



PROSODY OF SPEECH: A TOOL FOR IMPRESSIONISTIC ANALYSIS OF CLASSROOM SPEAKING SKILLS

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ABSTRACT

Impressionistic investigation in an English Language Teaching classroom activities oriented towards teaching, assisting, improving, and evaluating students speaking performances does indicate that there is much more which is conveyed than just the morphological range, syntactic structures, and semantic content available to the speaker. This paper raises following points for reader's evaluative consideration which are ably supported by a short study: (1) to look into those prosody induced cues to chart cartography of refined speech and somewhat complete speech effort enabling students perform better in their assessments; (2) to investigate the prosody's role of meaning carrier, both semantic and pragmatic, in ELT classroom based with efforts focus on speaking skills through registering those specific instantiations of use; (3) to try proving a hypotheation about somewhat universal nature of prosodic features usage while contributively using the rich demographic profile of the ELT classroom in Lovely Professional University; (4) to delve into the question of impact of prosodic awareness resulting in effective classroom speech thus fulfilling the innate principle logic of learning a language to comprehensively communicate expression emanating at a given point of time. At the same time mention must be made that this paper will not look into the articulation, transmission or acoustic analysis of prosodic components but focus on the above mentioned points in semantic-pragmatic interface, their impact on appropriateness and relevance.

Keywords: *English Language Teaching, Filled Pauses, Impressionistic Analysis, Intonation, Prosody.*

I. INTRODUCTION

Prosody is a generic linguistic term entailing variations in speech which have outreaching presence over and across the speech segments, and it is exercised with specific intended purposes like: to overlay the speaker's state of mind, to achieve more clarity of communicative intent, and to fulfill innate desire to communicate functional purpose of the speech. This is carried out bringing in various speech tools of language like, changes in levels of intonation, variations in pitch pattern, meaningful manipulations of loudness, pauses placed at strategic points, and modulated nuances in speech. This study focuses on actual speech variations which result in enhancement of prospects of meanings in an English language teaching (herewith, ELT) classroom scenario

where specific focus lies on speaking skills. In a speech, of course students will provide many cues of prosodic usage for the teacher to assess and evaluation on the scale of their use, misuse, or inappropriate use. The common use of prosody does depict and also carry out many functional roles such as, to provide structural shape to dialogic-discourse, to focus preferences on segments of the speech, to express emotional undercurrents, to appropriate situational attitude towards the content used at a point of discourse, or to exhibit mental state. Short study conducted for the paper will provide supportive evidence for the same.

The literature available through interface of multiple researches have carried out investigation into various dimensions of prosody in speech in ELT set up, like using computer programmes such as Praat (Boersma and Weenink) to annotate speech for wide spectrum of elements; measuring specific dimensions like “acoustic measurement of rhythm” (Deterding) is an affirmation of reposing faith in objective analysis; from there on researchers looked into domains of “potential implications for teaching” (Xu) and also settling on suggesting about role of “prosodic adaptation in language learning” (Nilsenova and Swerts). This is an acknowledged fact that technology supports by providing many computer-based software programs which are highly effective on deciphering speech features on the scales of precision, projection, specification, annotation and vivid description using strong algorithms but again amidst all this web of technological marvels human anatomical network of ear-eye-brain sensory co-ordination remains relevant still.

This paper looks into the impressionistic analysis of the speech for hints of prosodic usage, which can easily be observed through instances of modulation of pitch, contraction-expansion of segmental durations, loudness getting affected with emotions in motion, or using those filler voices. There are certain visible manifestations of linguistic elements of speech which will be observed more closely by teachers in an ELT classroom while working on student’s speaking skills like, clustering of words in a unique manner, pitch movements at specific points, laying prominence on special words or stretch of words, and voluntary or involuntary pausing at places.

