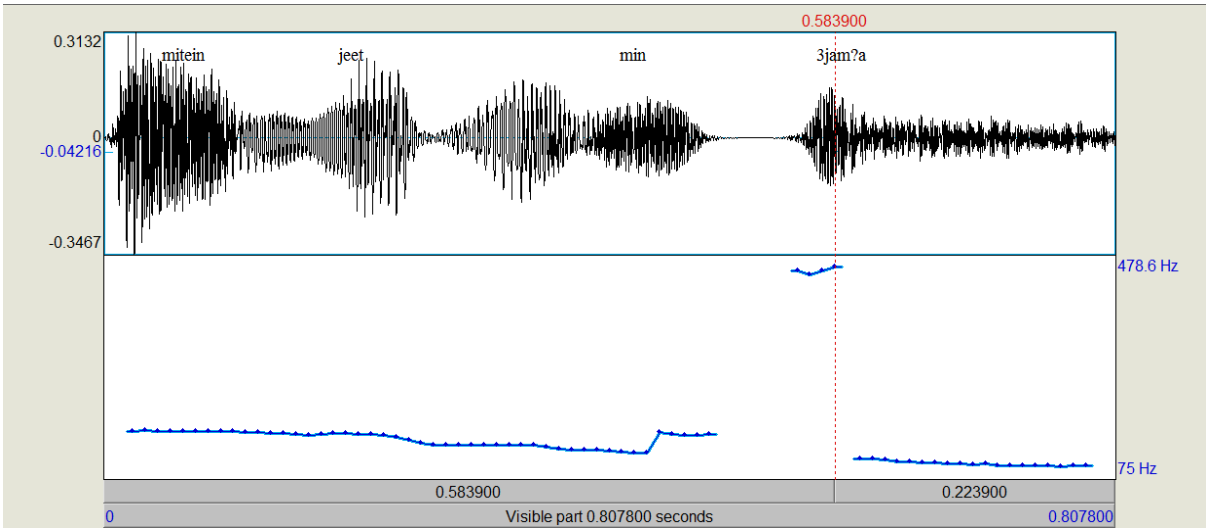
The diagrams of the Sixth sentence: mitein jeet min 3jam?a



