

Phonemic Analysis of Maithili and English Sounds

**A Thesis Submitted to the Department of English Education
In Partial Fulfillment for the Master of Education in English**

**Submitted by
Lal Babu Yadav**

**Faculty of Education
Tribhuvan University, Kirtipur
Kathmandu, Nepal
2023**

Phonemic Analysis of Maithili and English Sounds

**A Thesis Submitted to the Department of English Education
In Partial Fulfillment for the Master of Education in English**

**Submitted by
Lal Babu Yadav**

**Faculty of Education
Tribhuvan University, Kirtipur
Kathmandu, Nepal
2023**

T.U. Reg. No.: 9-3-28-279-2017

Fourth Semester

Exam Roll No.: 7328090/073

Date of Approval of

Thesis Proposal: 08/02/2022

Date of Submission: 01/01/2023

DECLARATION

I hereby declare that to the best of my knowledge this thesis is original; no part of it was earlier submitted for the candidature of research degree to any university.

Date:

Lal Babu Yadav

RECOMMENDATION FOR ACCEPTANCE

This is to certify that Mr. **Lal Babu Yadav** has prepared this thesis entitled “**Phonemic Analysis of Maithili and English Sounds**” under my guidance and supervision.

I recommended the thesis for acceptance.

Date: 30/12/2022

.....
Bhim Prasad Wasti (Supervisor)
Reader
Department of English Education.
T.U. Kirtipur, Kathmand

RECOMMENDATION FOR EVALUATION

This research has been approved by the following **Research Guidance Committee**:

Committee:

Signature

Dr. Gopal Prasad Pandey

.....

Reader and Head

Chairperson

Department of English Education

TU, Kirtipur, Kathmandu

Dr. Purn Bahadur Kadel

.....

Reader

Member

Department of English Education

TU, Kirtipur, Kathmandu

Mr. Bhim Prasad Wasti (Supervisor)

.....

Reader

Member

Department of English Education

TU, Kirtipur, Kathmandu

Date: 02/08/2022

EVALUATION AND APPROVAL

This thesis has been evaluated and approved by the following **Thesis Evaluation and Approval Committee**:

Signature**Dr. Gopal Prasad Pandey**

.....

Reader and Head

Chairperson

Department of English Education

TU, Kirtipur, Kathmandu

Dr. Binod Luitel

.....

Professor (English education)

Expert

Research Centre for Educational Innovation & Development (CERID)

Tribhuvan University

Mr. Bhim Prasad Wasti (Supervisor)

.....

Reader

Member

Department of English Education

TU, Kirtipur, Kathmandu

Date: 02/03/2023

DEDICATION

Dedicated in Memory of

My Grandmother

Dayabati Yadav

From Whom I Acquired My Mother Tongue

ACKNOWLEDGEMENTS

First of all, I would like to express my deep and sincere gratitude to my research supervisor **Mr. Bhim Prasad Wasti**, Reader at the Department of English Education, Tribhuvan University, Kirtipur for his continuous supervision with patience, inspiration and enthusiastic advice. I would like to acknowledge him for his invaluable instructions, suggestions, guidance and co-operation in completing this research work. I feel myself lucky to get this research done under his supervision.

I would like to express my sincere gratitude to **Dr. Gopal Prasad Pandey**, Reader and Head, Department of English Education, Tribhuvan University for her inspiration and suggestions to guideline this research while conducting the viva of the research proposal.

I gratefully acknowledge to **Prof. Dr. Binod Lutel**, Professor (English Education) Research centre for Educational Innovation & Development (CERID) Tribhuvan University for his constructive comments and inspiration for this research work.

I am truly indebted to **Dr. Purna Bahadur Kadel**, reader of the Department of English Education, Tribhuvan University for his invaluable comments and input on research while conducting the viva of the research proposal.

I gratefully acknowledge to **Mr. Guru Prasad Paudel**, former Teaching Assistant at the Department of English Education, Tribhuvan University for his constructive comments and inspiration for this research work.

I am indebted to **Dr. Bal Mukunda Bhandari, Mr. Resham Acharya, Dr. Prem Bahadur Phyak, Mr. Ashok Shapkota, Mr. Laxmi Ojha, Mr. Khem Raj Joshi, Mr. Bhesh Raj Pokhrel** and all the respected teachers of the Department of English Education, Tribhuvan University for their academic guidance and inspiration.

I am thankful to **Dr. Ramawatar Yadav**, who gave all up all short of opportunities in his life for a mission; to preserve and promote the Maithili language. I have learnt lots of dimensions of Maithili language and literature through his contribution.

My thanks go to **Mr. Suresh Pradhan** of University Printer Center, Kirtipur for their prompt help to clean print out and best binding of the thesis.

Last but not least, I express my heartfelt thanks to my informants who provided me the needed information during data collection.

Lal Babu Yadav

ABSTRACT

The study entitled “Phonemic Analysis of Maithili and English Sounds” attempts to identify consonant sounds in Maithili and then compare and contrast them with the consonants of English. The researcher conducted a survey and collected the data from 35 fluent speakers of Maithili native people from Bariyarpatti area of Siraha district, by using purposive non-random sampling procedure. The informants were 25 years above in age; English data were taken from secondary sources, mainly from Geigerich (1982), some of the Maithili data were adopted from Yadav (2011). Major findings of the study are that Maithili has 26 consonants. This number is larger than English Consonants; Maithili does have more oral plosive sounds; 16 unlike English 6. English does have more fricative sounds; 9, which Maithili does have only 2. English does have labio-dental, alveolar and palato- alveolar sounds which are not found in Maithili language. In Maithili, all stop sounds do have voiced aspirated phonemic feature, which does not in English. , Maithili has 14 and English has 15 voiced consonants. Two nasal sounds are identical in term of phonemes in both languages.

This thesis is organized in five chapters. The first chapter deals with introduction of the study, statement of the problem, objectives of the study, research questions, significance of the study, delimitations of the study, and operational definition of the key terms. The second chapter deals with review of related literature and conceptual framework which consists review of the related theoretical literature, review of related empirical literature, implication of the review for the study and conceptual framework. The third chapter deals with methods and procedures of the study which consists design, and methods of the study, population, sample and sampling strategy, study area / field data collection tools and techniques, data collection procedures and data analysis and interpretation procedures. The fourth chapter deals with analysis of data interpretation procedures. The fourth chapter deals with analysis of data and interpretation of results which consists analysis of data and interpretation of results, summary of the findings. The fifth chapter deals with conclusion and recommendations.

Place of Articulation	12
Manner of Articulation	13
Aspiration	15
Minimal Pair	15
Inventory of English Consonants	16
Introduction of Maithili Language	17
Dialects of Maithili	18
Population of Maithili Mother Tongue	18
Phonemes of Maithili Language	19
Contrastive Analysis	20
Review of the Related Empirical Literature	21
Implications of the Review for the Study	23
Conceptual Framework	24
CHAPTER III: METHODS AND PROCEDURES OF THE STUDY	26
Design of the Study	26
to find out and fix the Maithili and English language phonemes a survey had conducted through chart sheet and almost literatures had used for it.	26
Population, Sample and Sampling Strategy	26
Research Tools	27
Sources of Data	27
Data Collection Procedure	27
Data Analysis Procedure	27
Ethical Consideration	27
CHAPTER IV: ANALYSIS OF DATA AND INTERPRETATION OF RESULTS	29
Analysis and Interpretation of Data	29
The Consonants of Maithili	29
Projection of Consonants of Maithili	29
Identification of Minimal pairs	31
Minimal pair for Clear- cut Contrast	32
Determination of Maithili phonemes	33
Place of Articulation in Maithili Language	35

Comparison and Contrast of Phonemes in Maithili and English Language	39
Summary of the Findings	42
CHAPTER FIVE: CONCLUSION AND RECOMMENDATION	44
Conclusion	44
Recommendations	45
Policy Level	45
Practice Level	45
Further Research	46
REFERENCES	47
APPENDIX I COMPARATIVE WORDLIST	49
APPENDIX II SURVEY OF MAITHILI CONSONANTS IN LITERATURES	50
APPENDIX III COMPARATIVE WORDLIST	51

LIST OF TABLES

Table 1:	Inventory of English Consonants	16
Table 2:	Population of Maithili Mother Tongue	19
Table 3:	Projection of Consonants of Maithili.	30
Table 4:	Consonants of Maithili Language	34
Table 5:	Consonant of Maithili in IPA chart inventory	34
Table 6:	Comparative table of Maithili and English Consonants Based on Place of Articulation	39
Table7:	Comparative Table of Maithili and English Consonants Based on Manner of Articulation.	40

LIST OF FIGURES

Figure 1: Aspect of Phonetics	7
Figure 2: Phonology in Linguistics	9
Figure 3: Importance or Scope of Phonology	10
Figure 4: Principles of Phonemic Analysis	12
Figure 5: Genetic relation of Maithili to other NIA Languages of Eastern India, based on S. Jha (1958)	18
Figure 6: Procedure and implication of C A	21
Figure 7: Conceptual Framework of the Phonemic Analysis of the Study	25

LIST OF SYMBOLS AND ABBREVIATIONS

/ /	:	Phonemic Transcription
[]	:	Phonetic Transcription
Approx.	:	Approximant
-asp	:	Unaspirated
C	:	Consonant
CA	:	Contrastive Analysis
CBS	:	Central Bureau of Statistics
CUP	:	Cambridge University Press
Dr.	:	Doctor
edits.	:	Editors
ELT	:	English Language Teaching
et. al	:	and others
frica.	:	Fricative
IPA	:	International Phonetic Alphabet
n. d.	:	No Date/ Non Dated
No.	:	Number
OLD	:	Oxford Advanced Learner's Dictionary
OUT	:	Oxford University Press
P.	:	Page
Prof.	:	Professor
Reg.	:	Registration
Retro.	:	Retroflex
SN	:	Serial Number
TU	:	Tribhuvan University
-v	:	Voiceless

CHAPTER I INTRODUCTION

This is the study on Phonemic Analysis of Maithili and English Sounds. This chapter comprises the background of the study, statement of the problem, objectives of the study, research questions, significance of the study, delimitation of the study, and operational definition of key terms.

Background of the Study

Language is a source of knowledge for the native speaker of any language. It is the source of general study of culture (Yule 2010, p.266). Each speech community has the unique ideas for human concept of universe and world view. Chomsky (2006; p.xiv) points that language plays an essential role in thinking and human interaction. Wardhaugh, 1998, p.1 says that language is a reason to make human society.

At the present day world, irrespective of some speech communities, people are at least bilingual. Being bilingual equals being able to speak two languages for the sake of communication (Harmmers&Blance, 2000, p.6). Moreover, number of multilingual people is increasing. It has some reasons for it's behind. Firstly, language has appeared as power. It is difficult to assimilate in contemporary world and push a head oneself without learning the dominant language. Secondly, using lingua franca is mandatory for all, which might be the other language than one's mother tongue. It is the connective language for all speech communities and probably the medium of instruction for all. Thirdly, language is a matter for prestige or dignity and the English language has been adopting as a medium of instruction. In Nepal, irrespective of inhabitants of over hundred twenty three speech communities, literacy of English is increasing day by day. In context of Nepal, English language is not matter of ignorance but its fluency is fruitful for every student to compete with the world. For this, English teachers must have knowledge that how linguistically diversified students can learn English language.

According to CBS report (2012) 123 languages are spoken in Nepal. It means to nation inherits 123 language systems. The systems of these languages are different with the system of English language. The level of differences and the similarities are

the factors of language learning; more differences more difficult and more similarities less difficult. So, the Contrastive Analysis (CA) should be done for every language prior to English teaching. Contrastive analysis can be done in different levels of language among them phonology or phonemic analysis is one.

In the modern day world, minorities' language like-Maithili speakers are shifting to either dominant language or world lingua franca for scope or opportunities they developed. In the same time, voices of linguistic human rights and preservation and promotion of all languages and medium of instruction in own mother tongue is rising. In this context, this study has attempted to give a track to learning English for Maithili speakers for their professional development.

Finally, in this study, CA has done between English and Maithili language through phonemic analysis in the phonological level and concluded with pedagogical implications.

Statement of the Problem

Ladefoged (2006, p.33) opines “phonology is the descriptive of the systems and patterns of sounds that occur in a language”. Similarly Crystal (2003, p.350) defines phonology as a ‘branch of linguistics which studies the sound system of languages’. Phonology, one of the branches of linguistics which deals with the sound system of particular language embodies the phonemic analysis. Most important work of phonemic analysis is determination of phonemes in a language and proceeded by figuring out the environment of occurrence of allophones of that language.

