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**Using formal Linguistics to shape language attitudes: a study targeting  
English Language Learners by 1. Srinivas S & 2. Harish Rajaraman S A**

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English Language Learners  
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**Abstract**

This paper argues that linguistic differences between language varieties are best captured in formal terms. As a part of the argument, the paper undertakes a formal comparison of the diphthongs of Tamilian English and British English using an evaluation metric called DISTANCE, which represents the summative difference between specific aspects of any two varieties of the same language.

Formal comparisons of language varieties have the advantage of not being subjective, unlike the impressionistic commentary directed at them. English teachers in multilingual countries like India (and language teachers in general) may therefore use such comparisons to show their students that formal differences between varieties of the same language need not translate as sociolinguistic ‘superiority/inferiority’. This insight may help students develop an inclusive attitude towards all languages and language varieties, a desired outcome in an increasingly global world.

*Keywords:* Formal linguistics, linguistic comparisons, language attitudes, English in India, ELT



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**Introduction**

The Indian sociolinguistic context is a unique and complex one (Khubchandani 1991; Singh, Dasgupta & Lele 1995). There is the obvious and urgent need to rehabilitate many of the country's local languages (Derhemi 2002:156-7, Pandharipande 2002), even as English continues to career ahead as 'the language of careers' (Kuteeva 2013, Dias 2017, Rao 2017, Sangeethapriya 2017). Value judgments on languages and language varieties are inevitable in such a linguistic climate. These judgments are impressionistic and arbitrary all too often, however, and take little or no account of formal linguistic facts. This paper shifts the focus from such judgments, therefore, and discusses instead a single aspect of the phonology of two varieties of English, with a view to understanding how different they really are.

Section 1 of the paper compares the diphthongs of British English (hereafter BrE) with those of Tamilian English (hereafter TE; cf. Vijaykrishnan 1978, Nagarajan 1985). Section 2 proposes an evaluation metric called 'DISTANCE' to account formally for the differences between TE diphthongs and BrE diphthongs. Formal linguistic comparisons, it is argued in section 3, have implications for English language education (and language education in general), which is in the pole position to guide, shape and temper the language attitudes (Hohenthal 2003) of students in a multilingual country like India. A short conclusion to the paper, which highlights the connection between its formal proposal and social relevance, follows in section 4.

### **Diphthongs in BrE and TE**

As per the Oxford English Dictionary (Online), standard BrE has the seven diphthongs (but see also Szigetvari 2014) given in (1). The diphthongs are placed in square brackets on the left and the letter sequences which correspond to them are underlined in the words given below.

#### **(1) Diphthongs in BrE**

[aɪ]	sigh	sky	rite	collide	supply	panoply
[eɪ]	play	ray	gate	berate	rebate	cascade



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[ɔɪ]	pl <u>oy</u>	to <u>y</u>	bo <u>y</u>	ah <u>oy</u>	al <u>loy</u>	paran <u>oid</u>
[aʊ]	pl <u>ough</u>	no <u>w</u>	cl <u>out</u>	car <u>ouse</u>	del <u>ouse</u>	thereab <u>outs</u>
[əʊ]	bl <u>ow</u>	th <u>row</u>	ro <u>ad</u>	call <u>ow</u>	er <u>ode</u>	chaper <u>one</u>
[ɪə]	de <u>ar</u>	ste <u>er</u>	spe <u>ar</u>	idi <u>om</u>	seri <u>al</u>	recipi <u>ent</u>
[ʊə]	po <u>or</u>	mo <u>or</u>	—	—	—	—

The TE diphthongs/vowels corresponding to the BrE diphthongs in (1) are as follows:

**(2) Diphthongs in TE**

[ʌɪ]	sigh	sky	rite	collide	supply	panoply
[e:]	play	ray	gate	berate	rebate	cascade
[ɔɪ]	ploy	toy	boy	ahoy	alloy	paranoid
[ʌʊ]	plough	now	clout	carouse	delouse	thereabouts
[o:]	blow	throw	road	callow	erode	chaperone
[ɪə]	dear	steer	spear	idiom	serial	recipient
[ʊə]	poor	moor	—	—	—	—

A comparison of the diphthongs in (1) and (2) makes interesting reading. Three – [ʌɪ], [ɪə] and [ʊə] – of the seven pairs of diphthongs compared are rendered similarly in BrE and TE. Among the other four, [ɔɪ] and [ɔɪ] are quite similar, owing to the fact that the first vowel in both the diphthongs is a back rounded vowel which is non-high (with the TE one being lower than the BrE one). The diphthongs [aʊ] and [ʌʊ] are more different, with TE [a] being a front vowel and BrE [ʌ] being a back vowel.