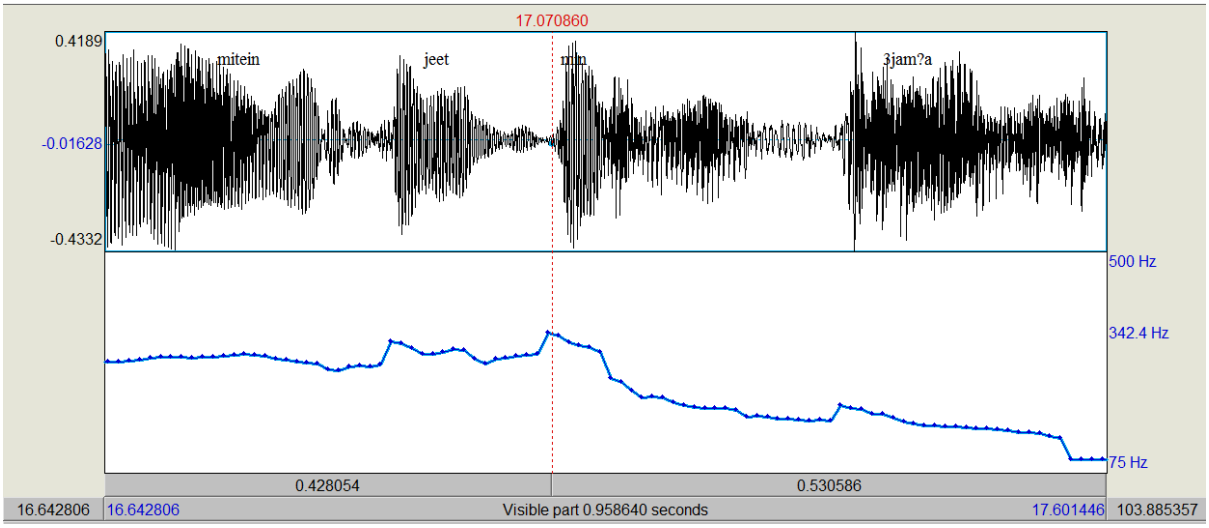
1st student 6th sentence



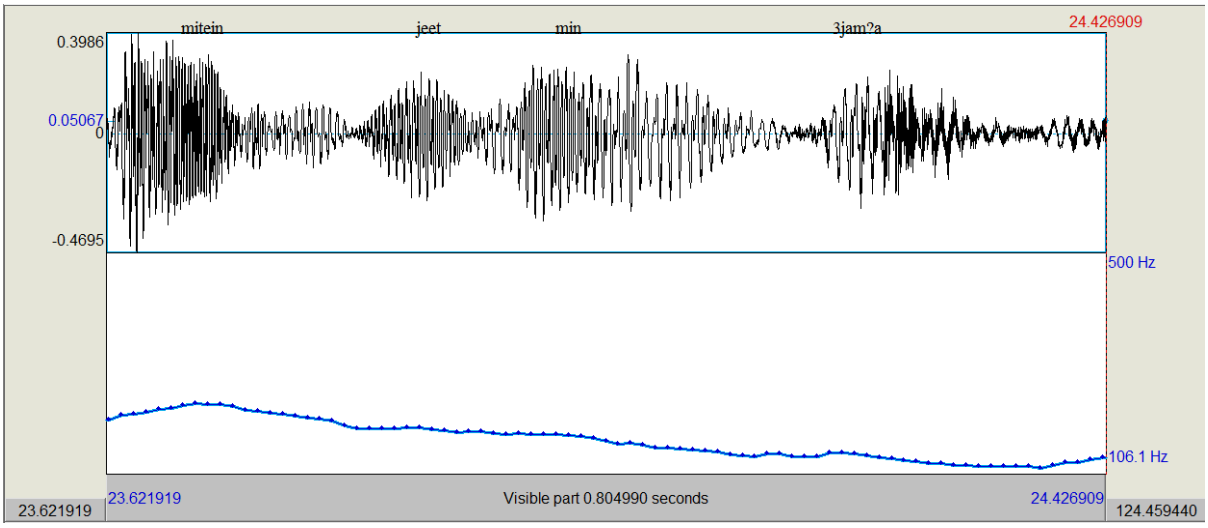
2nd student 6th sentence



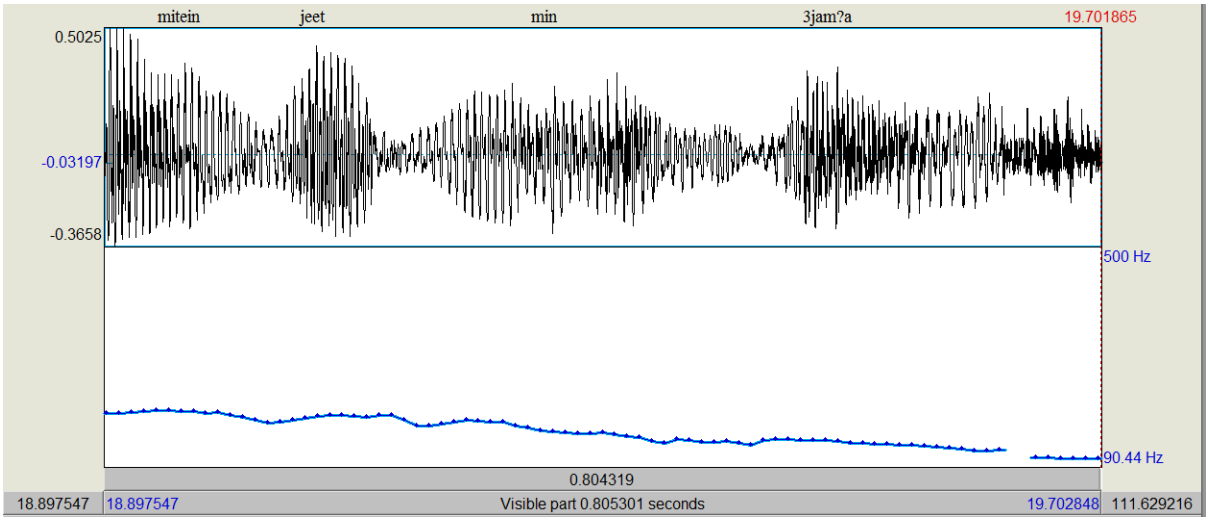