Nepal is the home of linguistic diversities with the four language families, 123 languages (CBS report 2012) has spoken throughout the country. Most of the languages fall under minority in their use, number of speakers and vitality. Number of languages is highly endangered and verge of extinction. Determinations of phonemes are yet to be done in many languages. It seems to be lead linguistic disaster feature. Extinction of any language from the nation will be an extinction of one of the sources of knowledge. So all minority languages should be studied from the very beginning i.e. determination of phonemes or phonemic analysis.

In the context of Nepal, lack of phonemic analysis of student's mother tongue have been appearing as a big problem in classrooms. Phonemic system of English and phonemic system of one's mother tongue do not match. It creates a mentality of difficulty in learning and teaching English language, in case of Maithili speakers, also implies this situation. In our practice, there is no particular attempt made on the analysis of phonemes of different languages. In this situation, this study has attempted to fulfill the urgent requirement of phonemic analysis of Maithili language prior to English language teaching (ELT) for Maithili speakers in the classroom.

Objectives of this Study

The objectives of this study are as follows:

- i. To list out and determine the phonemes of Maithili.
- ii. To compare and contrast the phonemes of Maithili with phonemes of English.
- iii. To suggest some pedagogical implications.

Research Questions

The research questions of this study are as follows:

- i. What are the phonemes of Maithili language?
- ii. Are English and Maithili phonemes phonemically similar or different?
- iii. How the Maithili phonemes are similar and different with English phonemes?

Significant of the Study

Phonemic analysis is the work which opens the door to analyze the language in advance by finding out and determining the phonemes of Maithili language. It is the first study of Maithili language regarding phonological comparison with English language in the context of Nepal. Thus, it will start the discussion on phonological comparison of diverse mother tongue of Nepal with the English language prior to ELT class. This study is relevant and significant in many ways; firstly, this study is helpful for teacher to develop an ability to pronounce Maithili tongue to reflect English language for target students. Secondly, it will help the policy makers,

curriculum developers, linguists, textbook writer, and stakeholders to develop curriculum of Maithili language as well as curriculum of English and Nepali language relevant to the Maithili speaking students in future. Lastly, but not least, this study will be helpful for its documentation in some considerable extent.

Delimitation of the Study

This study had the following delimitations:

- i. This study was based on the exploration of the consonant phonemes of Maithili language.
- ii. It was limited to the phonemic analysis of Maithili consonant sounds.
- iii. It will be limited to carry out the contrastive distribution of the sounds.
- iv. It was limited in the sense that the primary data were taken from only 35 native speakers of Maithili language based on Sirhali dialect.
- v. Only secondary sources will be used for data of English.
- vi. 25 years above aged were informants in this study.

Operational Definition of the Key Terms

The operational definitions of the key terms are as follows:

Phoneme: The term ‘phoneme’ in this study refers to minimal distinctive sounds of Maithili language.

Maithili: In this study ‘Maithili’ refers to the native people of Eastern part of Trai region (Sirha District) and the name of the language they originally speak.

Minimal Pair: In this study, the term ‘minimal pair’ refers to set of pairs of meaningful Maithili sounds except single alternative sound in the identical environment.

Phonemic Analysis: The term ‘phonemic Analysis’ in this study refers to determination of Maithili phonemes and their comparison and contrast with the English phonemes.

Contrastive Analysis: The term 'Contrastive Analysis' in this study refers to find out the similarities and differences between Maithili and English language and then predicting the areas of difficulty in learning of the English language to Maithili speakers.

CHAPTER II

REVIEW OF RELATED LITERATURE AND CONCEPTUAL FRAMEWORK

This chapter comprises review of related theoretical literatures, review of related empirical literatures, implications of the review for the study and conceptual framework of the study.

Review of Related Theoretical Literature

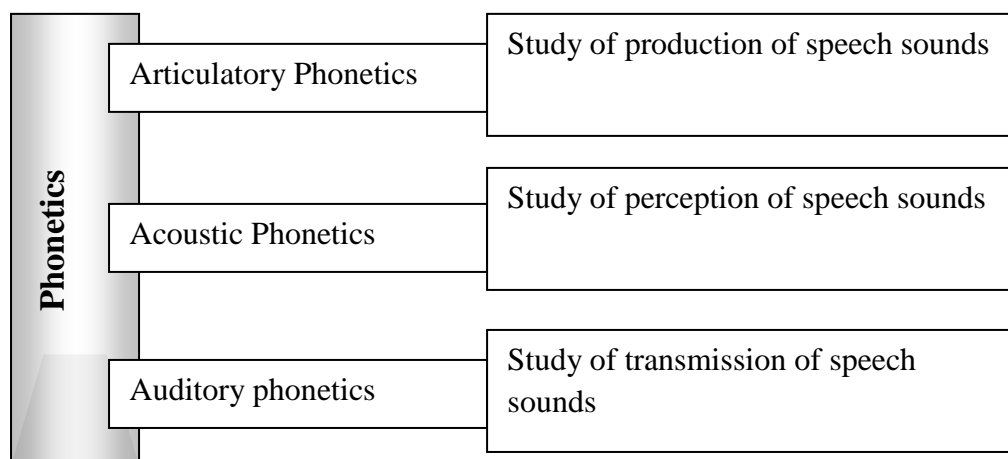
This sub-section discusses with different theoretical perspectives related to the discussion of phonetics, phonology, phonemic analysis, inventory of English phonemes, introduction of Maithili language and contrastive analysis.

Phonetics

Phonetics is the scientific study of human speech sounds. Human communication is primarily based on speech. One's speaking or vocal noise is intended to communicate to other. The speech we use today is the factor what we are today, unlike other creatures on earth. The science, which studies this human entity; the speech sounds, comes under phonetics.

Ladefoged (2001, p.1) opines "phonetics is concerned with describing the speech sounds that occur in the language of the world". Crystal (2003, p.349) gives the meaning of phonetics as "the science which studies the characteristics of human sound making, especially those sounds used in speech, and provides methods for their description, classification and transcription". OALD (2008) defines phonetics as "the study of speech sounds and how they are produced". Catford (1988, p.1) opines "phonetics is the systematic study of human sounds. It provides means of describing and classifying virtually all sounds that can be produced by human vocal tract". Hyman (1975) describes that phonetics study tells how the sounds of a language are made and what their acoustic properties are.

The speech sounds comprise three aspects; production, perception, and transmission. They are entitled as articulatory phonetics, acoustic phonetics, and auditory phonetics in linguistics. These are the core study areas of phonetics. The description of these areas is made by a figure as following:

Figure 1: Aspect of Phonetics

Articulatory Phonetics: It is the study of the production of speech sounds. It describes how vowels and consonants are produced or articulated in various speech organs. The IPA classification is the contribution of this phonetics.

Acoustic Phonetics: It studies the way in which the air vibrates between the mouth of the speaker and the ear of the listener. It has achieved a good deal of success in matter of the study of the vowel sounds but regarding consonants, it has not reached final conclusion.

Auditory Phonetics: It deals with the perception of speech sounds. It studies perceptual response to speech sounds as mediated by ear, auditory nerve and brain.

Scope of Phonetics

O' Corner (1973, as cited in Maharjan, 2013) has talked the four scopes of phonetics. They are as follows:

i. **Language Analysis**

One of the areas of phonetics is transcription of sounds of a particular language. This makes a sound system to looking forward into determination of phonemes with suspicious pairs. Developing writing system of desired language starts from here.

ii. **Language Teaching**

The study of phonetics makes language teachers ease to diagnose errors committed by the students in the classroom due to influence of mother tongue.

Correction of these errors and competent of pronunciation in target language is expected in language teaching learning classroom. The study of phonetics is the main course towards this problem solving.

iii. Speech Therapy

The knowledge of phonetics is helpful to treatment of some speech disorders like; cleft palate patient, cleft lips patient, congenitally deaf child and abnormal linguistic behavior especially when associated with medical conditions.

iv. Communications

The study of phonetics is very helpful to all sorts of communications as phonetics carries the study of human speech sounds. Articulatory, acoustic and auditory phonetics relates the production, transmission and perception of speech sounds respectively. These all, regard the communications.

Phonology

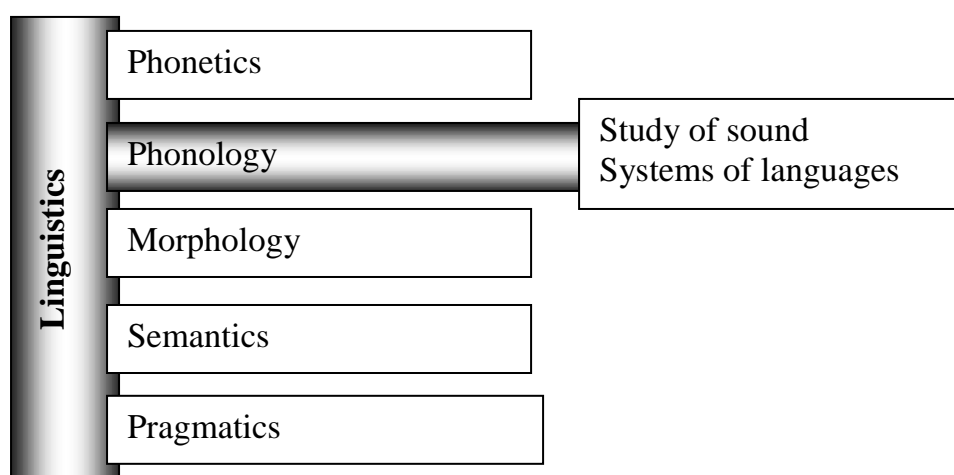
Phonology refers to the study of sound system i.e. the study of how speech sounds structure and function in a language. It aims to determination of phonemes and exploration of environment of their occurrence in a language. Ladefoged (2006, p.33) opines “phonology is the description of the systems and patterns of sounds that occur in a language” similarly, Hyman (1975, p.1) “phonology is the study of sound system of language”. Crystal (2003, p.350) defines “phonology as a branch of linguistics which studies the sounds systems of language”. To sum up, phonology studies how sounds are structured within a system of the language and whether the sounds are meaningful or not in a particular context. Every language has different sound systems in their pattern and use and this can be explored through phonology. Dovrovolsky (1997, as cited in Rai, 2016) mentions the phonology as the component of a grammar made up of the elements and principles that determine how sounds vary and pattern in a language. Hyman (1975, as cited in Rai, 2016) writes about phonology as a study of how speech sounds structure and function in phonology as a study of how speech sounds structure and function in languages. Crystal (2003) defines the phonology as the branch of linguistics which studies the sound system of languages.

To sum up, phonology is the study of sound system in any languages that ignite to describe the use and pattern of sound systems. Every language has different sound systems in their pattern and use and this can be explored through phonology.

Phonology, a branch of linguistics which attempts to discover general principles that underlie the patterning of sounds in human language. The goal of phonology is, then, to study the properties of the sound systems which speakers must learn or internalize in order to use their language for the purpose of communication (Hyman, 1975, p.1). Phonemic analysis tries to aware of what is permissible word in a particular language. It implies phonological awareness of reading and writing in the language.

The phoneme, minimal unit of the sound system of a language (Crystal 2003, p.34) is always distinctive in meaning. It is ‘minimal’ and ‘distinctive’ in the sense it cannot be further split and if the phoneme is replaced by another some category sound in the identical environment, meaning changes. The language belong to some language family may vary the numbers of phonemes. The determination of phonemes is the fundamental and most first work in the study of any language. Because it is the basis for learning language and orthographydevelopment. Phonology is the second aspects of linguistic study following phonetics are preceded by morphology. Figure 2 make clear about position of the phonology in the discipline; linguistics.

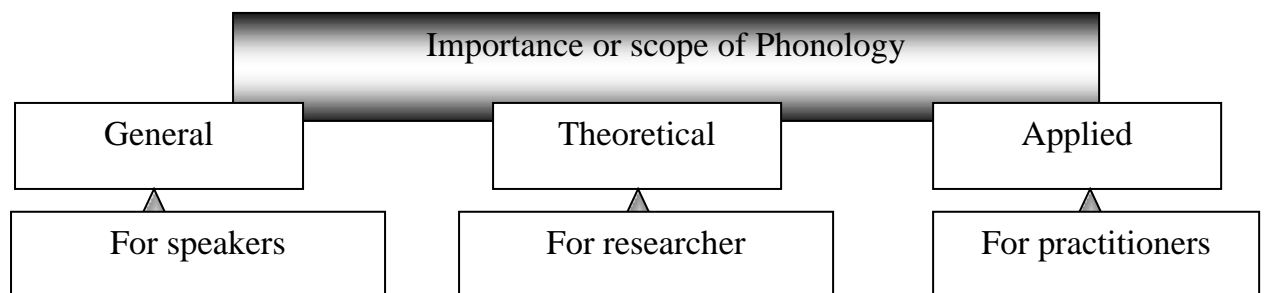
Figure 2: Phonology in Linguistics



Phonological systems of language have two scopes. Firstly, an inventory of the phonemes, secondly, rules which specify the environment of occurrences of the phonemes.

