

Phonological Study of Kokborok and English from the Perspective of Contrastive Analysis

Mery Rupini¹ Timothy Tripura² & Khawlsongkim Suantak³

Abstract

Kokborok and English are two different languages. Kokborok is a language belonging to the Tibeto-Burman family, primarily spoken in the North Eastern region of India particularly in the states of Tripura, Assam, Mizoram and in the Neighbouring country Bangladesh, whereas, English is a global language that is part of the Indo-European language family. The present paper attempts to compare and contrast the sound systems of Kokborok and English to ascertain the similarities and distinctions in the sound systems of the two languages. This paper also highlights the challenges and the most common errors made by the Kokborok speakers while learning English as their second language.

Keywords: Kokborok; Tibeto-Burman; English language; Indo-European; second language

INTRODUCTION

In the world today, there are about six thousand languages spoken. Each language possesses a unique sound structure, characterized by variations in the quantity of vowels and consonants, the use of tonal differences, stress patterns, and syllable shapes. Despite these differences, it is clear that all languages exhibit certain similarities in their sound system structures. Each language comprises distinct sounds that form its complete sound system, with some languages sharing numerous similar sounds while others do not. To explore this further, a contrastive analysis has been conducted on the sounds of English and Kokborok, identifying points of interference and their manifestations in actual usage. Contrastive Analysis (CA) involves a systematic examination of two or more languages to discover their structural similarities and differences. Lado (1957) noted that elements resembling the learner's native language are easier to grasp, while those that differ pose greater challenges. Therefore, this paper aims to compare the phonemes of Kokborok and English to highlight both the similarities and differences in their sound systems.

Kokborok and English belong to different language families with diverse phonological structures. Kokborok which is spoken in the states of Tripura, some parts of Northeast Indian states and in the neighbouring country Bangladesh belongs to Bodo-Garo group of the Tibeto Burman branch of Sino-Tibetan language family (Grierson 1903 Vol.III, part II), whereas, English language is classified within the West Germanic branch of the Indo-European language family. This approach aims to anticipate potential pronunciation errors made by a Kokborok speaker who is attempting to master the English sound system. It is based on the premise that phonemes in the learner's native language that correspond directly to those in the target language do not present significant challenges. On the other hand, phonemes in the native language that are arranged and allocated differently from those in the target language can result in significant challenges in the learning process.

OBJECTIVES

The objective of the studies are

- To compare and contrast the sound systems of Kokborok and English,
- To identify the similarities and distinctions in the sound systems of the two languages.

¹ Assistant Professor, Sri Aurobindo General Degree College (English Medium) Tripura, India under Tripura University, Agartala, Tripura, India. 📞 0009-0000-1107-7271 ✉ rupinimery@gmail.com

² PhD Research Scholar, Tripura University, Agartala, Tripura, India. 📞 0009-0007-5758-5774 ✉ timothymcveigh2@gmail.com.

³ Assistant Professor, Tripura University, Agartala, Tripura, India. 📞 0000-0002-4827-6669 ✉ skimvaiphei@gmail.com

- To explore the phonemes, present in Kokborok that function as allophones in English.

METHODOLOGY

For the execution of this study, information has been gathered from both primary and secondary sources. Primary data was obtained from reliable Linguists, while secondary data was sourced from various materials, including books, edited volumes, academic journals, research articles, and Ph.D. theses.

SEGMENTAL FEATURES OF KOKBOROK AND ENGLISH

Vowels

Monophthongs

Vowels are produced when voiced air flows through various configurations of the mouth, with the variations in mouth shape resulting from the distinct positions of the tongue and lips (J.D. O'Connor, 1980). The production of vowels sounds depends fully on the degree of raising the tongue without causing friction or closure on the part of the tongue that is raised and no matter, whether the lips are kept spread, open or rounded. Kokborok has 6 vowels, 3 diphthongs while English has 12 vowels, 8 diphthongs. The vowel systems of Kokborok and English can be illustrated using the following vowel diagrams.