3rd student 6th sentence



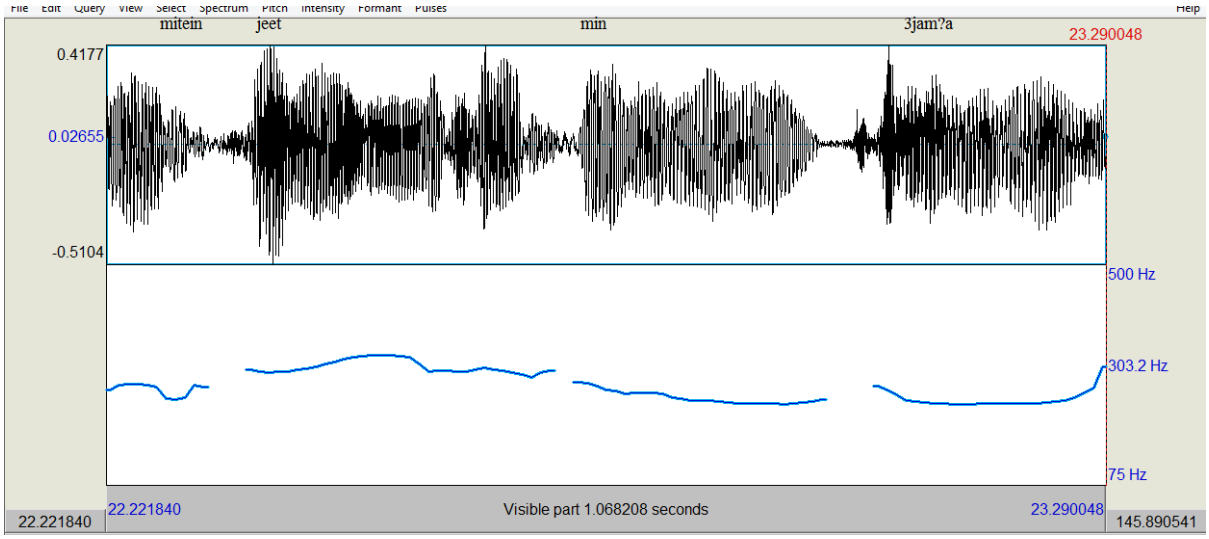
4th student 6th sentence



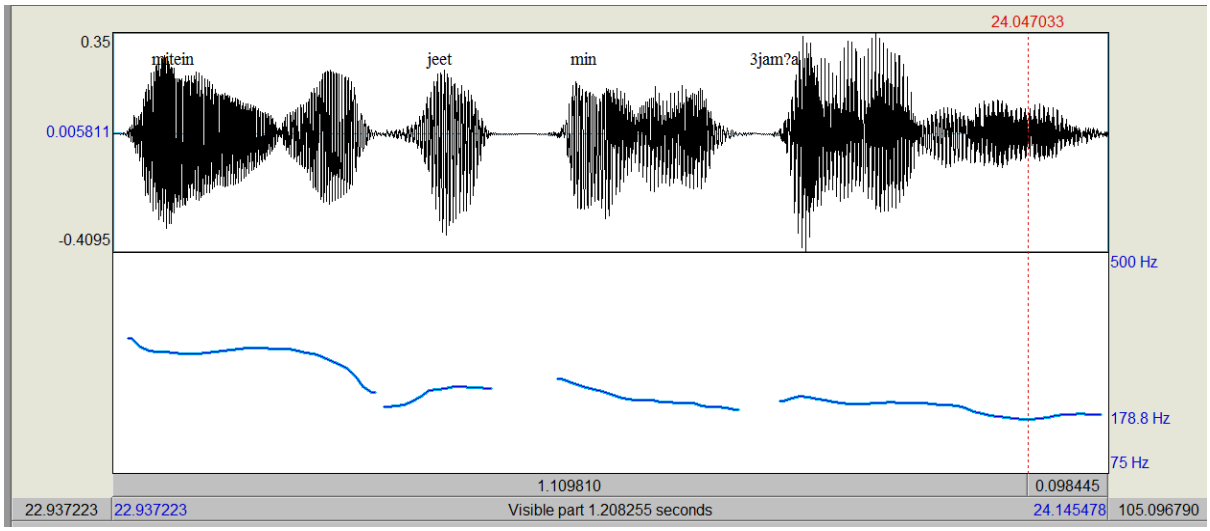
5th student 6th sentence



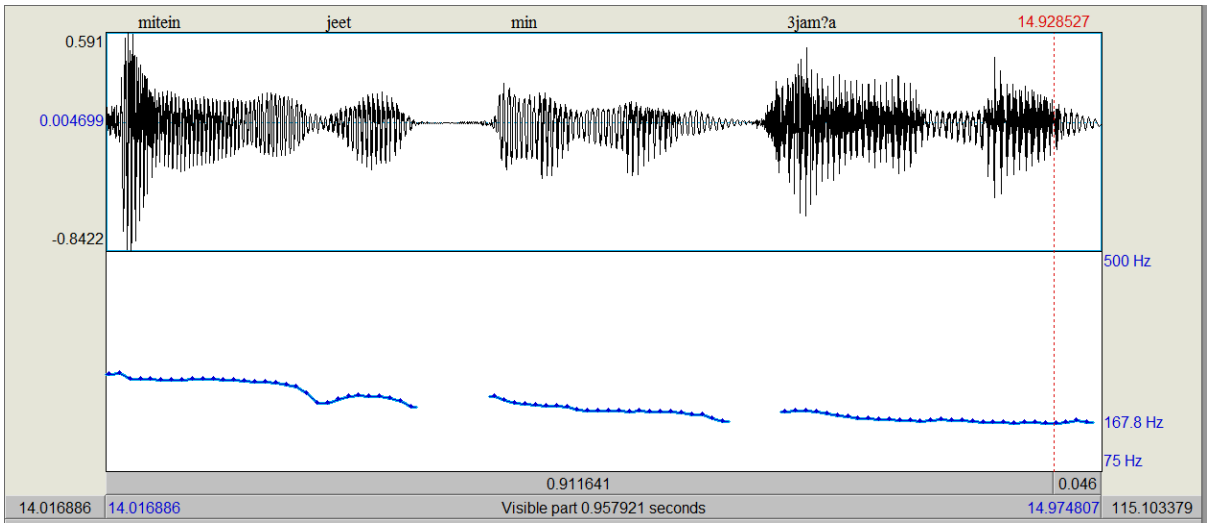