1.1 Genesis of Prosodic Orientation to Speech

Referring to “Online Etymological Dictionary”, the word prosody stands rooted from the Greek word “prosodia” literally meaning "song sung to music" and Latin word “prosodia” means "accent of a syllable" in both the meaning instances there is an orthographic similarity which take us towards components of musicality, rhythm, song, pitch variations, and rhyming pattern (Harper “prosody”). Prosody has been defined and labeled in many different ways like, as “secondary phonemes” (Bloomfield 90), as “intersyllabic or intrasyllabic” (Jakobson and Halle 22) components of speech, performing “overlaid function of inherent features” (Lehiste 2) in human speech, seen as those “features which run through sequences of two or more segments, up to whole utterances” (Laver 152), a kind of “modulation of the human voice in reading poetry” (Nooteboom 640) thus adding a musical rhythm to speech, a kind of “musical accompaniment to the words themselves” (Fox 1) which is present all the time in everyone’s speech though degree of presence may vary, or is seen as representing properties related to “larger stretches of speech than the individual segment” (Fox 333). All these array of definitions underlines the extent of its role in human speech.

A literary technique, prosody is the study of meter, intonation and rhythm of a poetic work. It is a phonetic term that uses meter, rhythm, tempo, pitch and loudness in a speech for conveying information about the meanings



and structure of an utterance. In addition, prosody is an important element of language that contributes towards rhythmic and acoustic effects in a piece of writing. It includes different elements such as scansion, sound, pace and meaning. So the term prosody in poetic formulations is seen as a form of versification where a poem’s scansion is undertaken on metric principles of music. But ever since the linguistic field emerged from the shadow of philology there have been efforts to view prosody from everyday speech dimensions. Study in prosody will be involved with describing multiple features of speech such as length, volume, pitch variations, and tone complementing a specific individual’s expression at a given point of delivery. This paper will not look into the articulation, transmission or acoustic analysis of prosodic components but focus on the semantic-pragmatic interface, its instantiation, impact, appropriateness and relevance.

In this role, which is one of the paper objectives, speech is seen in phonetic-phonology terminology that uses rhythm, tempo, pitch, pauses, and loudness in a speech for conveying information about the meanings and structure of an utterance.

1.2 Componential Representative Analysis of Speech Prosody

Linguistic description of prosody can be read as the fusional properties of speech like rhythm, stress, intonation, length, loudness or pitch contours which are spread over suprasegmental units like syllables, word, phrases or larger intonational units. All these prosodic features are somewhat interlinked and are not having exactly an independent impact as well as presence so they are thus cross referred.

Prosody is seen as realization of the rhythmic, dynamic and melodic components of speech having its ubiquitous presence across different layered segments of speech- phoneme, syllable, word, phrase, sentence, paragraph, and discourse levels. The advent of computer assisted research into linguistics has led to the development of many software programs for speech analysis, though this research paper is focusing on impressionistic analysis only but still a brief description in tabular form is provided to gather a generic idea, as can be seen in table 1 below.

Table 1: Representation of Prosodic Components

Prosodic Feature	Articulation	Perception	Acoustics
Pitch variations	Glottal initiation (Cycles/ second)	Rise, Fall, Neutral pitch (High, Low, Linear)	Fundamental frequency F0 (Hz)
Loudness	Egressive pulmonic air (Psg)	Loud, Soft, Normal (High, Low, Normal)	Intensity (dB)
Filled pauses	Supra laryngeal activity	Non-lexical sounds / words	Phonemic cluster
Lengthening	Extension in duration (Time duration)	Long, Short, Normal (Time span)	Duration (m sec)



1.3 Physiology of Speech Prosody

To understand prosody better we need to have a slight idea of physiology of speech too, and for explanation convenience it can be divided into three zones: the subglottal, the larynx, and the supralaryngeal zone (Lieberman and Blumstein 3-5). The first section covers the source and source points of speech: trachea, air breathed in-out from lungs with pulmonic impulses of contraction and constriction through respiratory muscles; the second section entails and manipulates the voice, pitch, aspiration and glottalization; and the third section encompasses whole range of segmental sounds of consonants and vowels through multiple modes of intervention, modification and alteration through interplay of available organs. So in brief features of prosody are decided at two speech functional segments of subglottal and larynx by controlling subglottal pressure for affects on loudness, stress marking, pitch variations source as well as intensity, and larynx opening-closing for voicing and pitch variations.