Phonology has general, theoretical and applied importance in language teaching and learning. General importance is related to speakers of a language as the speaker can internalize the sound systems and pattern of language to be fluent in his/her mother tongue. Theoretical importance is related to carrying out linguistic research in the target language as knowledge of phonology makes the push forward to know the pattern of linguistic unit in language. Applied importance of phonology is related to implication of phonemic system of knowledge to literacy experts, teachers, actors, curriculum developers, language learners, speech therapists, neurologists, police and communication engineers. To sum up, importance of phonology is drawn in the following figure.

Figure 3: Importance or Scope of Phonology



Phonemic Analysis

Phonemic analysis is simply known as classical phonology. It is the core part of the phonology. It is the core part of the phonology as it is the discipline to describe sound pattern and function in the language. Winter (2014) mentions two points for phonemic analysis that what exactly it involves:

- i. Establishing the set of phonemes in a language.
- ii. Figure out the phonological rules that determine the environments where allophones occur.

A phonemic analysis reveals if the studied phonemes of the particular language are in complimentary distribution, contrastive distribution or in free variation.

Phonemic analysis has the certain procedures to carry out. The common procedures are as follows:

- i. Making inventories of transcribed phones
- ii. Setting of minimal pairs
- iii. Determination of phonemes
- iv. Determination of allophones
- v. Determination of distribution of phonemes
- vi. Description of consonant clusters
- vii. Description of syllabus structure

Principle of Phonemic Analysis

Phonemic analysis has certain principles to carry out. The general principles are; principle of contrastive and complementary distribution, principle of phonetic similarity, principle of free variation, principle of economy, principle of pattern congruity, and principle of plausibility.

Contrastive and complementary denotes that phonemes are always determined by their distinctive or contrastive proofs and allophones come as complementation of phonemes, phonetic similarity and free variation denote property of allophones share high degree of phonetic similarity and substitution of sound in identical environment without causing meaning change respectively. Economy here refers to economic or reduced use of sound in speech and pattern contiguity refers to occurrence of sound always follow regular pattern as symmetrical. Plausibility refers to occurrence of sounds in two or more environments. The principle of phonemic analysis can be summarized in the figure 4. The core ideas of above are adopted from Yadav (2004, p.127-130). In this study, first one principle has adopted for phonemic analysis.

Figure 4: Principles of Phonemic Analysis

Principles of Phonemic Analysis	Contrast	Contrastive distributions are phonemes
	Complementation	Complementary distributions are allophones
	Phonetic similarity	Allophones share high degree of phonetic similarity
	Free variation	Substitutability of a sound in identical environment causes no meaning change
	Economy	Preferences of shortened form or fewer phonemes in using
	Pattern congruity	Regular and symmetrical appearance of phonemes
	Plausibility	Occurrences of sound in more than two environments

Articulation of Consonant Sounds

Speech production takes place when airflow from the lungs is comes out through speech organs. While production of consonant sounds, airflow is either completely blocked or partially restricted so that there is an audible friction. Consonant sounds are described by their significant phonetic features like; place, manner of articulation, voicing and aspiration.

Place of Articulation

The place of articulation refers to the point in the vocal tract where the airflow is modified to produce different sounds. In producing consonants these points can be found at the lips, within the oral cavity, in the pharynx, and at the glottis. With the environment of different speech organs, consonants are categorized bilabial, labio-dental, dental, alveolar, post-alveolar, retroflex, palatal, velar, glottal etc.

- i. **Bilabial**
During the production of bilabial sound two lips form completely closure, when it suddenly release, bilabial sounds are produced. In English /p/, /b/, and /m/ are bilabial sounds.
- ii. **Labio-dental**
Lower lip makes a narrowing with upper teeth to produced labio-dental sounds. In English /f/ and /v/ are labio-dental sounds.
- iii. **Dental**
Tip of the tongue touches the back part of the upper teeth to produced sounds. In English, /θ / and /ð/ are dentals.
- iv. **Alveolar**
Front of the tongue touches or brought near to the alveolar ridge to produced alveolar sounds. In English, /t/, /d/, /n/, /s/, /z/, /r/, are alveolar sounds.
- v. **Post-alveolar**
Front of the tongue raises to the back part of the alveolar ridge to produced post-alveolar sounds. In English, /ʃ/, /ʒ/, /tʃ/ and /dʒ/ are post-alveolar sounds.
- vi. **Palatal**
Middle of the tongue raises to narrow to palate to produced palatal sounds. In English, /j/ is palatal sound.
- vii. **Velar**
Back of the tongue raises to touch to the velum to produced velar sounds. In English, /k/, /g/ and /ŋ/ are nasal sounds.
- viii. **Glottal**
Vocal cords become active to produced glottal sounds. In English /h/ is glottal sound.

Manner of Articulation

Manner of articulation refers to types of structures made in vocal tract while production of consonant. On the basis of structures in vocal tract, consonants are categorized as stop, nasal, fricative, lateral, affricate, trill, tap/flap, approximant.

i. Stop

Stop sounds are produced with the either complete or momentary closure of airflow through the vocal tract. It is also called plosive sounds. In English, /p/, /t/, /k/, /b/, /d/, /g/, /m/, /n/, /ŋ/ are stop sounds.

ii. Nasal

Nasal sounds are produced with the total closure of the oral cavity and passing of airflow through nasal cavity. In English, /m/, /n/, /ŋ/ are nasal sounds.

iii. Fricative

Fricative sounds are produced with the friction when there is made very narrow space in vocal tract. In English, /f/, /v/, /θ/, /ð/, /s/, /z/, /ʃ/, /ʒ/, /h/ are fricative sounds.

iv. Affricate

Affricate sounds are produced when speech organs make nearly closure to pass airflow with friction. In English, /tʃ/ and /dʒ/ are affricate sounds.

v. Trill

Trill sound is produced when vibrating tip of the tongue taps several times against alveolar ridge and airflow passes in-between of tapping with friction. In English, /r/ is trill sound.

vi. Tap

Tap are also produced just like the trill but in these sounds, there is a single contact or tap between two organs of articulation. In Maithili /r/ is tap sound.

vii. Lateral

Lateral sound is produced without friction, through tip of the tongue makes a light contact with the alveolar ridge to form a closure then the air is released through the mouth along the both lower sides of the tongue. In English, /l/ is lateral sound.

viii. Approximant

Approximant are also called frictionless consonants. In the production of approximants there is a quite closure in vocal tract but remain enough gap to airflow without audible friction as nearly same as production of vowels. In English, /w/, /j/, is approximant sounds.

Voicing

Voicing is a term used to refer to the vibration of the vocal cords during articulation. If a consonant is produced with no vibration in the vocal cords, it is a voiceless consonant. If a consonant is produced with the vibration in the vocal cords, it is called voiced consonants. In English, voiceless and voiced consonants are classified as following:

i. Voiceless

/p/, /t/, /k/, /f/, /s/, /ʃ/, /θ/, /tʃ/, /h/.

ii. Voiced

/b/, /d/, /g/, /v/, /z/, /ʒ/, /ð/, /dʒ/, /m/, /n/, /ŋ/, /r/, /l/, /w/, /j/

Aspiration

In terms of aspiration, consonants are classified into two types: aspirated and unaspirated while production of aspirated sound's a bunch of force of airflow from the lungs is needed or the feature of [h] sound is accompanied with the articulation of particular sounds. It is audible breath which may accompany a sound's articulation, as when certain types of plosive consonants are released (Crystal, 2009, p.37), unaspirated sounds do not have such feature. Aspiration is symbolized by small raised [h].

In English, allophonic variants; [p^h], [t^h], [k^h] of phonemes /p/, /t/, /k/ are aspirated.

Minimal Pair

Minimal pair is couple of words, which has identical environment except only one sound; making meaning change or difference. This is one of the discovery procedures used in phonology to determine which sounds belongs to the same class, or phoneme (Crystal, 2009, p.294).

While setting up minimal pair, a pair of words is picked up, which have same sounds except single sound. If the sound is exchanged by same class category sound and meaning changes; those sounds are determined as phoneme. If sounds do not change meaning, those sounds are determined as allophones. In English, /pin/ and /bin/ make a minimal pair. Here, /p/ and /b/ sounds are belonging to same category

and except these sounds; other environments are same in the words. Exchange of these particular sounds makes meaning change as /pin/ become /bin/ and vice versa. Now, /p/ and /b/ are phonemes in English. But in the pair of /pin/ and [p^hin] meanings do not change in the exchange of /p/ and [p^h]. In this case, /p/ and [p^h] are not phonemes; instead, [p^h] is allophone of /p/.

Inventory of English Consonants

English language has 44 phonemes; having 24 consonants and 20 vowels. Eight vowels are diphthongs. Consonants are of bilabial, labio-dental, dental, alveolar, palatal, velar and glottal in place of articulation and stop, fricative, affricate, nasal, liquid or glide in manner of articulation. Giegerich (2009, p.34) has presented the basic inventory of English consonants as table 1:

Table 1: Inventory of English Consonants

/p/	pie	Pooh	leap	rip	ripe	
/t/	tie	two		writ	write	mitten
/k/	kye	coo	leak	rick		
/b/	buy	boo		rib		
/d/	die	do	lead	rid	ride	
/g/	guy	goo	league	rig		
/tʃ/		chew	leech	rich		Mitchum
/dʒ/		Jew		ridge		pigeon
/m/	my	moue		rim	rhyme	
/n/	nigh	gnu	lean		Rhine	
/ŋ/				ring		
/f/	fie		leaf	riff	rife	
/θ/	thigh		Leith			
/s/	sigh	sue	lease		rice	
/ʃ/	shy	shoe	leash			mission
/v/	vie		leave			
/ð/	thy				writhe	
/z/		zoo			rise	mizzen
/ʒ/						vision
/l/	lie	loo			rile	
/r/	rye	rue	leer			
/w/	Wye	woo				
/j/		you				
/h/	high	who				

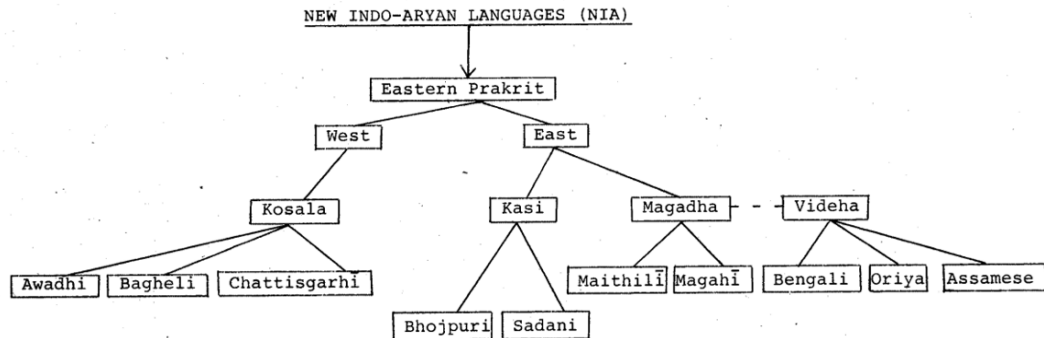
Introduction of Maithili Language

Maithili is one of the most prosperous New Indo-Aryan languages (NIA) spoken in two bordering nation Nepal and India. It is used by around 30 million populace altogether. According to international P.E.N (poets, Essayists and Novelists), it is the 16th largest languages of India. In Nepal, Maithili enjoys the second position in terms of its speakers, Nepali, being the first in rank. Some 12 % of Nepali total population- specially, Terai people seprated in different districts namely Siraha, Sunsari, Morang, Saptory, Udaypur, Dhanusha, Mahotari and Sarlahi use Maithili as their mother tongue. Janakpur is an important linguistic center of Maithili.

