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Dialectal intelligibility of Assamese tested functionally

Sabbah Qamri ^{a, *}

^a School of Language Sciences, The English and Foreign Languages University, Hyderabad, Telangana-500007, India.

*Corresponding author Email: sabbahqamri@gmail.com

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Abstract: This paper includes a detailed discussion on the intelligibility of the speakers of four regional dialects of the Indo-Aryan language of Assamese. Prior research on Assamese dialects mostly being confined to examining structural variation lends this study relevance and urgency. The dialects of Standard Assamese, Central Assamese, Kamrupi, and Goalparia, covering three varieties each, were considered for the study. Using a functional intelligibility testing approach, the rate of overall intelligibility as well as of inter- and intra-dialectal mutual intelligibility of the dialects were determined. 24 speakers (1 male and 1 female from each variety) were asked to record 'texts'— words, sentences, and connected speech in their native varieties of Assamese. 11 listeners from each variety (132 in total) were then tested on their comprehension of texts from non-native varieties. Thereafter, their rates of comprehension were used to determine the rates of mutual intelligibility between speakers of the different dialects and varieties of Assamese. This paper establishes that the rates of mutual intelligibility are unequal and asymmetric among the dialects— the native speakers of the Standard and Central Assamese dialects were more intelligible to the speakers of Kamrupi and Goalparia than vice-versa. Finally, the paper finds that the rate of intelligibility is the lowest for words in isolation and reinforces the important role of context in intelligibility.

Keywords: Assamese, Asymmetric intelligibility, Dialect, Functional intelligibility testing, Mutual intelligibility.

About the Author



Sabbah Qamri is a researcher in the School of Language Sciences, The English and Foreign Languages University, Hyderabad. Her research interests include Dialectology, Intelligibility studies, Language Acquisition, and Applied Linguistics. A paucity of research on dialectal intelligibility as well as mutual intelligibility in the context of regional languages found in India prompted her to conduct this study on Assamese dialects. She aims to extend her research into testing the intelligibility of dialects in other languages in the future. She has presented papers in international conferences on the *Functional intelligibility* testing of Assamese dialects as well as on *Opinion intelligibility* testing of the speakers of these dialects, and on a possible relationship between such intelligibility rates and education in Assamese.

1. Introduction

The intelligibility of a speaker refers to their ability to express themselves clearly and unambiguously, thus ensuring an effective conveyance of their message to a listener. Kenworthy (1987) was of the opinion that intelligibility is a speaker's speech being understood by a listener at a given time in any given situation. Therefore, the number of words that a listener is able to accurately identify out of a speaker's speech is what determines the intelligibility of the speaker. An increase in the words that a listener can identify in a speaker's speech, thus, entails an increase in the speaker's intelligibility. And according to Jaya Raju (2005), "Every effective communication takes off from the base of intelligibility towards the destiny of interpretability. In this connection, it can allegorically be said that it is an effective base that makes the flight of communication reach its destiny effectively and successfully. To sum up, intelligibility is the irreducible minimum of the standards. In other words, intelligibility is one of the standards



which are noncontroversial and unavoidable. "Hence, intelligibility can be considered to be one of the most important factors of human communication.

What, then, is Mutual intelligibility? When two or more speakers are intelligible to each other without having to employ extraordinary effort, they are considered to be mutually intelligible. This phenomenon of Mutual intelligibility is also used as one of the main criteria used to distinguish a dialect from a language in Linguistics. This is because theoretically, if speakers of different linguistic varieties are able to understand each other, they are considered to be speaking dialects of the same language. However, if they are unable to communicate effectively, they are considered to be speaking different languages. Although this seems like a very simple criterion to distinguish dialects from languages, the occurrence of mutually unintelligible dialects in the spoken form in some languages can be posited as an argument against it. But such varieties of a language usually share a common written language and hence, they can justly be called dialects of the same language (Crystal, 2008).