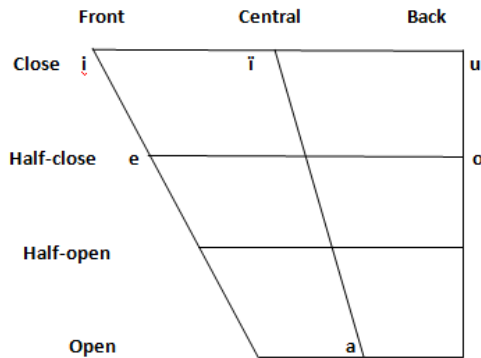


Figure 1: Kokborok Vowels

Table 1: Kokborok vowels

	Front Unrounded	Central Neutral	Back Rounded
High	i	ĩ	u
Mid	e		o
Low		a	

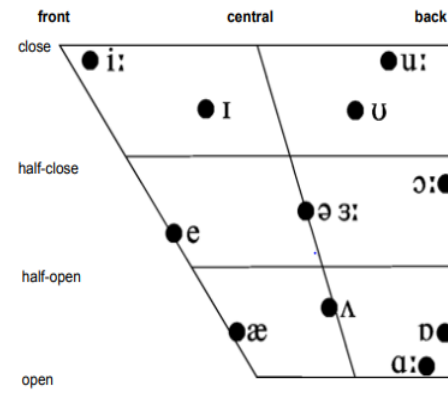


Figure 2: RP English monophthongs (Roach 2000: 242)

Table 2: English Vowel Phonemes

	Front Unrounded	Central Neutral	Back Unrounded/Rounded
High	i:		u:
	ɪ		ʊ
Mid-high	e		ɔ:
Central-mid		ə ɜ:	
Mid-low			
Near-low	æ	ʌ	ɒ
Low			ɑ:

As seen in the above diagrams, the number of vowels and the vowel system of Kokborok and English have a vast difference. English has a twenty-vowel system whereas Kokborok has a nine-vowel system (Table 3). In Figure 1 and 2 above, the pure vowels (monophthongs) of English and Kokborok have been shown. Whereas in Figure 3 and 4 the diphthongs of Kokborok and English are shown respectively. On the basis of the Table 3 and Figure 1 and 2, the phonemic differences are summarized below:

- Kokborok has 6 pure vowels phonemes or monophthongs / i, e, a, u, o, ĩ / and 3 diphthongs / oi, ui, ai/. The vowel system of English consists of 12 pure vowels, which are /i:, ɪ, e, æ, ʌ, ɑ:, ɒ, ɔ:, ʊ, u:, ɜ:, ə/, along with 8 diphthongs: /eɪ, aɪ, ɔɪ, əʊ, aʊ, ɪə, eə, ʊə/. There are five triphthongs /eɪə, aɪə, ɔɪə, əʊə, aʊə/ in English, whereas it is absent in Kokborok.
- English features a phonemic variation that differentiates between short vowels and long vowels. The English language comprises seven

short vowels, also known as monophthongs, represented by the symbols /ɪ, e, ʌ, ɒ, ʊ, ə, æ/, alongside five long vowels or monophthongs, denoted as /i:, ɜ:, ɑ:, ɔ:, u:/. In Kokborok, the length of vowels is not phonemic, which results in all six vowels / i, e, a, u, o, ɪ / being pronounced as short vowels. Generally, the difference is characterized by a contrast between tense and non-tense pronunciation, rather than by the length of the sounds. The vowels in Kokborok are voiced and oral.

Table. 3: Number of Vowel Phonemes in Kokborok and English

No	Type of Vowels	Number Of Vowels In		
		Kokborok	English	
1	Pure Vowels (or) Monophthongs	Long	-	5
		Short	6	7
2.	Diphthongs	3	8	
Total Number of Vowel Phonemes		9	20	

- Kokborok has only one vowel /o/ as against two English phonemes /ɒ, ɔ: /.
- Kokborok has one vowel phoneme / ɪ / corresponding to the three distinct central vowel phonemes /ʌ, ɜ:, ə / in English.