In the past, Maithili was recognized either as a dilect of Bengali (Beames 1872-791 reprint 1966: 84-85 as cited in Y, Ramawatar), or eastern Hindi. Today however it is recognized as a distinct language and taught as such in the Indian university of Calcutta, Bihar, Patna, Bhagalpur, Darbhanga and the Tribhuvan university of Nepal. In the past, Maithili was written in the Mithilaskar script, which is akin to the Bengali writing system. No definite date can be determined as to when Maithili began to be written in the Devanagari script. This is an extrapolation, based on the fact that Beames treats Vidyapati (1360-1448) the greatest Maithili poet as a Bengali poet.

No attempt has yet been made to determine the number of people who can use Maithili as their additional language. Maithili, which is written in the Devnagari script nowadays, has its own script known as Tirhuta or Mithilakshar previously. Besides, Mithilakshar, Kaithi script was also used by Kayasthas, the ease of writers and clerks especially in keeping written records at government and private levels. However, for the sake of ease in learn ability and printing, they have virtually been placed totally by Devanagari. Which is script used in writing some Indo-Aryan languages such as Nepali, Hindi, Bhojpuri etc.(Yadav,1999).

Figure 5: Genetic relation of Maithili to other NIA Languages of Eastern India, based on S. Jha (1958)



Dialects of Maithili

Maithili varies greatly in dialects. The standard form of Maithili is central Maithili which is mainly spoken in Darbhanga, Begusarai, Madhubani and Saharsa district in Bihar, India. There are different dialects of Maithili like, Baljika, Thethi, Angika, Eastern, Southern and several other dialects of Maithili are spoken in India of Maithili are spoken in India and Nepal including Dehati, Deshi, Kishan, Bantar, Bermeli, Musar, Tati and Jolha. All the dialects are intelligible to native Maithili speakers. Dialect of Maithili is also seems different in respect to the district wise of Maithili speaking areas of Nepal.

Population of Maithili Mother Tongue

According to the CBS report (2012), the numbers of Maithili speakers are 3,092,532 (distribution is as table 2). This is hugely decreased number in previous census, the number of Maithili speakers were 11053255 in comparison with the number of previous census (2001). It shows the rapid decreasing of the Maithili speakers at present. It is the sign of endangerment to this language in near future.

Table 2: Population of Maithili Mother Tongue

Urban	387,884
Rural	2,704,646
Mountain	3,254
Hill	85,031
Terai	3,004,245
Eastern	1,560,097
Central	1462,298
Western	52,657
Mid-western	8583
Far-western	8895

The data shows that Maithili speakers are centralized in eastern, rural and Terai areas. It is the area, where they originally belong. This data makes a picture of migration of the Maithili speakers to urban, Hill and Central regions of Nepal.

Phonemes of Maithili Language

Maithili language has got some observations regarding number of phonemes. YadavRamawatar (2001) pointed out 8 vowels and 26 consonants as phonemes. Jha, S.K(1993) pointed out 8 vowels and 30 consonant phonemes.

By observing empirical literature of Maithili phonology one can make conclusion regarding inventories of Maithili phonemes as following:

- Vowels

i		u
e	ə	o
æ	a	ɔ
- Consonants:

p	p ^h	b	b ^h	m			
t	t ^h	d	d ^h	n	r	s	l

t	t ^h	d	d ^h
c	c ^h	j	j ^h
k	k ^h	g	g ^h
h			

Contrastive Analysis

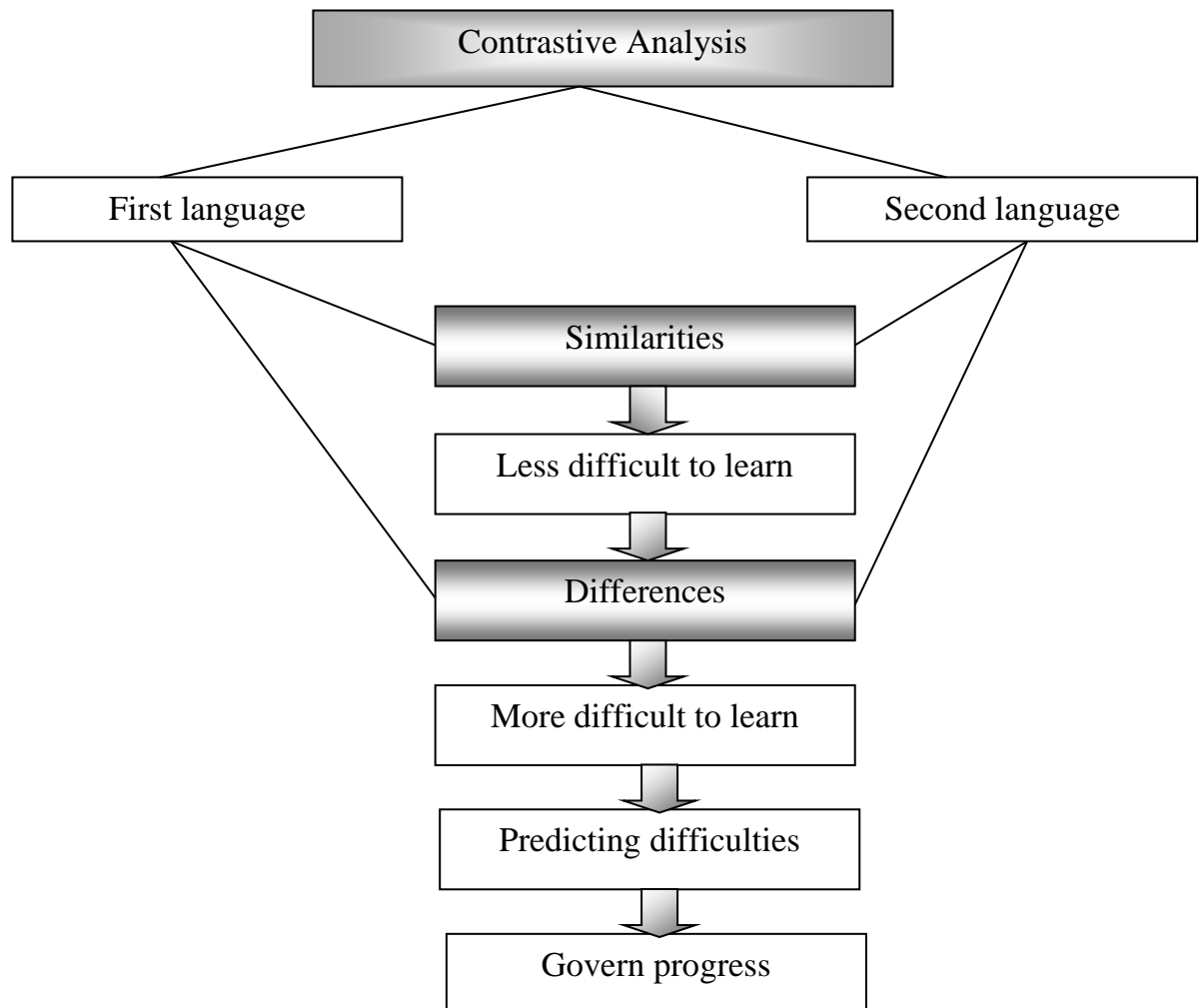
Contrastive Analysis (CA) is an approach to the study of SLA which involves predicting and explaining learner's problems based on a comparison of L1 and L2 to determine similarities and differences (Troike Muriel Saville, 2006, p.34). Its goal to language teaching is to find out or predict the areas of difficulties or possible errors committed by language learner. Robert Lado was the proponent explanatory person of this discipline. In his book "Linguistic Across Culture" published in 1957, Lado has made the following propositions as the functional assumption of his book:

- I. Individuals tend to transfer the forms and meaning, and the distribution of form and meaning of their native language and culture to the foreign language and culture both productively when attempting to speak the language and respectively when attempting to grasp and understand the lg.
- II. In the comparison between native and foreign language lies the key to ease or difficulty in foreign language learning.
- III. The teacher who has made a comparison of the foreign lg with the native lg of the students will know better what the real learning problems are and can better provide for teaching them.

Johanrson (2008) concludes the basic ideas of CA as follows:

- i. Describe and compare the mother first lg and second lg.
- ii. Predict point of difficulty.
- iii. Use the results in order to improve teaching materials.

It is most important for the present time in teaching learning second language. The finding of CA can help teachers to come out of problems in difficulties found in students' learning. Moreover, it is the first and for most important work for language policy makers, curriculum developers, text book writers and stakeholders and present better way to attend in the class of language teaching. The procedures and the implications of CA is summarized as in the following figure:

Figure 6: Procedure and implication of C A

Review of the Related Empirical Literature

One of the literatures on the phonemic analysis of language from Nepal comparing with English language was found. And get some of the languages around the globe are analyzed with English phonology which has theoretically relation with this study helps me to process this study ahead. Thus, those literatures are reviewed in this study. So, that the purpose of this research is clear on its way.

Rahimpur and Dovise (2010) carried out a research entitled “A Phonological Contrastive Analysis of Kurdish and English” in this research; researchers compared and contrasted the sound systems of Kurdish and English for pedagogical aims. The study has focused on segmental and supra segmental comparison and contrast to find the similarities and differences between the two systems and hence the potential areas of difficulty in teaching English to Kurdish native students. The researchers revealed

the generalization of sound systems of the two languages as consonants are more in Kurdish than English and vowels are more in English than in Kurdish and result teaching English for Kurdish native is not without issue.

Rai (2016) carried out a research entitled “Phonemic Analysis of Bantawa and English Sounds”. The purpose of this study is to determine the phonemes of Bantawa language and compare and contrast those sounds with English sounds. The main purpose of this study is to facilitate the Bantawa learners of learning English language. The researcher found that many Bantawa speakers feel English; a most difficult subject. One of the most vigorous difficulties is found in pronunciation. The researcher suggested that phonemic analysis should be done before ELT class.

YadavRamawatar (20011) wrote a book entitled “A Reference Grammar of Maithili”. This book covers an inventory of Maithili sounds and other aspects of grammar.

Hoa (1965) carried out a research entitled "A phonological contrastive study of Vietnamese and English". The purpose of the study is to point out the similarities and differences of the English and Vietnamese sound system in order to help Vietnamese and Americans, both teachers and learners alike, to better teach or learn English as a foreign language.

The researcher himself is the main source of his data as he is the speaker of Hue direct of Vietnamese. He used the survey methodology to find out the vowels, consonants prosodic features and tones of his mother tongue and he compared these linguistic features to the English. The researcher pointed out the number of phonemes is different and some of them are unique to next language.

Kwambeh and Waya (2013) carried out a research entitled "A phonemic contrastive analysis of Tiv and English Segmental". The purpose of the research is compare and contrast the consonantal vocalic segmental of both English and Tiv languages, ascertaining some areas of difficulty where the Tiv learner of English is bound to have challenges. The researchers ascertain that the Tiv consonants are more in number than the English comments, while the English vowels are the same in number with those of Tiv with slight differences in quality. The conclusion of the research is that, there exist both phonological differences and similarities and the differences do account for the possible errors committed by English learner of Tiv

speaker Rashid and Zubairu (2015) carried out a research on "Contrastive analysis of the segmental phonemes of English and Hausa Languages". The study aimed to identify the similarities and differences between the segmental phonemes of English and Hausa languages and to predict learning difficulties among the Hausa native to learning English. The researchers pointed out that the Hausa speakers in Lxigeria learn English as a second language has been heavily influence of their native language. The study concluded the cause of difficulty in pronouncing English among the Hausa speakers is the segmental deviation.

Yadav Ramawatar (2001) pointed out 8 vowels and 26 consonants in Maithili in a book entitled "A Reference Grammar of Maithili".

Implications of the Review for the Study

Ladefoged (2006, p.33) opines “phonology is the description of the systems and patterns of sounds that occur in language”. Winter (2014) mentions two points for phonemic analysis that what exactly it involves; establishing the set of phonemes in a language and figure out the phonological rules that determine the environments where allophones occur. Phonemic analysis has certain principles to carry out. The general principles are: principle of contrastive and complementary distribution, principle of phonetic similarity, principle of free variation, principle of economy, and principle of plausibility are adopted from Yadav (2004).