Mutual intelligibility, thus, can be said to be the extent to which speakers of different linguistic varieties can understand one another. But the intelligibility between different linguistic varieties might not be equal. The speakers of one variety might be able to understand the speakers of a different variety more than vice-versa. (Trudgill, 2003). In other words, the mutual intelligibility between two linguistic varieties might be asymmetric in nature. A chain of dialects spoken in an area constitutes what is known as a geographical dialect continuum. And, usually, at any given point in such a continuum, the speakers of neighbouring dialects are mutually intelligible whereas the rate of mutual intelligibility is lower between speakers of dialects which are not geographically adjacent. In some cases, the speakers of the dialects farthest away on the continuum might not be mutually intelligible at all. (Crystal, 2003).

Assamese, as we know, is one of the major Indo-Aryan languages spoken in the north-eastern region of India and is the official language in the state of Assam. Most languages of the world are categorized into different dialects based on the geographical regions, social groups, and ethnic communities of speakers and Assamese is no exception. It comprises different regional, social, and ethnic dialects such as Kamrupi, Goalparia, *Bhakatiya* which is used by the Vaishnavite satras, *Ratikhowa* dialect of the astrologer community (Datta, 2003), and Colloquial Assamese(s) of the Rabha, Moran, Tiwa tribes etc (Nath, 2019). Although prior research of some of these dialects reveals variations in morpho-phonology, syntax, and vocabulary among them, the speakers of these dialects are mutually intelligible and share a common standard literary form of the language. Hence, the criterion of using mutual intelligibility between speakers to establish a language and its dialects holds true in the case of Assamese.

Now, the studies on Assamese dialects have mostly concerned themselves with the investigation of only one dialect at a time. Some of the dialects that have been studied previously include the Kamrupi (Goswami, 1958), Goalparia (Das, 1990), Dudhnoi (Rabha, 1994), Barpetia (Ojah, 1995), and Bhatiya (Sheikh, 2016) dialects. The body of literature comprises comparative and descriptive analyses of the dialects, investigations of phonological aspects (Sarma, 2009), and socio-linguistic studies of some varieties of Assamese (Das, 2005).

Moreover, the area of Intelligibility studies in India has also been restricted to testing the intelligibility of only a few language varieties. Bansal (1969) pioneered the study of intelligibility in India with an investigation of the intelligibility of Indian English. Upendran (1980) examined the intelligibility of English spoken by Tamilians. Jaya Raju (2005) studied the mutual intelligibility of the English spoken by speakers from different nationalities residing in India whereas Didla (2007) conducted a phonetic study of the intelligibility of Asian English. The mutual intelligibility of speakers belonging to the four language families in India was looked into by Ganta (2012), and Safotso (2015) studied the mutual intelligibility between speakers of Cameroon English and Indian English. Some other researchers have also looked into the intelligibility of English spoken by Engineering students (Kumari, 2007), employees of International Call Centers (Kolusu, 2012, Gyamerah, 2018), and students of English in general (Rathod, 2011). Investigations have been conducted to examine intelligibility of languages from an acoustic perspective in Telugu (Durisala et al., 2011) and in relation to prosodic features viz., stress in English (Sukumar, 1998).

Thus, reviewing the existing literature in the context of both Assam and India made it clear that a collective investigation of the four major regional dialects of Assamese had not been conducted so far, and that the existing research was restricted to a study of the structure of the dialects. There had been no attempts at examining the phenomenon of inter-dialectal mutual intelligibility in the context of any of the regional languages of India either, thus making it possible for the following questions to be raised.



1. 'What is the degree of intelligibility of the speakers of the different dialects of Assamese?'
2. 'To what degree are the speakers of the different dialects (and varieties) of the language mutually intelligible?'

This paper attempts to find answers to the same by exploring the trends in intelligibility of the four main regional dialects of Assamese (based on the classification by Moral, 1992) which are presented in Table 1.

Table 1 lists the four Dialects of Assamese being studied and their area of usage.

Sl. No.	Regional Dialect	Variety which is spoken in
1.	Standard Assamese	Upper Assam division*
2.	Central Assamese	North Assam and Central Assam divisions*
3.	Kamrupi	Eastern half of the Lower Assam division*
4.	Goalparia	Western half of the Lower Assam division*

* Upper Assam, North Assam, Central Assam, and Lower Assam are four of the five regional administrative divisions in the state of Assam.