- Kokborok features two front vowel phonemes, /i/ and /e/, in contrast to the four phonemes found in English, which are /i:/, /ɪ/, /e/, and /æ/. The English vowels /ɪ/ and /æ/ are absent in Kokborok, as a result, they constitute a major learning problem faced by the Kokborok speakers while learning an English language.
- Kokborok has two central vowels /i/ and /a/ whereas English has three /ʌ, ə, ɜ:/. Kokborok doesn't have the English central vowel /ɜ:/, therefore, it can cause a learning problem.
- Kokborok consist of two back vowels /u, o/ as against five /u:, ʊ, ɒ, ɔ:, ɑ:/ in English. Hence the vowel absent in Kokborok phonological system may lead to serious learning problem.
- In Kokborok, the English front low unrounded vowel /æ/ and the mid unrounded vowel /ʌ/ is absent. And also, instead of the English back low rounded vowel /ɑ/, Kokborok has low central vowel /a/.
- The vowel phonemes /ɪ/i, e, ʌ/a, and ʊ/u exhibit similarities or partial similarities between English and Kokborok. The vowels that are specific to English consist of /i:, æ, ɑ:, ɒ, ɔ:, u:, ɜ:, ə/. The vowel phoneme / ɪ, o / are exclusive to Kokborok (Table 4).

Table. 4: Occurrence of Pure Vowels in Kokborok and English

SL. NO.	PHONEME	OCCURRENCE BOTH IN KOKBOROK AND ENGLISH	OCCURRENCE EXCLUSIVE TO	
			KOKBOROK	ENGLISH
1.	<u>i:</u>	-	-	+
2.	<u>ɪ</u> / <u>ɪ</u>	+		
3.	<u>e</u>	+		
4.	<u>æ</u>	-	-	+
5.	<u>ʌ</u> / <u>a</u>	+		
6.	<u>ɑ:</u>	-	-	+
7.	<u>ɒ</u>	-	-	+
8.	<u>ɔ:</u>	-	-	+
9.	<u>o</u>	-	+	-
10.	<u>ʊ</u> / <u>u</u>	+		
11.	<u>u:</u>	-	-	+
12.	<u>ɜ:</u>	-	-	+
13.	<u>ə</u>	-	-	+
14.	<u>ɪ</u>	-	+	-

Diphthongs

Kokborok features three diphthongs: /oi, ui, ai/, while English comprises eight diphthongs: /Iə, eə, ʊə, eɪ, aɪ, ɔɪ, əʊ, aʊ/, in addition to five triphthongs: /eɪə, aɪə, ɔɪə, əʊə, aʊə/. Kokborok has 4 diphthongs which are shown below with their distributions; Kokborok has i-ending diphthongs which is a closing diphthong.

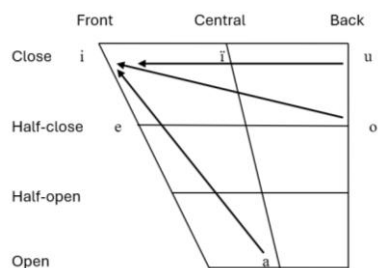


Figure 3. Articulation of the Kokborok diphthongs oi, ui, ai

Table 5: Distribution of Kokborok diphthongs

Diphthongs	Initial	Gloss	Medial	Gloss	Final	Gloss
/oi/	oi	'to draw someone's attention'.	Koili	nose-ring	soi	'to tolerate'
/ui/	-	-	Muikong	lady'sfinger	mui	curry
/ai/	aicuk	dawn	Taito	olive	sai	husband

English comprises eight diphthongs, which are grouped into two significant categories according to their phonetic labels, emphasizing the phonetic characteristics of their final segments. Diphthongs that conclude with the close vowels [ɪ] or [ʊ] are referred to as closing diphthongs, while those that end with the central vowel [ə] are termed centring diphthongs. Figure 4 illustrates the articulation of English diphthongs.