There are different previous researches works have been reviewed considering them as useful to present research work. These research works have been carried out with different objectives, methodology, and research question and conceptual framework. I got simplified and crucial ideas from the literature. I will go through, my research design, methodology and procedures of data analysis is thoroughly guided by literatures I review here. Hoa (1965) as it was carried out to comparative study of English and a Tibeto-Burman language; Vietnamese. In this study inventories of both languages have made distinctly and made the phonemic analysis in different chapters. In next chapter phonological contrastive analysis has made through common features segments, analysis of clusters etc. Idea has taken through this study to organize the study in context of different levels of analysis. Doraise and Rahimpour (2010) as it made me clear to from the design of this study. Kurdish and English language are

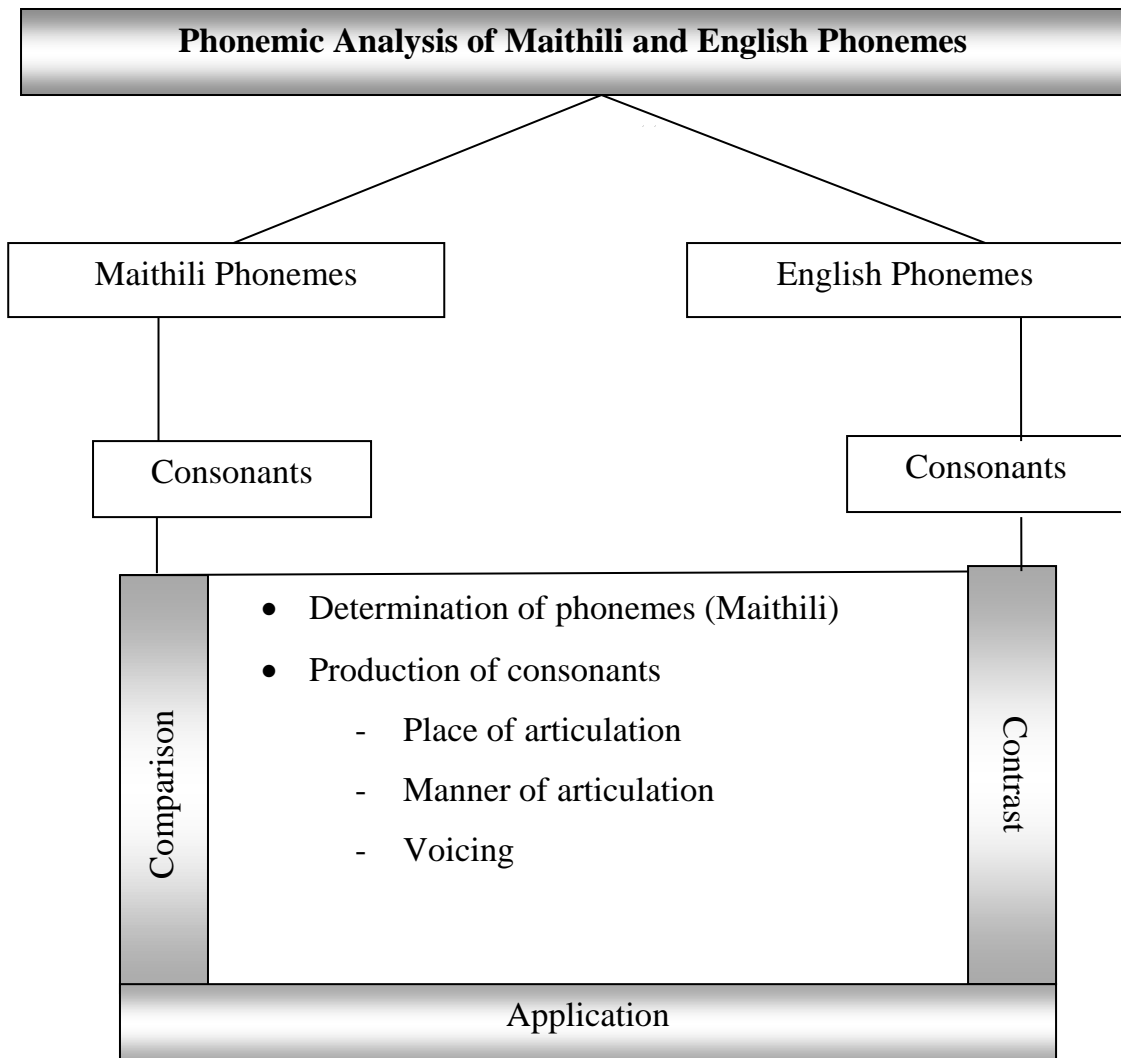
analyzed under the theory of phonological contrastive analysis phonological segments are described differently of each language and then contrasts are analyzed in the following title. As my study is based on determination of phonemic inventories and data collection is based on lexical level. Rai (2016) carried out a research entitled "Phonemic Analysis of Bantawa and English Sounds". The purpose of this study is to determine the phonemes of Bantawa language and compare and contrast those sounds with English sounds. This study gives me to clear ideas to devise my study units and data collection procedures as this study has mentioned the data used in the study in following chapter.

After reserving those research works I updated myself with research process, design and methodological tools which are crucial to enhance my research horizon.

Conceptual Framework

This study is based on theories of contrastive analysis. The overall conceptual framework of my study is listing out the phonemes of both languages. They will be compared and contrasted and it follows the finding of the comparison for action or application.

Figure 7: Conceptual Framework of the Phonemic Analysis of the Study



CHAPTER III

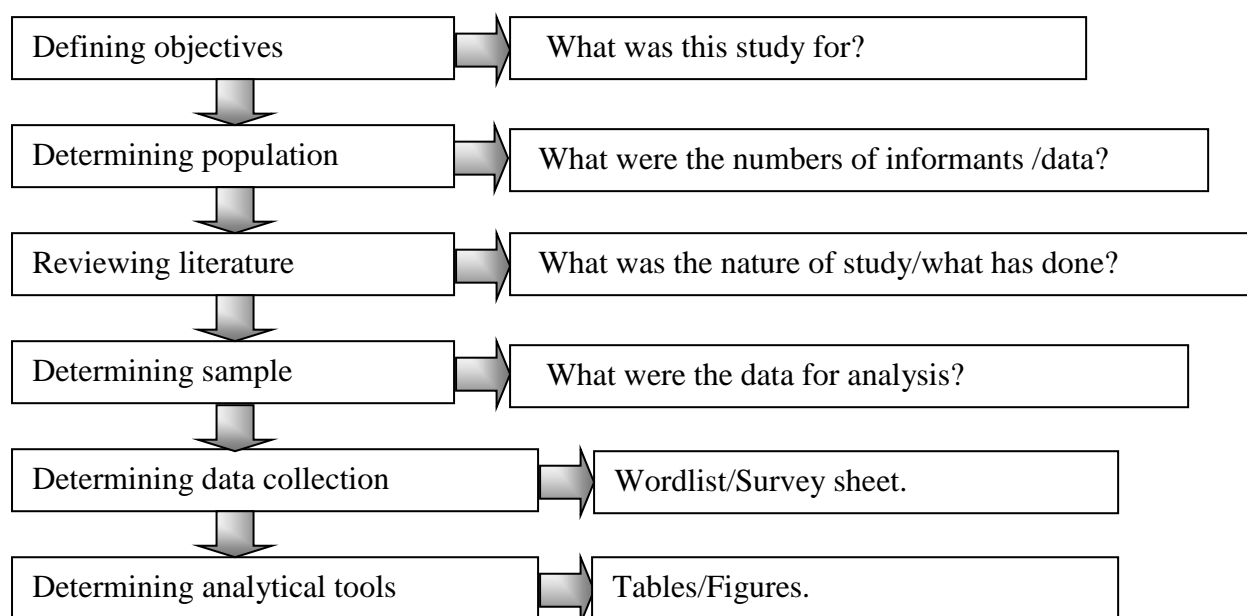
METHODS AND PROCEDURES OF THE STUDY

This chapter comprises the design and method of the study, population sample and sampling strategy, study area/ field, data collection tools and techniques, data collection procedures and data analysis interpretation procedures.

Design of the Study

This study was based on survey research design. I have surveyed the phonemes of Maithili and compare and contrast them with English. The research design defines identification of the problem to listing the findings. Survey is the research design that is mostly used in social science including in the field of education.

I use the model of research design described by Nunan (2010) as following:



to find out and fix the Maithili and English language phonemes a survey had conducted through chart sheet and almost literatures had used for it.

Population, Sample and Sampling Strategy

The population of this study were the speakers of Maithili language. In order to determine the phonemes of Maithili language. I had selected 35 fluent native

speakers of Maithili language as the sample. The sample was selected by using judgmental non-random sampling procedure.

Research Tools

The research tools for this study were comparative wordlists and survey sheet. The purpose of using comparative world lists is to find out the varieties of Maithili sounds, which are transcribed in IPA. Correspondent words, relating English consonants are set out or compared through wordlist transcription. Survey sheet was used for the determination of Maithili phonemes from the different literatures made from the scholars in past days.

Sources of Data

Data were taken from both sources (primary and secondary). English data were taken from secondary sources and Maithili data was taken from primary as well as secondary sources.

Data Collection Procedure

First of all, I was prepared the inventories of English phonemes and make the correspondent wordlist of Maithili language then went to the field, took permission from concerned authority, established rapport with respondent, administered the research tools and finally collect the data.

Data Analysis Procedure

This research had been quantitative than qualitative analysis. Firstly and more prominently, analysis was done manually.

Ethical Consideration

While conducting research, the following research ethics were followed.

- i. Other people's feelings were sensitizing.
- ii. I made sure that I got their permission to use the information that I will be gathering.
- iii. I was focused on voluntary participation.

- iv. No harm to the participants.
- v. Professional code of conduct
- vi. Respect
- vii. I used information from the research only for the purpose for which I asked permission.

CHAPTER IV

ANALYSIS OF DATA AND INTERPRETATION OF RESULTS

This chapter comprises analysis of data interpretation of results and summary of the findings.

Analysis and Interpretation of Data

The analysis made in this chapter is based on the analysis of consonants of Maithili language. The phonemes were collected from secondary sources but they are determined, analyzed and interpreted with the discussion with the informants selected as sample of this study.

The Consonants of Maithili

There were 8 vowels and 26 consonants in Maithili language (as previously described in p. 20). So, before making phonemic analysis, this study requires determination of Maithili consonants by projecting their phonetic appearance and making out their suspicious pairs.

Projection of Consonants of Maithili

Possible or tentative presence of consonants sounds/ phonemes in Maithili talking is taken as projection of Maithili consonants in this study. The data below is retrieved from the recorded data from the wordlists (in Appendixes) and other sources of Materials. The projection of the sounds is given in the following table:

Table 3: Projection of Consonants of Maithili.

Words	Meaning	Possible phonemes
[pæbɔn]	Wind	[p]
[p ^h ul]	Flower	[p ^h]
[ba:r]	Twelve	[b]
[b ^h ul]	Forget	[b ^h]
[mɔ:gi]	Women	[m]
[ta:r]	Below	[t]
[t ^h æn]	Yards of cloth	[t ^h]
[dænʃə]	Bite	[d]
[dha:n]	Paddy	[d ^h]
[nædʒdik]	Hear	[n]
[rætri]	Night	[r]
[sæb]	All	[s]
[l ə:j]	Shame	[l]
[tɔp]	Helmet	[t]
[t ^h ɔp]	Drop	[t ^h]
[d ^h ah]	Jealousy	[d ^h]
[d ^h ah]	Knock down	[d ^h]
[cor]	Thief	[c]
[c ^h or]	Edge	[c ^h]
[jor]	Strength	[j]
[j ^h or]	Soup	[j ^h]
[ka:ri]	Black	[k]
[k ^h am]	Pole	[k ^h]
[gam]	Village	[g]
[g ^h am]	Sweat	[g ^h]
[hat ^h]	Hand	[h]

With this projection of Maithili consonants; instances can be seen as appearances of more aspirated sounds and retroflex sounds. Labio-dental, alveolar and plato-alveolar sounds do not come in this projection. Glottal stop sound is found in Maithili lexicon.