The research for this paper, thus, was conducted across a vast area extending from the western part of Assam, bordering the state of West Bengal and the country of Bangladesh, to the eastern part of the state bordering the state of Arunachal Pradesh.

2. Methods of testing intelligibility

Intelligibility testing of a speaker, and of a language, is broadly categorized into the following:

- a. **Functional Testing**
- b. **Opinion Testing**

The difference between the two kinds of tests mentioned above has been illustrated by Gooskens & Heuven (2017) as "test the informant" versus "ask the informant". The former refers to the examination of the actual rate of comprehension displayed by listeners upon hearing the speech of speakers of different languages. In this method, written or spoken samples of the language whose intelligibility is being tested are provided to the participant listeners and they have to demonstrate their understanding of such input(s). On the other hand, the participants of Opinion testing have to rate their understanding of the language whose intelligibility is being tested along a scale. In this type of testing, samples of the concerned language might or might not be provided to the participants for reference during the rating procedure. It is believed to be an efficient method of testing intelligibility since it makes a quick collection of information on a language's intelligibility possible and allows for the understanding of the listener's subjective ideas about the intelligibility of a language.

However, there are no rigid or limited procedures for the measurement of the rates of intelligibility/mutual intelligibility of languages or speakers. There are various ways in which intelligibility can be measured. Intelligibility can be measured at several stages in the linguistic hierarchy as well—from phonemes to words, sentences, and complete texts. Table 2 presents some of the common methods of intelligibility testing that have been used by researchers in the field.



Table 2 shows some common methods used in studies to test intelligibility.

Sl.No.	Method of testing intelligibility	Employed in
i	Recorded Text Testing (RTT)— using words, sentences, connected speech samples.	Hickerson, Turner & Hickerson (1952), Voegelin & Harris (1951), Casad (1974), Nahhas (2006)
ii	Recognition tasks.	Lado (1961), Denes & Pinson(1963), Bansal (1969), Valette (1977), Upendran (1980)
iii	Translation tasks.	Gooskens, Beijering & Heeringa (2008)
iv	Questionnaires.	Haugen (1966)
v	Performance tasks.	van Heuven & de Vries (1981)
vi	Subjective impressionistic tests.	Kenworthy (1987), Tang & van Heuven (2007)
vii	Semantic categorization tasks.	Tang & van Heuven (2009)
viii	RTT Retelling method.	Kluge (2007)
ix	Reaction time measurement.	Ralston et. al (1991), James et. al (1994), Impe (2010)
x	Computer-assessed translation tasks.	Kurschner, Gooskens & Van Bezooijen (2008)

Clearly, the methods used for testing intelligibility varies from one study to the next— the purpose or objectives of the study seem to determine the testing procedure used in a study. A study could employ one of the different kinds of tests discussed above, or a combination of various such tasks. Researchers, however, are in agreement that objective assessments of intelligibility are preferred over the subjective ones.

3. Methodology of the current study

The Functional Testing method was adopted to test the intelligibility of the four regional dialects of Assamese. This involved designing four tasks to test the comprehension of the participant listeners of the study, thus determining the rates of dialectal intelligibility. The material used to design these tasks (henceforth, 'texts') were Words, sentences, and two connected speech samples-a standard passage from a magazine(s) and a free speech sample in various speakers' native varieties.

3.1 The varieties/locations of the study

The texts for the study were collected from three varieties from each dialect, i.e., from a total of twelve (12) varieties of Assamese. In other words, there were twelve locations which were chosen for the study. Fig. 1 above illustrates these locations which are also listed in Table 3.





Figure 1 The map of the state of Assam showing its regional divisions and the 12 locations of the study.

Table 3 gives details of the varieties and locations selected for data collection for the study.

Regional Dialect	Variety/Location 1	Variety/Location 2	Variety/Location 3
Standard	Sivasagar	Dibrugarh	Lakhimpur
Central	Tezpur	Nagaon	Mangaldai
Kamrupi	Nalbari	Barpeta	Sorbhog
Goalparia	Bongaigaon	Goalpara	Dhubri

The participants of the study from these locations and the procedure used for data collection are discussed in the following sections.