1.4 Pitch Variations - Intonation

In this paper pitch variations and intonation are used as synonymous terms. Acoustically and physiologically describing pitch is defined as the fundamental frequency (henceforth, F_0) of the vibrating vocal folds with measuring unit of Hz and this can be easily perceived with any palpable change in our everyday speech. Intonation is seen as a change in pitch over a larger domain than just a word, it moves across phrase or sentence and also has “discourse-oriented rather than lexical or grammatical” (Fox 179) orientation. Pitch plays an important function in identifying the kind of a sentence, though of course syntactic constructions will determine for example whether an utterance is a question or a statement can become more certain because of pitch track. There are certain established functions of intonation patterns like, a falling intonation is seen as indicative of a declarative sentence or of imperative sentence, or asking a wh- question requesting for information, or is seen as looking backwards, or suggesting completion of meaning content; a rising intonation suggests an interrogative sentence or prospective in meaning; neutral intonation suggests highly formalized standardized speech event where any ambiguity arising through speech coloring is avoided or expressing reflective thoughts; fall-rise intonation suggests moments where we want to add something more still, or when there is a doubt in speakers mind; and rise-fall intonation suggests expressions offering choices, or reading out lists of items or anything else.

1.5 Loudness – Intensity - Stress

This paper takes loudness, intensity and stress as synonymous terms because of the common denominator component of sub-glottal pressure as the driving force behind these three terms. Presence of stress is an essential part of the lexical entry of each English word as it is an example of a stress language but having said this English is unique, because in connected speech this feature of a word gets dissolved. It refers to the relative prominence placed on a particular syllable of the word, which can be seen as already defined or thoughtful action because of semantic-pragmatic sense in the speaker’s mind. Here the word taking more efforts of intensity will stand out in relation to the surrounding words. As already said, the placing of stress on a given word depends on semantic, pragmatic and prosodic levels but still it goes with the already defined stress



placement of that chosen word in an utterance. Few example words showing stress marking at different syllable places, like words showing stress on the 1) First syllable are: CARnival, DOcTor, EXport, HANdicap, PARliament; 2) Second syllable are: aLone, comPARison, deLIcious, reLIgion, soPHISlicated; and 3) Third syllable are: controVERsial, emploYEE, PortuGUESE, underSTAND, volunTEER.

1.6 Filled Pauses

This paper looks into account those strategic reasons of placing filled pauses in the discourse as one of the ways of marking prosodic phrasing, and psycholinguistic reasons of its insertion whereas physiological reasons for pauses are not taken into consideration. Case in point can drive us towards speech analysis looking into the role these filler sounds make in a speech, especially expressions like “ehhh”, “ahhh”, “ummm”, “uhhh”. Such expressions of “paralinguistic information” (Ishi 380) are always part of everyday conversations and also speaking activities carried out in ELT classrooms and interestingly moderate use of theirs is not also seen as speech dysfluency. This paper will list the common meanings which are associatively expressed through usage of these expressions in various different situational circumstances.

1.7 Lengthening

International Phonetic Alphabet identifies each sound of English language as having some kind of intrinsically linked duration on the reasons based on its articulation, but it varies in an utterance for various linguistic and non linguistic reasons. For this paper we are concerned about the prosodic orientation to length variations on a phoneme level, which is linked with the semantic-pragmatic context and also represent a reflection of impact of other prosodic characteristics.

Length as a prosodic feature inarguably looks easy to calculate acoustically through software programs as well easily perceived auditorily too. This is a techno-biological marvel that despite speech articulation overlap every human ear perceives it distinctly, and reasons of course can be overuse, practice and over exposure to language since childhood naturally strengthens that innate ability to pick nuances of our native language. But for a second language learner, English language in India classroom scenario, there is a significant amount of handicap and in this case variations in length component of the segments can remain unnoticed thereby resulting in a certain amount of communication failure. This paper underlines not only the importance but also the specific meaning-roles-variation in length brings to the speech.

II. LINGUISTIC ROLE OF PROSODY IN SPEECH IN ELT CLASSROOM

The projection of the paper is to develop a narrative of seeing prosody as a parallel channel for communication, carrying some vital pieces of information that cannot be simply deduced from the lexical content only.