Identification of Minimal pairs

The projected consonant sounds make some same-class minimal pairs for their clear-cut contrast to be the phonemes. Now, the minimal pairs of sounds can be identified as following as suspicious pairs of Maithili consonants.

i. Bilabial plosives

p ~ p^h

b ~ b^h

ii. Dental plosives

t ~ t^h

d ~ d^h

iv. Retroflex plosives

ɖ ~ ɖ^h

ɗ ~ ɗ^h

v. Velar plosives

k ~ k^h

g ~ g^h

vi. Nasals

m ~ n

vii. Palatal Affricates

c ~ c^h

j ~ j^h

viii. Fricatives

s ~ h

Minimal pair for Clear- cut Contrast

Those set of suspicious pairs make enough query to set minimal pairs of sounds and prove them to be as phonemes. The minimal pairs, found to those sounds, are as following:

p	~	p ^h	
/p/	/pul/		‘bridge’
/p ^h /	/phul/		‘flower’
b	~	b ^h	
/b/	/bul/		‘walk’
/b ^h /	/bhul/		‘forget’
t	~	t ^h	
/t/	/tan/		‘music’
/t ^h /	/than/		‘yards of cloth’
d	~	d ^h	
/d/	/dan/		‘charity’
/d ^h /	/dhan/		‘paddy’
ʈ	~	ʈ ^h	
/ʈ /	/ʈ ik/		‘pigtail’
/ʈ ^h /	/ʈ ^h ik/		‘true’
ɖ	~	ɖ ^h	
/ɖ /	/ɖ ol/		‘small bucket’
/ɖ ^h /	/ɖ ^h ol/		‘drum’
k	~	k ^h	
/k/	/kam/		‘work’
/k ^h /	/kham/		‘pole’
g	~	g ^h	

/g/	/gam/	‘village’
/g ^h /	/gham/	‘sweat’
c	~	c ^h
/c/	/cor/	‘thief’
/c ^h /	/chor/	‘edge’
j	~	j ^h
/j/	/jor/	‘strength’
/j ^h /	/jhor/	‘soup’
m	~	n
/m/	/mam/	‘mother’s brother’
/n/	/nam/	‘name’
s	~	h
/s/	/sat/	‘paste’
/h/	/hat/	‘market’
l	~	r
/l/	/laj/	‘shame’
/r/	/raj/	‘nation/ state’

From these above instances all of the projected sounds get minimal pairs to be the phonemes of Maithili language.

Determination of Maithili phonemes

Maithili consonants can be determined now from the minimal pairs given (p.31-32). That have clear-contrast with the sounds in the identical environment. Presence of phonemic aspiration, nasal, Tap, fricatives and lateral are found. It proves that 26 consonants are found in Maithili language altogether as following.

Table 4: Consonants of Maithili Language

p	p ^h	b	b ^h
t	t ^h	d	c
ʈ	ʈ ^h	ɖ	ɖ ^h
k	k ^h	g	g ^h
c	c ^h	j	j ^h
m	n		
s	h		
l	r		

The phonemes found in the Maithili language can be categorized under place of articulation and manner of articulation. Place of articulation represents the involvement of speech organs during pronunciation and manner of articulation denotes the types of stricture or nature of the sound that describes how they produced while articulation. All the consonants of Maithili language can be analyzed in Inventory of Maithili phonemes in following table.

Table 5: Consonant of Maithili in IPA chart inventory

Consonants						
	Bilabial	Dental	Retroflex	Palatal	Velar	Glottal
Stops	p ph b bh	t th d dh	ʈ ʈh ɖ ɖh		k kh g gh	
Affricates				c ch j jh		
Nasals	m	n	(ɳ)		(ŋ)	
Tap		r	(ɽ)			
Fricatives		s	(ʂ)	(ʃ)		h
Lateral		l				
Approximants	(w)			(y)		
Vowels						
	Front	Central	Back			
High	i		u			
Mid	e	ə	o	+/- ~ (nasalization)		
Low	æ	a	ɔ			

In the above table, all consonants of Maithili language, found in this study are presented with category and features they carry. Voiced sounds are placed in right corner and aspirated sounds are placed in upper corner.

Among the 26 consonants, 14 are voiced sounds and 10 are aspirated. The discussion of Maithili phonemes in terms of place and manner of articulation is given below:

Place of Articulation in Maithili Language

There are 6 types of places of articulation take place in Maithili languages. They are bilabial, dental, retroflex, palatal, velar, and glottal. Bilabials are produced with the contact of two lips. They are 5 in numbers in this language; p, p^h, b, b^h, and m. Dental are produced with the tip or blade of the tongue touching the upper front teeth and alveolar ridge t, t^h, d, d^h, n, r, s, and l. Retroflex sounds are produced by touching the hard palate by curved blade of the tongue. They are 4 in number in Maithili language as ʈ, ʈ^h, ɖ, ɖ^h central part of the tongue raised to touch the palate to produced palatal sound. c, c^h, j, j^h in this language and back of the tongue raised to contact with velum to produced velar sounds; k, k^h, g, g^h. Glottal h sound is produced by compressed and suddenly released in the production of glottal sound.

Manner of Articulation in Maithili Language

There are 6 types of manner of articulations made during the production of Maithili consonants. They are stops or plosive affricate, nasal, tap, fricative, and lateral. Stops or plosive are produced when two speech organs make tightly contact and suddenly release. In Maithili language, 16 sounds are plosives among the 26 consonants. They are p, p^h, b, b^h, t, t^h, d, d^h, ʈ, ʈ^h, ɖ, ɖ^h, k, k^h, g, and g^h. Stops are made in different five places in the speech production; viz lips, alveolus, hard palate, palate, velum and glottis. When two speech organs come very closely together and air from lungs passes with stricture, then affricate sounds produced. They are four in number in the Maithili language. They are c, c^h, j, and j^h.

Nasal sounds are produced when the air from the lungs make the air from the lungs make the passage through nose. The sounds m and n are nasals of Maithili language. The tap sound 'r' is produced just like the trills but in this sound there is

single contact or tap between two organs of articulation. Fricatives ‘s’ and ‘h’ produced when two organs come to so close together that the air moving between them produces some audible friction. Lateral ‘l’ is produced with the escape of air from the two sides in the mouth when closures made in the mouth in the production.

Interpretation of all the consonant sounds in the use of Maithili language is made below with the numerous examples from the Maithili lexicon flowingly.

Bilabial voiceless stop: / p /

/ par / ‘across’

/ ə’per / ‘upper’

/sap / ‘snake’

Bilabial voiceless aspirated stop: /p^h /

/ p^har/ ‘ploughsare’

/p^hul / ‘flower’

/ sap^h / ‘clean’

Bilabial voiced stop: / b/

/ babu/ ‘father’

/ jib / ‘soul’

/ sb^hbək / ‘lesson’

Bilabial voiced aspirated stop: / b^h /

/ b^hul/ ‘forget’

/ jib^h / ‘tongue’

/ səb^hek / ‘of every one’

Dental voiceless stop: /t/

/ tarbora / ‘rainbow’

/ patər / ‘thin’

/ pat/ ‘leaf’

Dental voiceless aspirated stop: /t^h /

/ t^han/ ‘yards of cloth’

/ patt^hər/ ‘stone’

/ pat^h / ‘shape’

Dental voiced stop : / d /

/dan/ ‘charity’

/ udar/ ‘generous’

/ bad/	‘after’
Dental voiced aspirated stop: /d ^h /	
/ d ^h an/	‘paddy’
/ u’ d ^h ar /	‘on credit’
/ bad/	‘lands surrounding a village’
Retroflex voiceless stop: / ʈ /	
/ ʈ op/	‘helmet’
/ paʈ i /	‘wooden board’
/ kaʈ /	‘cut’
Retroflex voiceless aspirated stop: / ʈ ^h /	
/ ʈ ^h op/	‘drop’
/ paʈ ^h i/	‘she goat’
/ kaʈ ^h /	‘wood’
Retroflex voiced stop: / ɖ /	
/ ɖ ol/	‘small bucket’
Retroflex voiced stop aspirated stop: / ɖ ^h /	
/ ɖ ^h ol/	‘drum’
Velar voiceless stop: / k/	
/ kam/	‘work’
/ kəkri/	‘a fruit’
/ bik/	‘sell’
Velar voiceless aspirated stop: / k ^h /	
/ k ^h am/	‘pole’
/ k ^h ə k ^h ri /	‘paddy without rice’
Velar voiced stop: /g/	
/gam/	‘village’
/gəgri/	‘small pitcher’
/bag/	‘garden’
Velar voiced aspirated: /g ^h /	
/g ^h am /	‘sweat’
/ g ^h ə g ^h ri /	‘skirt’
/ bag ^h /	‘tiger’
Voiceless palatal affricate: /c/	
/ cor/	‘thief’

/ə'car /	'pickle'
/ bic/	'center'
Voiceless palatal aspirated affricate: / c ^h /	
/c ^h /	'edge'
/ə'c ^h ar /	'shower'
/ bic ^h /	'pick up'
Voiced palatal affricate: / j/	
/ jor/	'strength'
/ bəjəl /	'spoken'
/ bij/	'seed'
Voiced palatal as affricate: /j ^h /	
/j ^h or /	'soup'
/ baj ^h əl /	'entangled'
/ bij ^h /	'rust'
Bilabial nasal": / m/	
/mam/	'mother's brother'
/ name/	'famous'
/ kam/	'job'
Dental nasal: / n/	
/ nam/	'name'
/ nani/	'mother's mother'
/kan/	'ear'
Dental tap: / r/	
/ raj/	'nation/ state'
/ mara/	'a kind of fish'
/ mar/	'beat'
Dental voiceless fricative: / s/	
/ surjə/	'the sun'
/ kəst/	'pain'
/ kos/	'treasury'
Glottal voiceless fricatives: / h/	
/ hos/	'sence'
/ barhiya/	'nice'
/ pərh/	'read'

Dental voiced lateral: /l/

/laj/ 'shame'

/mala/ 'garland'

/mal/ 'cattle'

With these plenty use of the lexicons; one can conclude that Maithili language has 26 clear consonant sounds. Aspiration is highly phonemic in this language. Among the 26 consonants, 10 are aspirated phonemes. Four retroflex sounds are found in this language.

Among the 210 words collected in the data; t , t^h , d , d^h sounds come less frequently. Instead of uses of those sounds, sometimes t , t^h , d , d^h can work. It can be assume that the phonemic aspiration is likely to develop or already developed in this language in some considerable extent.

Comparison and Contrast of Phonemes in Maithili and English Language

In the section above, plenty of discussion on Maithili phonemes has been carried out. In this section, phonemes of Maithili and English have compared and contrasted. To compare the status of phonemes, two comparative tables of phonemes of both languages is made on the basis of place of articulation in table 6 and manner of articulation in table 7 in next page.

Table 6: Comparative table of Maithili and English Consonants Based on Place of Articulation

Place	Maithili	English
Bilabial	P, p ^h , b, b ^h , m	p, b, m
Labiodentals		f, v
Dental	t, t ^h , d, d ^h , n, r, s, l	θ, ð
Alveolar		n, t, d, s, z, r, l
Plato-alveolar		s, ʒ, ʃ, dʒ
Retroflex	t, t ^h , d, d ^h	
Palatal	c, c ^h , j, j ^h	j
Velar	k, k ^h , g, g ^h	k, g, ŋ, w, h,
Glottal	h	h

Table7: Comparative Table of Maithili and English Consonants Based on Manner of Articulation.

Manner	Maithili	English
Stop	p, p ^h , b, b ^h , t, t ^h , d, d ^h , t̪, t̪ ^h , d̪, d̪ ^h k, k ^h , g, g ^h	p, b, t, d, k, g
Affricate	c, c ^h , j, j ^h	tʃ, dʒ
Nasal	m, n	m, n, ŋ
Trill		r
Tap	r	
Fricatives	s, h	f, v, θ, ð, s, z, ʃ, ʒ, h
Lateral	l	l
Approximants		r, j, w

i. Number of Phonemes and their Status

Maithili language has 26 consonants, while English language has 24 consonants. Maithili has 8 dental sounds regarding place of articulation and 16 stop sounds regarding manner of articulation. Which are highest frequent numbers in the segments. English also has high number of alveolar sounds; as place of articulation. But it has fricative sounds are higher in number regarding manner of articulation.

In place of articulation there are 6 categories for Maithili and 8 categories for English. But regarding, manner of articulation, there are 6 categories for Maithili and 6 categories for English.

ii. Aspiration and Voicing

Voicing is regarded as phonemic features both in English and Maithili languages. For most of the consonants, English has pairs of two sounds, which are voiced and voiceless. Maithili has mostly 2 pairs of sounds in one category because aspiration matters in this language and a pair of aspirated sounds come under. English does not counted for aspiration as it is not distinctive feature for this language.

Among the 26 consonants, 14 sounds are voiced in Maithili and 15 sounds are voiced in English. English has no aspirated sounds but there are 10 aspirated sounds for Maithili. Maithili voiced sounds are b, b^h, d, d^h, ɖ, ɖ^h, j, j^h, g, g^h, m, n, r and l, while English voiced sounds are b, d, g, v, z, ʒ, ð, ʒ, m, n, ŋ, r, l, w and j.

In those sounds, all aspirated and retroflex sounds of Maithili are unique to English and dental 'ð' is not found in Maithili which English has.

iii. Plosive

Maithili language has large numbers of plosive stops among the other sounds. There are altogether 16 plosive sounds where most of the aspirated sounds fall under. Each set has 2 pairs regarding place of articulation. Maithili plosive are p, p^h, b, b^h, t, t^h, d, d^h, ʈ, ʈ^h, ɖ, ɖ^h, k, k^h, g and g^h. English has only 6 stops; p, b, t, d, k and g. since aspiration is distinctive phonemic feature in Maithili, large number of aspirated sounds are plosives.