3.2 Participant speakers

The participant speakers of the study included twenty-four (12) native speakers of Assamese. 1 male and 1 female speaker from each of the 12 locations were asked to record the texts in their native variety of Assamese. The ages of the speakers ranged from 23-67 years, and since the texts included a standard passage that had to be read out from a magazine, it was ensured that all the speakers were literate.

3.3 Participant listeners

Eleven (11) listeners were selected in each location to listen to the recorded texts, and each listener was assigned 1 male and 1 female speaker of non-native varieties. In other words, the listeners from a location had to listen to the texts recorded by the 22 speakers from the 11 other locations.. A total of 132 native speakers of Assamese (66 males and 66 females) were selected to participate as listeners in this study. Since each dialect had a total of 33 listeners, the number of male-female listeners were divided in a way such that two dialects—Standard Assamese and Goalparia—had 17 male and 16 female listeners whereas the other two, viz. Central Assamese and Kamrupi had 16 male and 17 female listeners.

3.4 The texts

The texts of the study, as mentioned above, included words, sentences, and two connected speech passages. These were collected/recorded from the 24 participant speakers of the study. For every speaker, a set of tasks comprising 20 words, 10 sentences, 1 passage from a magazine, and 1 free speech sample were recorded in their native variety of Assamese. Two sets of texts were collected from each location. Thus, a total of 480 words, 240



sentences, and 48 connected speech samples were recorded for the study at hand. Table 4 summarizes some of the important aspects of the Functional testing method used in the study.

Table 4 showing aspects of the Functional testing methodology used in the study.

Text for the Task of	No. of elements in a set	No. of elements (per location)	No. of elements (per dialect)	No. of Speakers (per location)	No. of Listeners (per location)
Word-recognition	20	40	120	2	11
Sentence-recognition	10	20	60	2	11
Connected Speech comprehension	1	2	6	2	11
Free-Speech comprehension	1	2	6	2	11

Some examples of texts used in the study are presented in tables 5,6, and 7.

Table 5 Shows a Word-list recorded by the male speaker from Goalpara.

S.No	Word	Meaning
1	/kholai:/	Basket
2	/gɦu:gu:/	Pigeon
3	/be:ti:/	Father's younger sister
4	/tɦa:tu:ra:/	Hammer
5	/se:ɦp:s/	Cucumber
6	/dɦota:ri:/	Chin
7	/guddi:/	Kite
8	/dɦa:pi:/	Traditional Assamese Headgear
9	/tɦi:mta:/	Tongs
10	/bɔ:kɔ:n/	Calf
11	/bɦu:r/	Eyebrow



12	/dʒɔmbu:ra:/	Grapefruit
13	/tʃuka:n pitha:/	A type of sweet
14	/tʃiti:/	Butterfly
15	/ba:nni:/	Broom to sweep yard
16	/ba:su:r/	Female Cow
17	/gua:/	Betelnut
18	/ka:si:/	Plate
19	/ba:ri:/	House
20	/kha:t/	Bed

Table 6 showing a sentence-list recorded by the male speaker from Sorbhog.

	Sentence	Meaning
1	/a:ma:r ghɔrɔrɔsrɔr sɔlimakhai: xɔŋghɔ eta patpa khuzɛ:/	The boys near our house want to set up a club.
2	/na:mtuzɛ dɛkhsa: ka:r kɔba pa:rbi: na:/	Can you tell me whose name it is that you are seeing?
3	/kukurtui a:hi: ta:r ha:tkhɛn sɛlki thɔi gɔl/	The dog came, licked her hand, and left.
4	/bɦatibela:r sa:ɦkɔp bɦɔntiɛ: fudaifudai khaba: bɔ:r bɛa: pai/	My younger sister greatly dislikes having afternoon tea without accompaniments.
5	/tuɦa:r ghɔrɔr a:gɔ:r ra:stamakha: bana fɔigɛl na:/	Is the construction of the road in front of your house over?
6	/a:zi a:mra:i di: ma:sɔr tɛɦa:r a:nza: bɔnai: kha:m dei:/	Shall cook and eat fish curry with hog plum today, alright?
7	/ta:ɦa:r zeithɛk eta: tɛspurɔ:t bia: fɔisɛ:/	One of their aunts is married to (someone in) Tezpur.
8	/a:zidekhun ta:ɦu:n kɔlezɔ:t na:za:ɦ buli kɔisɛ:/	They are saying that they won't go to college today.
9	/eiba:r ba:ri:kha:t ba:npa:ni fua:tu: kintu: khata:ɦ/	There will surely be floods during this monsoon.
10	/moina:r a:te:kɛ: ratipua ratipua ɛkmai:l bule:/	Moina's grandfather walks a mile in the morning.