6th student 6th sentence



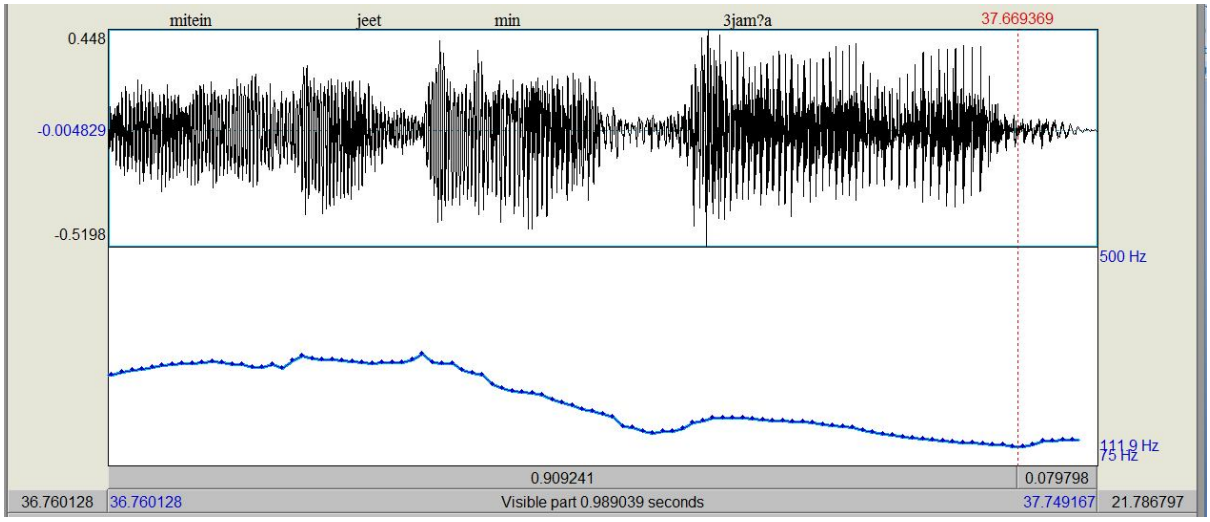
7th student 6th sentence



8th student 6th sentence



9^{th} student 6^{th} sentence



10^{th} student 6^{th} sentence