Maithili has 4 types of plosives under place of articulation; /p, p^h, b, b^h/ bilabial, /t, t^h, d, d^h/ dental, /ʈ, ʈ^h, ɖ, ɖ^h/ retroflex, /k, k^h, g, g^h/ velar. On the other hand, English has only 3 types of plosives bilabial p, b, alveolar t, d, and velar k, g both systems of plosives are variant under aspiration and retroflex system.

iv. Affricates

Maithili language has four affricates. Unlike this, English has only two affricate sounds. The sounds c, c^h, j, j^h and ʈ, ɖ are Maithili and English affricates respectively. The affricates found in both languages are distinct in terms of place of articulation.

Maithili affricates are palatal but English affricates are plato-alveolar. Being variance in number is became the phonemic features of aspiration in Maithili. The two sounds ch, j^h are aspirated affricates in Maithili which English lacks.

Nasals

Maithili language has two nasal sounds where as English language has three nasals sound. The sound m, n and ŋ are Maithili and English nasals respectively. They are similar in terms of manner of articulation. The sounds m is similar in terms of

place of articulation but n is different. The sound n is dental in Maithili where as n is alveolar in English.

v. Tap / Trill

A tap sound is found in Maithili; 'r'. But English does not have this sound. English 'r' comes under approximant. The tap is dental voiced in Maithili. It has no aspirated counterpart on this regard.

vi. Fricatives

The fricatives have vast differences in two languages in terms of numbers and place of articulations. Maithili has only two fricatives; dental 's' and glottal 'h'. Unlike this, English has nine fricatives. They are labio-dental f, v, dental θ, ð, alveolar s, z, plato-alveolar ʃ, ʒ and glottal h. Maithili fricatives are both voiceless but first sound of each gottal 'h' pair with gl are voiceless and other are voiced.

Fricatives raise the issue to the English learning to Maithili speakers. Learner seems get more difficulties in pronunciation of labio-dental, alveolar and plato-alveolar sounds of English. Labio-dental sounds get likely to more errors as they seems to produced as bilabials and alveolar stops can be produced as dental of Maithili. Plato-alveolar sounds are likely to be produced as affricates of Maithili.

vii. Lateral

There is single lateral sound in each languages; the 'l'. It is voiced. It is different in terms of place of articulation. In Maithili 'l' is dental where as in English l is alveolar. Being slightly different it may create problematic in ELT class.

viii. Approximants

Maithili language has no any approximants and English has three approximants; r, j and w. It also create problem in ELT class of Maithili learner.

Summary of the Findings

In this study, phonemic analysis of Maithili and English sounds are carried out. The analysis is only based on consonant sounds of both languages. After analyzing and interpreting the data collected from primary and secondary sources, I

have summarized the major finding in following points. From this study the summary of the findings are presented as following:

- i. In Maithili language, there were 26 consonants. This number was larger than that of English; 24 consonants
- ii. Aspiration was phonemic in the Maithili language.
- iii. Unlike English, retroflex sounds were found in Maithili language.
- iv. Place of articulation was different in Maithili and English. In Maithili, there are six places of articulation while English has nine.
- v. As in English, alveolar, labio-dental and plato-alveolar sounds were not found in Maithili language.
- vi. Number of fricatives sounds were limited in Maithili but varied in English.
- vii. All the stop sounds were aspirated in Maithili with phonemic value but aspiration in English was not distinction feature. Aspiration of stops in English is allophonic.
- viii. Nasal consonants of both languages are different as both Maithili; has two nasal sound; ‘m’ bilabial, ‘n’ dental where as English has tree nasal sounds; m bilabial, n alveolar, and ŋ, velar.
- ix. Lateral consonants of both languages are different in terms of place of articulation. Maithili lateral ‘l’ is dental where as English lateral ‘l’ is alveolar.
- x. Approximant sound is not found in Maithili but it is found English language.
- xi. Pronunciation of English labio-dental, alveolar, and plato-alveolars might cause problem for Maithili speakers. English labio-dentals. English labio-dentals might be pronounced as bilabial stops, alveolar stop might be pronounced as dental stops. Plato- alveolar may be produced as affricates.
- xii. Most of the Sanskrit origin show alternation between [y] and [j] like [yes] ~ [jəs].

CHAPTER FIVE

CONCLUSION AND RECOMMENDATION

On this chapter, conclusion of the study has made and possible recommendations are suggested.

Conclusion

Phonemic analysis is the most and very first step to the study of any language. It covers the determination of phonemes, their contrastive and complementary distribution, phonetic similarity, free variation, economy, pattern congruity and plausibility. It states the rules of possible occurrences of phonemes in the structures of sounds and syllables. This study has picked up the first principles of phonemic analysis; contrastive distribution; Firstly, determination of Maithili phonemes are made through identification of phones and their suspicious pairs for contrast their phonemic values. Further, they are analyzed by making their comparison and contrast with the English consonants sounds. All these analysis are followed by findings of the study.

This study is based on survey research design. The researcher had surveyed the phonemes of Maithili in different previous studies. The model of research design was adopted from the Nunan (2010). The researcher had taken 35 fluent native speakers of Maithili language as the sample by using non-random sampling procedures. The primary data is taken from Maithili speaking area of Bariyarpatti of Siraha district by using determined word lists and survey sheet. The researcher had adopted prominently quantitative analysis than qualitative analysis. The covering field of the study related to ELT, development of literacy and foreign language teaching.

From this study, distinct features of Maithili and English languages are found. The number and their place and manner of articulations of Maithili and English are varied. In comparison to English language, Maithili language has the exclusive features of phonemic aspiration. Aspiration has the phonemic values in Maithili. Moreover, all aspirated sounds are phonemes in Maithili languages. Unlike English, Maithili language has more stop sounds and less fricative sounds. Maithili has not labio-dental, alveolar and palato-alveolar sounds which English do exist. CA is seen must needy work to carry out before the ELT to Maithili native speakers.

I found this research is worthy to carry out as I am Maithili native speaker who experienced difficulties in English learning. I found many Maithili speakers feel English; a most difficult subject. One of the most vigorous difficulties is found in pronunciation. I now conclude the reason behind this as it is related to the distinct phonemic system of Maithili and English languages. If phonemic systems of both languages are analyzed in proceeding of ELT, it will certainly work for better achievement in target.

Recommendations

On the basis of the findings and conclusions made after phonemic analysis of Maithili and English sounds, this study has made three sorts of recommendations in next page.

Policy Level

Nepal is the name to diverse mother tongues. But some minority languages are not identified yet. The numbers of languages are surprisingly increasing in resent CBS reports. In this regard, this study recommends the policy related recommendations as following;

- Linguistic survey should be done in the nation to identify all the languages spoken in the nation.
- The government should have policy to carry out documentation of all these languages, so that CA of all languages with the English language can be done.
- English language teacher should be of same mother tongue at least in primary levels.

Practice Level

English is considered as difficult subject in Nepal. Students seem always afraid with the subject as they think it is difficult to learn. School dropout state is ever increasing in country sides. One of the main reasons is reported as medium of instruction in the school for this problem. Students are facing afraid of English as they do not pronounce or write correctly the English words. Native speakers are not aware

of the phonemes and their structures. In this regard, this study recommends the policy related recommendations as following.

- Content of phonemes should be included in mother tongue education.
- Teaching pronunciation based on phonemes of target language should be emphasized.
- Audio- visual teaching material should be produced by local experts based on need of the students and relevant to the course.
- In ELT classroom, contrastive analysis should be done for Maithili native speakers to enhance effectiveness of English teaching and learning.
- One of the reasons, Maithili speakers commit errors in learning English is the system of phonemic differences in Maithili and English languages. ELT should be carried out from the beginning of the phonemic analysis of the all the phonemes (including vowels) of Maithili and English languages for Maithili native speakers.

Further Research

Phonemic analysis is the crucial factor to ELT. But researches regarding these issues are not getting attention to the country. The need to the study can be fulfill by carrying out researches in the field with different topics. In this regard, this study recommends the policy related recommendations as following:

- Phonemic Analysis of Maithili consonants based on the rest of the phonemic principles and based on vowel sounds should be carried out.
- Phonemic Analysis of all the mothers' tongues of Nepali with English language should be carried out.
- Phonemic Analysis of Nepali language; compulsory medium of instruction in Nepal with other mother tongues of Nepal should be carried out.

References

- Catford, J.C. (1977). *Fundamental Problems in Phonetics*.
<https://www.jstor.org/stable/pdf>
- Central Bureau of Statics. (2012). *Population and Housing census2011 (National Report)* Kathmandu: Nepal Government/Central Bureau of Statistics.
- Central Bureau of Statistics.(2001). *Population Census*. Kathmandu: Nepal Government/ Central Bureau of Statistics.
- Chomsky, N. (2006). *Language and Mind*. UK: Cambridge University Press.
- Crystal, D. (2003) *A Dictionary of Linguistics and Phonetics*. UK: Blackwell Publishing Ltd.
- Dobrovolsky, M. (1997). *Phonology: The Function and patterning of sounds. Contemporary Linguistics: An introduction*. New York: St. Martin's Press.
- Geigerich, H. J. (1982). *English Phonology. An introduction*. UK: Cambridge University Press.
- Giegerich, H.J. (2009). *English Phonology: An Introduction*. UK: Cambridge University Press.
- HamersJ.F. and Blanc, B.H.A. (2000). *Bilinguality and Bilingualism*. UK: CPU.
- Hoa, H. T. Q. (1965). *A Phonological Contrastive Study of Vietnamese and English*. An unpublished M.A. thesis submitted to Texas Technological college.
- Hyman, L.M. (1975). *Phonology: Theory and Analysis*. United State of America: Holt Renshart and Winst.
- Jha, S. (1958). *The formation of the Maithili language*. London: Luzac and Co.
- Johannson, S. (2008). *Contrastive Analysis and learner language: A corpus-based approach*. Oslo
- Kwabhehar, S.T. & Waya, D.T. (2013). *APhonemic Contrastive Analysis of Tiv and English Segmental*. *Innovare Journal of Social Sciences*. 2,1,12-14.
- Ladefoged, P. (2001). *Elements of Acoustic Phonetics*. United State of America: The University of Chicago Press.
- Lado, R. (1957). *Linguistics Across Cultures*. Michigan: University of Michigan Press.
- Maharjan, L.B. & Dawadi, S. (2013). *Phonetics and Phonology*. Kathmandu: Sunlight Publication.
- Maithili Language <Wikipedia,the free Encyclopedia

- Nunan, D. (2010). *Research Methodology in Language Learning*. UK: Blackwell Publishers of California, Unpublished Manuscript.
- Rahimpour, M. & Dovaise, M.S. (2010). A Phonological Contrastive Analysis of Kurdis and English. *International Journal of English Studies*.1,2,73-82.
- Wehmeir.S.(ed.)(2005). *Oxford Advanced Learner's Dictionary of Current English*. UK: OUP.
- Winter (2014). *Phonemic Analysis*. Unpublished Manuscript.
- Yadav, R. (1976). Generative Phonology and the Aspirated Consonants of Colloquial Maithili, *Contributions to Nepalese Studies* 4:1, 77-91.
- Yadav, R. (1984). *Maithili Phonetics and Phonology*. Mainz (Germany): Selden & Tamn.
- Yadav, Y.P.(2004) *Linguistics: A Basic Course*. Kathmandu: Sunlight Publication.
- Yadav, Y.P.(2008). *Language. Population Monograph of Nepal*, Kathmandu: CBS and UNPPA.
- Yadav, R. (2011). *A reference grammar of Maithili*. Walter de Gruyter.
- Yule, G. (2010). *The study of Language*. UK: Cambridge University Press. University.