Table 7 illustrates the connected speech recorded by the female speaker from Sivasagar.

S.No	Connected-speech	Meaning
1	/a:mi: bi:dda:lɔi: a:fi:lu: ɔ:fa:rpa:so:t a:ma:r zetia: ɔti:pa:t zetia: a:ma:r gɔrɔm uthise: gɔrɔ:mɔ:t zetia: a:mi: fɛnkhɔ:n so:laisu: xeia: ilektrisiti:rdra: a:mi: zetia fɛnkhɔ:n solalu: ka:rentɔdra: zetia: a:mi: fɛnkhɔ:n sola:lu: fɛnkhɔ:nɔ:ru: hɔise: bi:gja:nɔ:r ekuekuta: ɔbɔ:da:n/	After we reach school and we feel extremely hot, we switch on the fan. When we use electricity to switch on the fan, we should know that the fan is a gift of Science.
2	/ze: etia:dfɔri:lɔ:k dʒɔdi: a:ma:r dʒɔdi: ka:rɛ:nt edinɔ:r kɔrɔ:ne gusi: dʒai kɛnɛ:kua: ɛta: a:ma:r ɔbɔ:stha: hɔi: a:ma:r ɛnɛkua: la:ge:zen a:ma:r ɛta: pa:ni:t hã:f nɔsp:ra: ɛta: ɔbɔ:stha: hɔise:/	Now consider the situation where we do not have electricity for a day. Imagine the condition we are in. It becomes quite difficult for us to survive.
3	/dʒifetu: edi:n ka:rɛ:nt dʒua:r lɔgɛlɔ:ge: a:ma:r ka:rɛ:nt na:tha:kɛ: a:ma:r mɔ:tɔ:r na:tha:kɛ: a:ma:r pa:ni: na:tha:kɛ: a:ma:r fɛ:n na:tha:kɛ: a:m a:ma:r dʒɔ:thɛstɔ:khi:ni: a:mi: ɔkhu:bida:r a:mi: hɔnmu:khi:n hɔũ: ka:rn pa:ni:r pɔ:rai: a:ma:r dfɔri:lɔ:k a:mi: hɔ:kɔ:lu:khi:ni: a:mi: bji:bɔ:fa:r kɔri: a:fi:su:/	This is because the lack of electricity for even a day means no water-pump, no water, and no fan. We have to face quite some trouble given that most of our daily activities involve the use of water.

3.5 Procedure

As discussed in the preceding sections, the texts were recorded from the 24 speakers by visiting each of the 12 locations. These texts were then edited using the AUDACITY software— introduction of pauses after each word and sentence as listener-response time, grouping of breath groups for the connected speech samples and adding response time, and reduction of noise etc. were made.

A second round of visits to the 12 locations was thereafter conducted to interview the participant listeners. They were made to listen to the edited texts from non-native varieties and instructed to respond with the meaning of the words and sentences they had heard. For the connected speech samples, they had to retell what they had heard in their own words—in their native variety if they wished to.

These recording sessions with both the speakers for the texts and the listeners for the testing of intelligibility of the speakers' texts were conducted using a portable SONY ICD-UX560F Digital Voice Recorder.

3.6 Scoring procedure for analysis

The scoring procedure for the first two tasks, i.e., Word-recognition and Sentence-recognition involved the assignment of 1 mark for the correct response and 0 marks for the incorrect response. In other words, a total score of 20 marks for word-recognition and 10 marks for sentence-recognition was possible. A listener had to understand the exact meaning of a word and the entire meaning of a sentence correctly for their response to be marked as 'correct'. Moreover, there was no provision for awarding partial marks for these two tasks.