Table 6: English diphthongs (Gregová 2017: 64)

Diphthongs		
Closing	ending in ɪ	eɪ, aɪ, ɔɪ
	ending in ʊ	əʊ, aʊ
Centring	Ending in ə	Iə, eə, ʊə

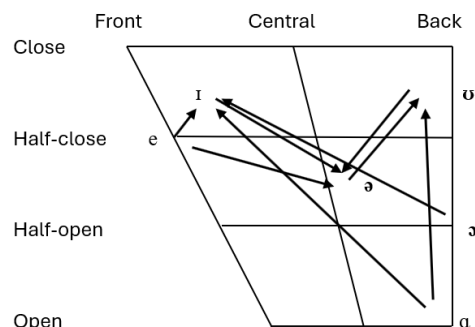


Figure 4. Articulation of the English diphthongs eɪ, aɪ, aɪ, ɔɪ, əʊ, aʊ, Iə, eə, and ʊə.

Distributions of 8 diphthongs in English are shown below along with transcriptions:

Table 7: Distribution of English diphthongs

Diphthongs	Initial	Transcription	Medial	Transcription	Final	Transcription
/Iə/	ear	/Iə(r)/	Beard	/bIəd/	near	/nIə(r)/
/eə/	air	/eə(r)/	Stared	/steəd/	hair	/heə(r)/
/ʊə/	-	-	Toured	/tʊəd/	sure	/ʃʊə(r)/
/eɪ/	age	/eɪdʒ/	Take	/teɪk/	play	/pleɪ/
/aɪ/	Eye	/aɪ/	Light	/laɪt/	fry	/fraɪ/
/ɔɪ/	oil	/ɔɪl/	Voice	/vɔɪs/	boy	/bɔɪ/
/əʊ/	open	/əʊpən/	Most	/məʊst/	go	/gəʊ/
/aʊ/	out	/aʊt/	House	/haʊz/	cow	/kaʊ/

Table 8: Occurrence of Diphthongs in Kokborok and English

No.	Diphthong	Occurrence Both in Kokborok and English	Occurrence exclusive to	
			Kokborok	English
1.	eɪ	-	-	+
2.	aɪ / ai	+		
3.	ɔɪ / oi	+		
4.	əʊ	-	-	+
5.	aʊ	-	-	+
6.	Iə	-	-	+
7.	eə	-	-	+

8.	ʊə	-	-	+
9.	ui	-	+	-

- Based on the observance of Table 8, we can summarised that the diphthongs / aɪ/ai/, ɔɪ/oi / are similar/partially similar in English and Kokborok. The diphthongs exclusive to English are / ɪə, eə, ʊə, eɪ, əʊ, aʊ /. Only the diphthong / ui / is exclusive to Kokborok.
- English has five closing diphthongs (*ɪ and ʊ - ending*) and three ə - ending centring diphthongs (see Table 6), whereas all the 3 diphthongs in Kokborok are *i – ending* closing diphthongs.
- Diphthongs in both English and Kokborok are monosyllabic, long, and are considered to be falling (*the first element is stronger and longer than the second element which ends with a short vowel*) rather than rising (*when the initial element is weaker than the subsequent element*).
- Among the 3 diphthongs / oi, ui, ai / in Kokborok, /oi/ and /ai/ occurred in all the word position where as diphthong /ui/ occurred only in the medial and final word position.
- In case of English diphthongs such as / eɪ, aɪ, ɔɪ, ɔɪ, əʊ, aʊ, ɪə, eə, ʊə/, all the diphthongs occurred in all the word position except /ʊə/ which occurred only in the medial and final.

Triphthongs

Kokborok does not contain triphthongs; however, English features five triphthongs. The

classification of these triphthongs within the English sound system remains somewhat uncertain, as some linguists argue that a triphthong is merely a closing diphthong followed by the vowel schwa /ə/. According to (Roach 2000:24), triphthongs are usually diphthongised or even monophthongised in speech. Several linguists contend that a triphthong involves a gliding motion of the tongue transitioning from the position of the first vowel to that of the second, and subsequently to the third vowel (see Figure 5). They are characterized by being both monosyllabic and long.