2.1 Universal Characteristics

All aspects of prosody are transmitted in certain tell-tale signs methodology which has a kind of universal presence as even the diverse profile of the recipients could not deter them from perceiving fairly directly the meaning intentions of the speaker. Prosody, being a specific tool of communicative expression of speech, is undisputedly seen as a carrier of multiplicity of meaning which moves from literal semantics to contextual



pragmatics. Functional role of prosody can be broadly classified as emotive expression, contrastive meaning, prominence marking, cluster formation, discourse marker, colloquial orientation, dialogue structuring, and paralinguistic markings.

2.2. Utilitarian Role

There is a settled understanding about prosody's utilitarian role in bringing forth expressive and pragmatic functions, because a certain sentence in a given perspective expresses more than just its linguistic meanings. An expressive content could very well be a marker of an identity of a speaker, his mood, age, sex and other extra linguistic components. Whereas simultaneously prosody keep performing pragmatic functions as well which encapsulates the attitude of speaker and listener and provides relationship between a speaker and his discourse, it also reflects different features of a speaker and his utterance, emotional state, a form of utterance, presence of verbal-situational irony and thoughtful contextual emphasis.

Prosody has multiple functions in everyday language use and more so in an ELT classroom as for purposes like syllable stress, word segmentation, syntactic phrasing, sentences ending as well as start, accentuation at cluster level, stress markings and phonological distinctions.

2.3. Ease of Speech Comprehension

One another important linguistic function of prosody use in speech is to make it more convenient for the listener to comprehend by segmenting somewhat meaning wise though not as elaborate as like writing. It is observed in general and especially in ELT classrooms that students conscious awareness level about prosodic use is comparatively very less in objective terms as writing skills, apart from few punctuation marks and stylized grapheme use, do not offer established markers or special characters to denote occurrence of prosodic markings. Writing is presented in a unique blank-space-after-a-word format whereas continuous speech has no such unique markings to distinguish one word from another, here prosodic components come into picture in case to lay focus on content word(s) depending upon the speaker's illocutionary purpose of the utterance.

Prosody expresses the syntactical category of the meaningful unit of sentence (declarative, interrogative, imperative or exclamatory) where pitch fluctuations will decide the choice speaker has made in the mind. Here it is more of a universal feature in English use spectrum as one has to use falling intonation for a declarative sentence, but how precipitous the fall is or from which level the fall takes places that can be left for individual discretion as well speech circumstances. Any change in direction though would result in a different kind of sentence-type.

2.4. Rhythm Addition to the Speech

Rhythm, can be guessed from the transparency of the meaning from the word itself, is defined as the perceptive effect produced by the periodic repetition of some phonetic phenomenon along the speech discourse. English language does provide a product-mix of rhythm which is sometimes syllable timed or some of the times stress timed at regular intervals. It follows a model of repetition pattern over time and these elements of repetition can be occurrences of stressed syllables, cyclical use of filled pauses, or "non-intrinsic segmental length variation"

(Ploquin). This means that speech does display a kind of regularity-feature where “there is a pattern of recurrence of some particular event” (Fox 86).

Prosody has all those enabling abilities allowing speaker to express given set of mental and emotional state like happiness, excitement, nervousness, anger, surprise, annoyance, displeasure etc. by using pitch variations, intensity manipulation or changes in volume.

2.5. Integration of Prosody with Paralanguage Features

This paper suggests a kind of broad definition of prosody where hand gestures, eyebrow and face motions can be considered prosody, because they carry information that modifies and can even reverse the meaning of the lexical constituents of the speech. The available literature on prosody and paralinguistic is such that they are seen sometimes very prominently as having two distinct features to be categorized as unique concepts exclusive in meaning to each other but at times especially in their functional roles in ELT classroom speaking skills we have observed there are very many common meeting points. In simple words prosody can be explained to have paralinguistic functional role in an utterance and vice versa. All those frequently used “non-vocal paralinguistic features such as co-speech gestures, posture, gaze, facial expression, and proximity changes” (Mozziconacci 7) in a speech add to the semantic-pragmatic bandwidth.