In the case of the two connected speech samples, scores were assigned to each breath-group depending on the number of content words and meaning in a group. The total score for both passages were found to be 10 marks each—the total score for the connected-speech comprehension tasks was 20 marks. For these two tasks, partial marks were allowed based on the number of content words that the listeners were able to understand correctly.

In conclusion, the total possible score for the four functional testing tasks was 50 marks. It should be noted that Proper nouns were exempted from the test of intelligibility across all four tasks.



3.7 Calculation of scores

Based on the scoring procedure discussed in the preceding section, the calculation of the following scores were conducted as shown in Table 8.

Table 8 gives details about the calculation of scores for functional testing of Assamese dialects.

Sl. No.	Rate of	Equals to
1.	Overall Intelligibility of a speaker	Average of the 11 rates of intelligibility of the speaker based on comprehension scores of 11 listeners
2.	Overall intelligibility of a dialect	Average of the overall rates of intelligibility of the 6 speakers of the dialect.
3.	Inter-dialectal intelligibility	Average of the rates of intelligibility of the 6 speakers of a dialect based on the comprehension scores received by the 18 listeners from another dialect.
4.	Intra-dialectal intelligibility	Average of the rates of intelligibility of the 2 speakers of a variety within a dialect based on the comprehension scores received by the 2 listeners from another variety within the dialect
5.	Mutual intelligibility between dialects	Difference in the rate(s) of inter-dialectal intelligibility between two dialects.

It should be noted here that all fractions in the scores were rounded-up; anything below 0.5 was ignored and anything above 0.5 was rounded up to the next whole number.

4. Findings and Discussion

This section throws light upon the main findings from the functional testing of the dialects of Assamese. The findings are:

1. The rate of overall dialectal intelligibility was the highest for the speakers of the Central Assamese dialect—70%. The speakers of the Standard Assamese dialect followed with the second-highest rate of 68% dialectal intelligibility. The difference in the rate of dialectal intelligibility between Standard Assamese and the dialect at third-place viz., Kamrupi was determined to be 10%. In other words, Kamrupi speakers had a rate of 58% dialectal intelligibility. Finally, the dialect with the lowest rate of 54% dialectal intelligibility was Goalparia.
2. Table 9 throws light upon the rates of inter-dialectal intelligibility between the various pairs of Assamese dialects that were observed in this study.

Table 9 Showing the rates of inter-dialectal intelligibility of Assamese dialects.

Sl.No.	Dialect-pair	Intelligibility of speakers from Dialect A w.r.t(-) listeners from Dialect B	Rate of intelligibility
i.	Standard Assamese &	Standard Assamese-Central Assamese	81%



ii.	Central Assamese	Central Assamese-Standard Assamese	77%
iii.	Standard Assamese &	Standard Assamese-Kamrupi	58%
iv.	Kamrupi	Kamrupi-Standard Assamese	46%
v.	Standard Assamese &	Standard Assamese-Goalparia	57%
vi.	Goalparia	Goalparia-Standard Assamese	46%
vii.	Central Assamese &	Central Assamese-Kamrupi	63%
viii.	Kamrupi	Kamrupi-Central Assamese	59%
ix.	Central Assamese &	Central Assamese-Goalparia	64%
x.	Goalparia	Goalparia-Central Assamese	49%
xi.	Kamrupi &	Kamrupi-Goalparia	63%
xii.	Goalparia	Goalparia-Kamrupi	55%