APPENDIX I
COMPARATIVE WORDLIST

SN	English Phonemes	English Words	Maithili Words
1	/p/	Pin	Pul
2	/t/	Tiny	Tan
3	/k/	Kite	Kam
4	/b/	Bite	Bul
5	/d/	Dog	Dan
6	/g/	Glue	Gam
7	/tʃ/	Chit	
8	/dʒ/	Zink	
9	/m/	Mouth	Mam
10	/n/	Nice	Nam
11	/ŋ/	Spring	
12	/f/	Fine	
13	/θ/	This	
14	/s/	Site	Sat
15	/ʃ/	Shine	
16	/v/	Vine	
17	/ð/	That	
18	/z/	Zoo	
19	/ʒ/	Bridge	
20	/l/	Line	Laj
21	/r/	Road	Raj
22	/w/	Wine	
23	/j/	Yatch	
24	/h/	Hide	Hos

APPENDIX II
SURVEY OF MAITHILI CONSONANTS IN LITERATURES

SN	Title of Literature	Name of the Writer/ Researcher	Name of Consonants
1	A reference grammar of Maithili	YadavRamawatar	26
2	CNAS Journal (The Maithili Consonants)	Sunil Kumar Jha	30

APPENDIX III
COMPARATIVE WORDLIST

SN	Meaning	English Transcription	Maithili Transcription
1	Body	[badi]	[dei]
2	Head	[h'ed]	[m æθə]
3	Hair	[hε ə]	[kεj]
4	Face	[fe ɪs]	[mkʌha:d]
5	Eye	[ai]	[neiən]
6	Ear	[i ə]	[kæn]
7	Nose	[nəuz]	[næk]
8	Mouth	[maʊθ]	[mju:hə]
9	Flower	[flaʊ ə]	[fʌ]
10	Tongue	[ti:θ]	[dʒ'ɪb]
11	Breast	[tɜŋ]	[θ a: ən]
12	Belly	[brɛst]	[pet]
13	Arm	[c:m]	[den]
14	Elbow	[ɛlb ə]	[kehu:ni]
15	Palm	[pa:m]	[tærahætθi]
16	Finger	[fɪŋgə]	[ʌŋga:ri]
17	Leg	[lɛg]	[tæŋ]
18	Skin	[skɪn]	[tʃæm]
19	Bone	[boʊn]	[hædi]
20	Heart	[ha:t]	[ka:dhai]

The key concept of basic wordlist is the 100 basic core vocabularies as set out by Morris Swadesh in 1957 first. With this concept, 210 wordlists are using now for

checking the level of lexical status. Actually the list comprises basic nouns, pronouns, verbs, adjectives etc. this is the key concept to all languages irrespective of cultural differences, most likely to have these words and least likely to have borrowed from other languages.

21	Blood	[blʌd]	[kʌn]
22	Urine	[jʊərɪn]	[mʌtrə]
23	To go	[gəʊ]	[ji:b]
24	Village	[vɪlɪdʒ]	[gæm]
25	House	[həʊs]	[grɪ]
26	Roof	[ru:f]	[tʃæ θ]
27	Door	[dɔ:(r)]	[kabad]
28	Firewood	[fɪəwɒd]	[dʒarnə]
29	Broom	[bru:m]	[bcdni]
30	Mortal	[mɔ:tl]	[mcrɑ:ru]
31	To kill	[kɪl]	[mæɾæb]
32	Hammer	[hæəmɔ(r)]	[hæə:di]
33	Knife	[naɪf]	[tʃaku]
34	Axe	[æks]	[kʌdha:rri]
35	Rope	[rəʊp]	[ræsə]
36	Thread	[θred]	[do:rə]
37	Needle	[ni:dl]	[su:ə:]
38	Cloth	[kloθ]	[kæpa:də]
39	Ring	[rɪŋ]	[kædi]
40	Sun	[sʌn]	[ʒɪɾdʒ]
41	Moon	[mu:n]	[tʃæn]
42	Sky	[skəɪ]	[asæmən]
43	Star	[sta(r)]	[ta:rrə]

44	Rain	[reɪn]	[ba:rkə]
45	Water	[wɔ:tə(r)]	[dʒæɪ]
46	River	[rɪvə(r)]	[di:ha:r]
47	Cloud	[klaʊd]	[mɛg]
48	Lighting	[ləɪtn]	[sænhɪpæn]
49	Rainbow	[reɪnbəʊ]	[ta:rbɔ:rə]
50	Wind	[wɪnd]	[pæbən]
51	Stone	[stəʊn]	[pæ θɑ:r]
52	Path	[pɑ:θ]	[ræsttə]
53	Sand	[sænd]	[bɔ:l]
54	Fire	[faɪə(r)]	[ɑgɪn]
55	To hear	[hɪ ə(r)]	[sʌnæh]
56	Ash	[æʃ]	[sməʊ]
57	Mud	[mʌd]	[θæɪ]
58	Dust	[dʌst]	[dʒɔrrə]
59	Gold	[gəʊld]	[sʌn]
60	Tree	[tri:]	[gætʃə]
61	Leaf	[li:f]	[pɑ:t ə]
62	Roof	[ru:t]	[dʒeɪd]
63	Throne	[θr əʊn]	[rɑdʒsɪnhæsən]
64	Hand	[hænd]	[hath]
65	Fruit	[fru:t]	[fæɪ]
66	Mango	[mæŋgəʊ]	[ɑ:m]
67	Banana	[bəna:nə]	[kiərə]
68	Wheat	[wi:t]	[gæhəm]
69	Barley	[ba:li]	[c]
70	Rice	[raɪs]	[di:hæn]

71	Potato	[pətɜrtəʊ]	[alhai]
72	Eggplant	[egpl a:nt]	[beɪgən]
73	Chilly	[tʃɪli]	[m a:r tʃi]
74	Turmeric	[tɜ:m 'erɪk]	[ha:rdi]
75	Garlic	[ga:lɪk]	[la:sʌn]
76	Onion	[ʌnjən]	[paɪə ɔ: dʒ]
77	Cauliflower	[k'ɔ:lɪfl 'aʊə]	[bafɔlkouɪ]
78	Tomato	[təma:təʊ]	[tæmætə]
79	Cabbage	[kæbi dʒ]	[tækoubaɪ]
80	Oil	[əɪl]	[tɛl]
81	Salt	[s ɔ:lt]	[nʌn]
82	Meat	[mi:t]	[mænz]
83	Fat	[fæt]	[[tʃa:rbai]
84	Fish	[fɪs]	[mæ tʃə]
85	Chicken	[tʃɪkɪn]	
86	Egg	[Eg]	[dɪm ə]
87	Cow	[kaʊ]	[gi:]
88	Buffalo	[bʌf əl əu]	[ba:z]
89	Milk	[mɪlk]	[dʌdh ə]
90	Horn	[h ɔ:n]	[ba:mh ə]
91	Tail	[teɪl]	[pʌtʃ]
92	Goat	[g əʊt]	[bækri]
93	Dog	[d ɔ:g]	[kju:r ə]
94	Snake	[sneɪk]	[sæp]
95	Monkey	[mʌŋki]	[bæn ə]
96	Mosquito	[m əski:t əʊ]	[m əski:t əʊ]
97	Ant	[ænt]	[tʃi:ri]
98	Spider	[spaɪdə(r)]	[mækda]

99	Name	[neɪm]	[næm]
100	Man	[mæn]	[ɑ:da:mi]
101	Women	[wʊmən]	[mɔ:gi]
102	Child	[tʃaɪld]	[bɪdræ]
103	Father	[fɑ:ðə(r)]	[ba:bu]
104	Mother	[mʌðə(r)]	[mi:]
105	Elderbrother	[eldəbrʌðə(r)]	[beɪjə]
106	Eldersister	[eldə(r)sɪstə(r)]	[bæhi:n]
107	Down	[daʊn]	[dʰəh]
108	Son	[sʌn]	[beɪtə]
109	Daughter	[dɔ:tə(r)]	[bɪti]
110	Husband	[hʌzbənd]	[si:]
111	Wife	[waɪf]	[bɔ:]
112	Boy	[bɔɪ]	[tʃa:ju:də]
113	Girl	[gɜ:l]	[ʃɔɪ]
114	Day	[deɪ]	[di:n]
115	Night	[naɪt]	[rætri]
116	Morning	[mɔ:nɪŋ]	[bo:r]
117	Noon	[nu:n]	[da:fa:r]
118	Evening	[i:vnɪŋ]	[sædʒ]
119	Yesterday	[jestədeɪ]	[kæli]
120	Today	[tədeɪ]	[a:i:]
121	Tomorrow	[təm arəʊ]	[kæli]
122	Week	[wi:k]	[]
123	Month	[mʌnθ]	[mæs]
124	Year	[ɪə(r)]	[ba:rkə]
125	Old	[əʊld]	[pjɔrən]
126	New	[nju:]	[nbæ]
127	Good	[gʊd]	[ni:k]
128	Bad	[bæd]	[ka:rræp]
129	Wet	[wet]	[gɪl]

130	Dry	[draɪ]	[rɒkə]
131	Long	[lɒŋ]	[næmhar]
132	Short	[ʃɔ:t]	[tʃəʊt]
133	Hot	[hɒt]	[garam]
134	Cold	[kəʊld]	[thænd]
135	Right	[raɪt]	[θɪk]
136	Left	[left]	[beɪ]
137	Near	[nɪə(r)]	[næ dʒdɪk]
138	Far	[fa(r)]	[djɔr]
139	Big	[bɪg]	[mæhæn]
140	Small	[smə:l]	[tʃa:t]
141	Heavy	[hevi]	[ba:ri]
142	Light	[laɪt]	[hæɪk]
143	Above	[əbʌ]	[u:pə]
144	Below	[bi:ləʊ]	[ta:r]
145	White	[waɪt]	[u:dʒ ta:r]
146	Black	[blæk]	[kæri]
147	Red	[red]	[læɪ]
148	One	[wʌn]	[ɛk]
149	Two	[tu:]	[du:]
150	Three	[θri:]	[tɪn]
151	Four	[fɔ(r)]	[tʃɛr]
152	Five	[faɪv]	[pæ tʃ]
153	Six	[sɪks]	[ʃæt]
154	Seven	[seven]	[sæt]
155	Eight	[eɪt]	[ɑ: θə]
156	Nine	[naɪn]	[næb]
157	Ten	[ten]	[dæʃ]
158	Eleven	[ɪlevn]	[ɛg a:r]
159	Twelve	[twelv]	[b a:r]
160	Twenty	[tenti]	[bɪʃ]

161	Hundred	[hʌndrəd]	[sæt]
162	Who	[hu:]	[ku:n]
163	What	[wʌt]	[keɪθi]
164	Where	[weə(r)]	[kɑ:]
165	When	[wen]	[kæb]
166	How many	[haʊmeni]	[ki:]
167	Which	[wɪ tʃ]	[ku:n]
168	This	[ðɪs]	[i:]
169	That	[ðæt]	[u:]
170	These	[ði:z]	
171	Those	[ðəʊz]	
172	Different	[dɪfrənt]	[bi:n]
173	Whole	[həʊl]	[pʊrɪ]
174	Broken	[brəʊkən]	[flæ]
175	Few	[fju:]	[ekæd]
176	Many	[meni]	[bæhʌt]
177	All	[ə:l]	[sæb]
178	To eat	[i:t]	[kɑ: ɛb]
179	To bite	[baɪt]	[dænf ə]
180	To be hungry	[hʌŋ gri]	[kɑ:nhən]
181	To drink	[drɪnk]	[pɛræb]
182	To be thirsty	[θ ɛ:sti]	[ti:bæsəl]
183	To sleep	[sli:p]	[sʌtb]
184	To lie	[lai]	[dʒeɪhʌθ]
185	To sit	[sɪt]	[beɪsæb]
186	To give	[gɪv]	[dɛb]
187	To burn	[b ɛ:n]	[dʒæ ræb]
188	Strength	[daɪ]	[mæ ræb]
189	Soup	[su:p]	[jhor]
190	Work	[wɜ:k]	[kam]
191	Pole	[pəʊl]	[kham]
192	Sweat	[sw ɛt]	[gham]
193	Fame	[fæɪm]	[j əs]

194	If	[ɪf]	[jədi]
195	Yadav	[jɑdɑh]	[jadəb]
196	Travel	[træv əl]	[jatra]
197	Shame	[ʃeɪm]	[ɪləːj]
198	Helmet	[hɛlh ənt]	[təp]
199	Drop	[drɑ:p]	[tʰəp]
200	Jealously	[dʒiliəsli]	[d ə:h]
201	We	[wi:]	[hæmsəb]
202	They	[ðeɪ]	[i:səb]
203	Walk	[wɔ:k]	[tʃæləb]
204	Forget	[fərgət]	[bhul]
205	Music	[mju:zɪk]	[tan]
206	Yards of cloths	[j'ɑ:ɪdsəfkl, əθs]	[than]
207	Small bucket	[sm'ɔ:l b'ʌkɪt]	[dol]
208	Drum	[drʌm]	[dhol]
209	Thief	[θi:f]	[cor]
210	Edge	[ɛ dʒ]	[chor]