This paper takes forward the notion that paralinguistic components used in speech also perform prosodic functions which may not be lexical in nature all the time but surely add to the dimensions of signaling language user specific information, such as age group, gender, attitudinal impressions or emotional state of being.

III. CASE STUDY

A case study was planned around framing everyday conversation based topics to use a specific sentence in four different scenarios. Students numbering 30 were specifically chosen from a class of 58 fulfilling the specific requirements of demographic profile variety and also representation to different geographical locations as well. The brief summary is as follows: India’s North (3), East (3), North Eastern (4) and West (2); Foreign students of Nepal (4), Bhutan (3), Bangladesh (2), Afghanistan (5), Rwanda (2), and Tanzania (2). Students were handed over the exemplar script and asked to read all the four dialogues while realizing the semantic-pragmatic meaning of the utterances, and were also told about to be consciously aware to sound as natural as possible close to their instinctive tendencies to express in a particular way. The dialogues were recorded in the classroom and then finally evaluated on the scale of uniformity or non-uniformity in the patterns of each speech informant. The database of audio-video recording consists of 480 utterances (30 speakers x 8 sentence-utterances x 2 times).

1. Do you know that university has announced 5 days of extra holidays during coming Diwali.
Really! Don’t tell me this.
2. You see I saw a horrible accident in the morning while coming from Ludhiana. Bodies were splattered...
Oh! Don’t tell me this.
3. Hey I got to know that Rohit presented your dissertation topic as his own work in yesterday’s departmental presentations.
What! Don’t tell me this.



4. Do you know that university has cancelled the previous announcement of 5 days of extra holidays during coming Diwali.

Really! Don't tell me this.

IV. RESULTS AND OBSERVATIONS

We could notice very many differences the way individuals were pronouncing each word but at the same time while articulating either with paralinguistic expression tools or prosodic variations there was a striking uniformity. The table below suggests the homogeneity of prosodic-paralinguistic components on following observable features: rise in pitch, increase in volume, extension of length, raising hands or fingers or eyebrows, squinting of eyes, protruding eyes and shrugging shoulders.

Table 2: Representation of Prosodic Components Wise Results

Prosodic Feature	Utterance 1	Utterance 2	Utterance 3	Utterance 4	Average
Pitch variations	28	24	25	22	25
Loudness	27	26	24	25	26
Filled pauses	24	23	25	27	25
Lengthening	23	22	26	25	24
Average	26	24	25	25	

The findings in these acted-out emotions situations suggest a consensus on following observations: excitement is expressed by rising pitch and high speech rate, while sadness is expressed by lowering of pitch and slow speech rate. Sudden burst of anger is characterized by over-articulation, high speech rate, downward pitch movement, and overall elevated pitch. Tempered anger shares many attributes with burst anger, but the pitch range is set on a bit lower side. Voice quality is one of those phonetic-acoustic cues that are usually related to the characteristic profile of the speaker's vocal tract and vocal habits. However, some changes in the voice quality may have a linguistic function, or may be determined by linguistic phenomena which will figure in this study while observing the changes in the spectrum of a speech. The overall average results show a pattern of identical preferences of using prosodic features and it comes out that utterance 1 and loudness were read out well by almost around 90 percent of the participants.

V. CONCLUSION

The communication through any utterance usually takes on three different planes: linguistic, prosodic, and paralinguistic. The linguistic state will take care of verbal-lexical content; the prosodic expresses emotional state; and paralinguistic entails state of demographic and biological profile. Though there can be certain amount

of similarities in terms of the functions performed by both prosodic and paralinguistic components of speech, but from articulatory phonetics side there is a difference as prosodic characteristics moved around variations of pitch, time, loudness, duration, and silence whereas on the other hand paralinguistic characteristics remain independent of it while remaining driven more by physiological machinations. Prosody's role in increasing the overall intelligibility of the speech because of providing details of too many description and descriptive purposes in an utterance is underlined in this paper.

The natural conclusion arrived in this paper is about the importance of making students aware about prosodic elements as meaning enhancement tool of speaking skill set which are needed to have an overarching presence on segmental components of phonemes, words, phrases, sentence or discourse.

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