3. In the case of intra-dialectal intelligibility among the speakers of the four Assamese dialects, the findings were the following:
 - a. Highest average rate of intra-dialectal intelligibility was found among the varieties of the Central Assamese dialect— Tezpur, Nagaon, and Mangaldai. (83%).
 - b. Second-highest average rate of intra-dialectal intelligibility was found among the varieties of the Standard Assamese dialect— Sivasagar, Dibrugarh, and Lakhimpur. (81%)
 - c. Third-highest average rate of intra-dialectal intelligibility was found among the varieties of the Kamrupi dialect— Nalbari, Barpeta, and Sorbhog. (70%)
 - d. Lowest average rate of intra-dialectal intelligibility was found among the varieties of the Goalparia dialect— Bongaigaon, Goalpara, and Dhubri. (71%)
4. From the findings presented in Table 6 above, it can be concluded that the highest rate of inter-dialectal mutual intelligibility exists between the dialects of Standard Assamese & Central Assamese, and the dialect-pair of Central Assamese & Kamrupi. The difference between the rates of inter-dialectal intelligibility in both cases is only 4%. The second-highest rate of inter-dialectal mutual intelligibility was observed between the western dialects of Kamrupi & Goalparia with the difference in the rates of inter-dialectal intelligibility between them being 8%.
5. The data revealed that the rates of mutual intelligibility between speakers of some dialects of Assamese are asymmetrical. The highest asymmetry in the rates of inter-dialectal mutual intelligibility was found between the dialects of Central Assamese & Goalparia where the rate at which the speakers of the latter are able to understand the speakers of Central Assamese is 15% more than vice-versa. The rates of intelligibility of the speakers of Standard Assamese for the listeners from both the western dialects of Kamrupi and Goalparia were also asymmetric in nature— with a rate of 12% and 11% asymmetry respectively.



6. Interestingly, the study found that the lowest rate of intelligibility for speakers of all the four dialects of Assamese was that of Word-intelligibility. The average rate of word-intelligibility was only 40% as compared to 76%, 67%, and 66% rates of intelligibility for sentences, connected-speech from a magazine, and free-speech respectively. Moreover, the rates of word-intelligibility saw a steady decline through the dialects—58% (Standard Assamese), 50% (Central Assamese), 29% (Kamrupi), and 23% (Goalparia).

From these findings, it can be established that the geographical location(s) of dialects plays an important role in determining the rate of inter-dialectal mutual intelligibility. This is evident in the rates of mutual intelligibility in Assamese being the highest for the neighbouring dialects on the continuum and lowest for dialect-pairs which are geographically separated.

The importance of geographical locations of dialects in determining rates of dialectal intelligibility is also reinforced by the centrally located Central Assamese dialect receiving the highest rate of dialectal intelligibility. The central location of the dialect leads to its native speakers having contact with speakers of more than one other dialect which results in a higher rate of overall intelligibility of its speakers.

The structural variation from Standard Assamese that exists in the two western dialects of Kamrupi and Goalparia seems to be a contributing factor to the asymmetrical inter-dialectal mutual intelligibility of these dialects with the dialects of Standard and Central Assamese as well as the comparatively lower rate of mutual intelligibility between these two geographically adjacent dialects.

This observed structural variation in these dialects also seem to result in the declining rates of word-intelligibility through the dialects as we move from Standard Assamese to the westernmost dialect of Goalparia.

Finally, the finding that the rate of intelligibility of all the dialects, and hence of the Assamese language itself, the lowest at the word-level reinforces the very important role of 'contextual cues' in intelligibility, and thus in efficient communication.

5. Conclusion

In conclusion, this paper made an attempt to investigate dialectal intelligibility and inter-dialectal mutual intelligibility among the four main regional dialects of Assamese. It established that the dialects of Assamese conform to the trends seen in dialectal intelligibility— in a dialect continuum, the rates of mutual intelligibility are the highest between geographically adjacent dialects whereas an increase in geographical distance between dialects leads to a decrease in rates of inter-dialectal mutual intelligibility. The paper was also able to reinforce the importance of structural variation and context in the determination of dialectal intelligibility. Finally, the findings regarding asymmetry in inter-dialectal mutual intelligibility as presented in this paper open up avenues of research on the factors behind such patterns of asymmetry. Apart from the geographical locations and structural variations within the language, what are the other factors behind such trends in dialectal intelligibility of Assamese? Do motivations such as jobs, respect, marriage etc., speakers' exposure to education, and use of a dialect in mass media have an impact on dialectal intelligibility? Is there a possible relationship between the rates of dialectal intelligibility and formal education? These are some of the questions that can be looked into.

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