Moving on to [eɪ], TE does have this diphthong, and speakers of the variety produce it without difficulty in words such as *weight* and *gait*. They do not produce it in the words in (1)

(and (2), however, probably because these words do not have an orthographic ‘i’ to signal the /ɪ/ in [eɪ]. Since TE speakers do produce [eɪ] when there is a spelling cue for /ɪ/, it may be added to the list of diphthongs which are rendered similarly in BrE and TE. Lastly, the long vowel [o:] in TE corresponds to the diphthong [əʊ] in BrE.



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Before the differences between the diphthongs in TE and BrE may be formally accounted for, they require an explanation. Beginning with BrE [əʊ], which is rendered as [o:] in TE, it is easy to see how the former diphthong maybe perceived by speakers of TE as the latter vowel, which is part of the vowel inventory of Tamil. If TE speakers perceive [əʊ] as [o:], they are likely to produce it as [o:] as well, because perception of sounds is known to influence production of the same (Silverman 1992:299; see Qin 2016, on the linguistic and social tethers which inhibit 'perfect' production of forms in a foreign language).

The explanation for the difference between BrE [ɔɪ] and TE [ɒɪ] is slightly more complex. The Tamil vowel inventory (Vijayakrishnan 1982) does not have either [ɔ] or [ɒ], both of which are non-high back rounded vowels. TE speakers tend to produce the latter, however, in the diphthong in question, arguably because [ɒ] is more different than [ɔ] vis-à-vis the vowel [o] (see section 2 for further discussion), which *is* part of the Tamil vowel inventory and whose lengthened variant, as noted earlier, stands for [əʊ] in TE. In this scenario, choosing a rounded vowel which is maximally different from [o] becomes important from the point of view of perception, and that vowel is [ɒ].

The Tamil vowel inventory may also be invoked to explain the difference between BrE [aʊ] and TE [ʌʊ]. Here again, the diphthongs differ in the first vowel. This vowel is articulated as [ʌ] rather than as [a] by TE speakers, arguably because [ʌ] is more similar to the short low vowel found in the Tamil inventory (Srinivas & Kudva 2017). The fact that [ʌ] and [ʊ] are both back vowels may be another reason why TE speakers prefer [ʌ] before [ʊ]. Lastly, the lengthening of /e/ to [e:] in TE compensates (Ingria 1981, Hayes 1989) for the [ɪ] in BrE [eɪ], wherever English spelling does not cue the latter (see (2)).

In summary, this section has compared the diphthongs of BrE with those of TE and, where there were differences, explained them. Unsurprisingly, some of these differences were found to be influenced by the vowel inventory of Tamil. The next section proposes an evaluation metric called DISTANCE to characterise the aforementioned differences in numerical terms and offer a simple statement of the summative difference between TE diphthongs and BrE diphthongs.



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DISTANCE between BrE and TE diphthongs**

In modern phonology, vowels are defined in terms of where in the tongue (front, centre or back) a vowel is produced; whether the tongue is raised (high), lowered (low), or in level (mid) position; and whether the lips are rounded or not when it is produced. Any vowel in any human language may therefore be labelled in terms of its – plus or minus – specifications for the features [low], [high], [back], [front] and [round]. (For more on phonological features, see Clements 1991.)

Table 1 lists the diphthongs which are rendered similarly in BrE and TE; the individual vowels in those diphthongs; and the feature-specifications of those vowels. Table 2 lists diphthongs which are rendered differently, and the feature-specifications of their component vowels.