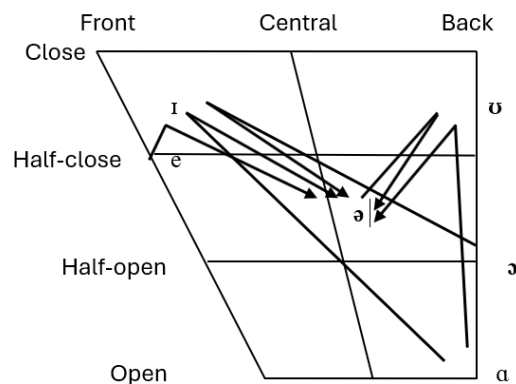


Figure 5. Articulation of the English Triphthongs /eɪə, aɪə, ɔɪə, əʊə, aʊə/.

English has 5 triphthongs. The under mentioned are the English triphthongs with examples:

Table. 9: Distribution of English triphthongs

Diphthongs	Initial	Transcription	Medial	Transcription	Final	Transcription
/eɪə/	--	-	-	-	layer	
/aɪə/	ireland	/aɪə(j)lənd/			liar	/laɪə/
/ɔɪə/	-	-	royal	/rɔɪəl/	lawyer	/lɔɪə(j)/
/əʊə/	-	-	-	-	lower	/ləʊə/
/aʊə/	Hour	/aʊə(r)/			power	/paʊə/

Consonants

Kokborok has 20 consonants. English has 24 consonants.

Table. 10: Number of phonemes in Kokborok and English

No	Category of Phonemes	Number of Phonemes In		
		Kokborok	English	
1.	Vowels	Monophthongs (or) Pure Vowels	6	12
		Diphthongs	3	8
2.	Consonants	20	24	
Total Number of Phonemes		29	44	

The consonantal phonemes of Kokborok and English are shown in the tables:

Table. 11: Kokborok Consonantal Phonemes

	Bilabial	Alveolar	Palatal	Velar	Glotal
Stop	Un-aspirated	p b	t d	c j	k g
	+Aspirated		t ^h		k ^h
Nasal		m	n		ŋ
Fricative			s		h
Trill			r		
Lateral			l		
Semi-vowel		w		y	

Table. 12: English Consonantal Phonemes

	Bilabial	Labio-dental	Dental	Alveolar	Post-alveolar	Palato-alveolar	Palatal	Velar	Glottal
Stop	P b			t d				k g	
Nasal	m	n		n				ŋ	
Affricate						tʃ dʒ			
Fricative		f v	θ ð	s z		ʃ ʒ			h
Lateral		r		l					
Frictionless Continuant		l			r				
Semi-vowel	w	n					j/y		

Statistical Account of Phonemes (According to the Manner of Articulation)

Table. 13: A Statistical Account of Phonemes (According to the Manner of Articulation)

No.	Description	Number of Phonemes in	
		Kokborok	English
1.	Plosives	11	6
2.	Affricates	-	2
3.	Nasals	3	3
4.	Fricatives	2	9
5.	Lateral	1	1
6.	Approximants/Frictionless Continuant	3	3
	Total Number of Phonemes	20	24

Table. 14: Occurrence of Consonants in Kokborok and English

No.	Phoneme	Occurrence Both in Kokborok and English	Occurrence Exclusive To	
			Kokborok	English
1.	p	+		
2.	p ^h	-	+	-
3.	b	+		
4.	t	+		
5.	t ^h	-	+	-
6.	d	+		
7.	c	-	+	-
8.	j	-	+	-
9.	k	+		
10.	k ^h	-	+	-
11.	g	+		
12.	m	+		
13.	n	+		
14.	ŋ	+		
15.	tʃ	-	-	+
16.	dʒ	-	-	+

17.	f	-	-	+
18.	v	-	-	+
19.	θ	-	-	+
20.	ð	-	-	+
21.	s	+		
22.	z	-	-	+
23.	ʃ	-	-	+
24.	ʒ	-	-	+
25.	h	+		
26.	r	+		
27.	l	+		
28.	w	+		
29.	y	+		

Based on the data presented in the Tables and Charts, several phonological characteristics of Kokborok and English can be observed.

Plosives

The English language features three pairs of plosive phonemes: /p, b/; /t, d/ and /k, g/ as against four sets of three each of the plosive phonemes (except /c, j/) in Kokborok /p, p^h, b/; /t, t^h, d/; /c, j/ and /k, k^h, g/. The plosive sounds in Kokborok are differentiated into three groups: voiceless unaspirated, voiceless aspirated, and voiced unaspirated. The production of these plosive phonemes occurs at four unique points of articulation: bilabial, alveolar, palatal, and velar.

Affricates

Kokborok does not have any affricates whereas English has a set of two palato-alveolar affricates /tʃ, dʒ/.

Nasals

Both Kokborok and English have three nasals /m, n, ŋ/ respectively, however, their distribution differs. In Kokborok, the sound /n/ can freely alternate with /l/ at the beginning of words. For example: /ladi/ 'take it', /nadi/ 'take it'.

Lateral

Kokborok has one lateral phoneme similar to that of English.

Fricatives

In the Kokborok language, there exist merely two fricative phonemes, /s/ and /h/, whereas English comprises nine fricative phonemes: /f, v, θ, ð, s, z, ʃ, ʒ, h/. The fricative sounds in English, specifically /f, v, θ, ð, z, ʃ, ʒ/, do not exist in Kokborok, which presents a unique challenge for learners of the language.

Frictionless Continuant

Kokborok has one trill phoneme /r/. In English there is no trill phoneme, however, a trill is an allophone of the frictionless continuant phoneme /r/. Unlike in Kokborok, the English /r/ can function as an off-glide in certain centering complex peaks within its vocalic representation.

Semi-vowels

Both Kokborok and English have two semi-vowels. In terms of their consonantal forms, /j/ and /w/ are similarly distributed in both English and Kokborok. Conversely, their vocalic forms show distinct differences: Kokborok /y/ and /w/ are exclusively used as on-glides in a complex peak, whereas English /j/ and /w/ can appear as either on-glides or off-glides within a complex peak.

FINDINGS

A comparison of the consonantal and vowel systems of Kokborok and English reveals that Kokborok features 11 stop consonants, which include 8 unaspirated sounds: /p, b, t, d, c, j, k, g/, and 3 aspirated sounds: /p^h, t^h, k^h/. Additionally, Kokborok contains 2 fricatives /s, h/, 3 nasal sounds /m, n, ŋ/, 1 lateral /l/, 1 trill /r/, and 2 semivowels /w, j/. Kokborok lacks the palato-alveolar fricatives /ʃ/ and /ʒ/ and it is variously replaced by alveolar fricative /s/ and palatal stop /j/ as in words such as 'shine' and 'leisure'.

It is also noticed that dental fricative /θ/ and /ð/ is replaced by /t^h/ and /d/. For example, the word 'then' with an initial /d/ could be misunderstood as 'den'. The palato-alveolar affricates /tʃ/ and /dʒ/ are absent in Kokborok, where they are commonly substituted with the palatal stops /c/ and /j/. Furthermore, it is noted that the sounds /f/ and /v/, which are labio-dental fricatives, are

absent in Kokborok. However, it is noticed that the present generation uses the labio-dental fricative sound /f/ in their speech and other literary activities.

Due to the unequal number and types of phonemes between these two languages few pedagogical problems are observed such as problems related to consonantal and vowel phonemes.