**Table 1: Feature-specifications of diphthongs rendered similarly**

	Diphthongs	Vowel 1 – feature-specification	Vowel 2 – feature-specification
1.	ʌɪ	ʌ [+low -high +back -front -round]	ɪ [-low +high -back +front -round]
2.	ɪə	ɪ [-low +high -back +front -round]	ə [-low -high -back -front -round]
3.	ʊə	ʊ [-low +high +back -front +round]	ə [-low -high -back -front -round]
4.	eɪ	e [-low -high -back +front -round]	ɪ [-low +high -back +front -round]

**Table 2: Feature-specifications of diphthongs rendered differently**

	BrE Diphthongs	Vowel 1 – feature- specification	Vowel 2 – feature- specification	TE Diphthongs	Vowel 1 – feature- specification	Vowel 2 – feature- specification
1.	ɔɪ	ɔ [-low -high +back -front +round]	ɪ [-low +high -back +front -round]	ɔɪ	ɒ [+low -high +back -front +round]	ɪ [-low +high -back +front -round]
2.	aʊ	a	ʊ	ʌʊ	ʌ	ʊ



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		[+low -high -back +front -round]	[-low +high +back -front +round]		[+low -high +back -front -round]	[-low +high +back -front +round]
3.	əʊ	ə [-low -high -back -front -round]	ʊ [-low +high +back -front +round]	o:	o [-low -high +back -front +round]	o [-low -high +back -front +round]

The Evaluation Metric DISTANCE (different from the more comprehensive notion of phonological distance discussed by Eden (2018) and Sanders & Chin (2009)) is a measure of the summative difference between specific aspects of any two varieties of a language. The details in Table 2, therefore, become important to formulate the DISTANCE between the diphthongs in BrE and those in TE. In the context of this paper, DISTANCE involves averaging the sum of the *distances* between all corresponding diphthongs in the two varieties of English under consideration; and *distance* refers to the sum of all feature-differences between a pair of corresponding diphthongs.

The calculation of *distance* is a simple affair. A base comparison score of 0 is given to a pair of diphthongs if they are the same in the language varieties being compared. The score becomes 1 if the diphthongs differ in respect of one vowel and 2 if they differ in respect of both. To the base comparison score of 1 or 2, a difference score of 1 is added every time a difference in feature- specification is encountered between the diphthongs. The sum of the difference scores between two corresponding diphthongs plus their base comparison score is the distance between them.

Consider the diphthongs [aʊ] and [ʌʊ]. Their base comparison score is 1, because their difference lies only in the first vowel. The first vowel [a] in [aʊ] and the first vowel [ʌ] in [ʌʊ] are different in terms of their specification for the features [front] and [back]: more precisely, [a] is [-back] and [+front], whereas [ʌ] is [+back] and [-front] (see Table 2). Since [aʊ] and [ʌʊ] differ in their specifications for two features, 2 has to be added to the base comparison score of 1, yielding 3, which is the distance between the two diphthongs.



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Considering next the pair [əʊ] and [o:], the two parts of the long vowel [o:] may be assumed to correspond to the two vowels in [əʊ]. Both vowels of the diphthong [əʊ] differ from the long vowel [o:], giving the diphthong-long vowel pair a base comparison score of 2. The vowels [ə] and [o] differ in terms of the features [back] and [round], with the former being [-back] and [-round], and the latter being [+back] and [+round]. The vowels [ɪ] and [o] differ only in terms of the feature [high], with the former being [+high] and the latter being [-high]. These two differences in feature-specification add 2 to the base comparison score of 2, giving 4, which is the distance between [əʊ] and [o:].

Differentiating [ɔɪ] and [ɒɪ] is more delicate because both diphthongs have an identical second vowel and a near-identical first vowel. The initial vowels [ɔ] and [ɒ] are, however, slightly different under the feature-based characterisation in Table 2, in that [ɔ] is [-low] and [ɒ] is [+low]. The base comparison score for [ɔɪ] and [ɒɪ] is 1 because the two diphthongs differ only in respect of the initial vowel. Since [ɔ] and [ɒ] differ in their specifications for the feature [low], 1 may be added to the base comparison score. The distance between [ɔɪ] and [ɒɪ] is 2.

With the distances between corresponding diphthongs in BrE and TE now known, the DISTANCE between BrE and TE diphthongs may be calculated. This DISTANCE (D), as noted earlier, is *the average of the sum of the distances between corresponding diphthongs* (d).

(3) **DISTANCE** (between BrE and TE diphthongs)

$$D = \frac{d_1 + d_2 \dots d_n}{n}$$

The value of 'n' is 3 since only three diphthongs are rendered differently in TE and BE. The sum of the distances between those diphthongs is 9 (= 3+4+2; see discussion above). The DISTANCE between BrE diphthongs and TE diphthongs is 3 (=9/3, by the formula in (3)). This value of 3 should be seen in relative terms. It suggests that if two varieties of English have diphthongs with a DISTANCE greater than (or less than) 3, those varieties would be more different (or similar) than BrE and TE as far as their inventory of diphthongs is concerned.



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Indeed, diphthongs constitute only one aspect of the phonology of languages, and any comprehensive measure of the phonological difference between varieties of languages must take into consideration other aspects thereof, both segmental and prosodic (see Eden 2018 and Sanders & Chin 2009). DISTANCE in this connection is useful as a measure of segmental differences i.e. the differences between the consonants and vowels of language varieties.

This paper has thus far discussed the differences between the diphthongs in BrE and TE, and proposed the evaluation metric called DISTANCE to formalise those differences. Formalisation of linguistic differences becomes important when talking about how and in what way two language varieties are different. The next section shows how focusing on the formal aspects of different varieties of English can help teachers of the language positively influence the language attitudes of their students.

**Formal comparisons and language attitudes**

In present-day India, employers look for candidates who are proficient in English, besides being competent in their own 'core domains'. Schools and colleges in the country, therefore, are charged with the responsibility of turning out students who have 'good English'. Their efforts at making students proficient in English have, however, come at a sociolinguistic price. Many Indian children (especially South Indian ones) have become averse to speaking in their mother tongue. This is also probably a result of the mistaken belief that a child's use of her mother tongue stunts her development in English (Paradowski 2008).

Moreover, even among students who use English well, there is a tendency to glorify certain accents or styles of English speech, and decry others. The more a variety of English sounds like a native variety (Agnihotri & Singh 2012; Srinivas & Wee 2014) for example, the better it is deemed to be. Such judgements are often impressionistic and arbitrary, however, and say nothing about how similar or different two varieties of English (or any other language) really are. In contrast, formal comparisons of varieties of English, such as the one attempted in this paper, provide a realistic snapshot of the material differences/similarities between them.





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Formal linguistic comparisons may prove useful in moulding and tempering the language attitudes of English language learners, but must be used cautiously. Teachers need to ensure that students do not perceive formal differences between varieties of languages as being indicative of deficiency on the part of some of these varieties. Classroom emphasis is as always best placed on intelligible communication, and students need to be reminded that formal differences/similarities between language varieties are important only inasmuch as they do not undermine intelligibility.

In general, however, differences between language varieties need to be painted in a better light. After all, the 'lifespan' of a language depends on its capacity to borrow elements from the lands where it is planted, while retaining something of its own. 'Adaptation' is a feature that human languages share with living organisms (cf. Van Driem 2008), and is worthy of being celebrated as such.

### **Conclusion**

Languages and language varieties are vehicles of communal expression, and are therefore objects of much social commentary. In the multilingual geographical space that is India, such commentary has widespread political, linguistic and pedagogical implications. While fighting linguistic prejudices may therefore be a worthy enterprise, it is probably infeasible in a country with one billion people and counting.

Language teachers occupy an influential position in India, for they have the power to guide, shape and temper the language attitudes of their students. English teachers have a particularly important role in this connection because part of their responsibility involves preparing professionals (Shekhar & Sherine 2017) for an increasingly global world. They are also in a position to show learners of English that it is possible to work out formal comparisons of different varieties of the language, using metrics like DISTANCE, without passing value judgements on any of them.



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Once learners know how and how much two (or more) varieties of English differ, they are free to reflect on and use any English (or Englishes) of their choice, so long as it is intelligible to the social group(s) within which they frequently move.

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