Kokborok speakers learning English may often substitute the fricatives from missing categories with similar phonemes from Kokborok. Unlike English, long vowels are absent in Kokborok. There are no phonemic contrast between long and short vowels in Kokborok, therefore, Kokborok speakers may find it difficult to distinguish between long and short vowels and may likely to replace the English long vowels with the existing short vowels from Kokborok. The likely substitutions are illustrated below:

English Phoneme		Kokborok Phoneme
/f/	—————→	/p ^h /
/v/	—————→	/b/
/θ/	—————→	/t ^h /
/ð/	—————→	/d/
/s/ } /ʃ/ }	—————→	/s/
/z, dʒ, ʒ/	—————→	/j/
/i:/	—————→	/i/
/ɑ:/	—————→	/a/
/ɔ:/, /ɒ/, /əʊ/	—————→	/o/
/u:/	—————→	/u/

CONCLUSION AND IMPLICATIONS

A concise comparison of the phonetic structures of Kokborok and English has revealed that many sounds are distinct, with several English phonemes absent in Kokborok. These include the palato-alveolar fricatives /ʃ/ and /ʒ/, the palato-alveolar affricates /tʃ/ and /dʒ/, as well as the labio-dental fricatives /f/ and /v/. The vowel inventory of Kokborok comprises six sounds: two

front vowels, namely /i/ and /e/, two back vowels, /u/ and /o/, and two central vowels, /ɪ/ and /a/, whereas English has 12 vowels, five front vowels /i, ɪ, e, ɜ, æ/, five back vowels /u, ʊ, ɒ, ɔ, a/ and two central vowels /ʌ, ə/. There are unequal numbers of diphthongs in the two languages. Kokborok has 3 diphthongs while English has 8 and it can be assumed that Kokborok does not have a triphthong sounds. Investigating the phonemic structures of Kokborok alongside those of English may provide substantial assistance and be of great importance in pedagogical practices. It would also be helpful for both the language teacher and the learner, especially for the Kokborok ESL learner to make them understand the different sounds of both the languages.

REFERENCES

- Gussenhoven, C., & Jacobs, H. (2011). *Understanding phonology* (2nd ed.). London: Hodder Education.
- K. Mishra, Awadesh, et al., editors (2013). *Studies in Linguistics of North-Eastern Languages*. New Delhi: Lakshi Publishers & Distributors.
- Lado, R. (1957). *Linguistics across Cultures: Applied Linguistics and Language Teachers*. University of Michigan Press, Ann Arbor.
- Mitchell R. Myles F. & Marsden E. (2019). *Second language learning theories: fourth edition* (4th ed.). Routledge.
<https://doi.org/10.4324/9781315617046>.
- Roach, Peter. (2000). *English Phonetics and Phonology: A Practical Course*. 3rd edition. Cambridge: Cambridge University Press.
- Singha, Kh. Dhiren. (2013). "The Phonological Typology of the Tibeto-Burman Languages of the Northeast: A Preliminary Investigation" in A.K. Mishra, Melissa Wahlang & Ch.Sarajubala (eds), *Studies in Linguistics of North-Eastern Languages*, New Delhi: Lakshi Publishers and 10 Distributors, Pp. 146-160.
- Suantak, Khawlsongkim (2013). "Phonological Variations in Vaiphei and English" in AK Mishra, Melissa Wahlang & Ch. Sarajubala (eds), *Studies in Linguistics of North-Eastern Languages*, New Delhi: Lakshi Publishers and Distributors, Pp. 189-195.
- Debbarma, Samir. (2014). *The Structure of Kokborok*, Unpublished PhD Dissertation, Assam University, Silchar. <http://hdl.handle.net/10603/90312>.
- Gregová, Renáta. (2017). 'Phonetics and phonology' in L. Körtvelyéssy (ed.), *Language Typology, Preliminaries and Principles* (pp. 57–67). Rzeszów: Wydawnictwo Uniwersytetu Rzeszowskiego.
- Gregová, Renáta. (2022). *Comparative Phonetics and Phonology of the English and the Slovak Language: A Practical Coursebook*. Creative Commons BY NC ND (Uvedte autora-Nepouzivajte komercne – Nespracovavajte).