Chapter IV

Variants of the T(r) and the E(r) and their frequencies

The linguistic variables investigated in this study are (r) in Thai and (r) in English spoken by Thais. It has been mentioned earlier (in 1.6.1, 2.1.1 and 2.1.3) that each variable has been investigated in some previous works and found to have several variants. In this chapter, the variants of the variables found in the present data are identified and their frequencies of occurrence presented.

4.1 Variants of the T(r)

The T(r) in this study has five variants all of which are found to occur in the prevocalic and postconsonantal position. These variants are:

4.1.1 [r] a voiced alveolar trill

[r] is a prestigious native T(r) variant (1.6.1.1). In making a trill, according to Ladefoged (1975:147), one articulator is held loosely near another so that the flow of the air between them sets them in motion, alternately sucking them together and blowing them apart. There are

usually about three vibrating movements in a typical trill. The articulator in making an alveolar trill is the tip of the tongue vibrating against the alveolar ridge. Jones (1914: 95-96) calls this sound "rolled lingual r". He says that the number of taps of the the tongue does not as a rule exceed three. According to him, it is sometimes only two and sometimes only one. The latter he calls a "flapped r".

Examples:

/rianø ru:3/	[rianøru:3]	เรียนรู้	"to learn"
/khriat2/	[khriat2]	เครียด	"to be tense"

4.1.2 [ɾ] a voiced alveolar tap

[ɾ] is the other prestigious T(r) variant (1.6.1.1). A tap is caused by a single contraction of the muscle so that one articulator is thrown against another (Ladefoged 1975:147). Jones (1914:98) calls this sound a "flapped r" or "flapped lingual r" and says that it is formed in the same way as "rolled lingual r", but consists of only a single tap of the tip of the tongue against the teeth-ridge.

Examples:

/rak3 sa:4/	[ɾak3 sa:4]	รักษา	"to keep"
/ba:ŋø khraŋ3/	[ba:ŋø khɾaŋ3]	บางครั้ง	"sometimes"

4.1.3 [ɹ] a voiced alveolar approximant

Although [ɹ] is not native to Bangkok Thai (Beebe 1980:387), it appears in studies of Thai (r) variation by Beebe (1974), Treyakul (1986) and also in the present study. An approximant is caused by the approach of an articulator towards another, but without the tract being narrowed to such an extent that a turbulent airstream is produced (Ladefoged 1975:10). An alveolar approximant is formed by the tongue-tip against the back part of the tooth ridge.

Examples:

/ro:ŋø ræ:mø/	[ɹo:ŋø ɹæ:mø]	โรงแรม	"hotel"
/aŋø krit1/	[aŋø kɹit1]	อังกฤษ	"English"

4.1.4 [l] a voiced lateral

[l] is considered the stigmatized T(r) variant in the prevocalic position, and it has the in-between status in clusters (1.6.1.1). As will be seen later (4.4.1), it is extensively used in conversation. A lateral is formed by obstruction of the airstream at a point along the center of the oral tract, with incomplete closure between one or both sides of the tongue and the roof of the mouth (Ladefoged 1975:10). An alveolar lateral is formed by the tip of the tongue against the alveolar ridge. An aperture is left on one or both sides through which the air passes out (Jones 1914:87).

Examples:

/rianø/	[lianø]	เรียน	"to learn"
/phrɔ?3/	[phlɔ?3]	เพราะ	"because"

4.1.5 [ø] a zero representation or non-occurrence of (r)

[ø] is the stigmatized T(r) variant in clusters (1.6.1). This variant has been found to be most common in T(r) clusters in conversation in studies by Treyakul (1986) and Beebe (1974). As will be seen later (4.5.1), it is also extensively used by the subjects in this study.

Examples:

/phrɔ?3/	[phɔ?3]	เพราะ	"because"
/khrap3/	[khap3]	ครับ	"yes" (used by a male speaker)

4.2 Variants of the E(r)

While the T(r) has five variants, the (r) in English spoken by the subjects has seven variants. They are:

4.2.1 [r] a voiced alveolar trill

Examples:

/rɪzain/	[risai]	"resign"
/treɪn/	[tʰre:n]	"to train"

4.2.2 [ɾ] a voiced alveolar tap

Examples:

/rum/	[ɾum]	"room"
/dɪgri/	[di:gri:]	"degree (in education)"

Both [r] and [ɾ] are considered less prestigious E(r) variants when used by non-native speakers of English (1.6.1.2).

4.2.3 [ɹ] a voiced alveolar approximant

Examples:

/raɪt/	[ɹait]	"right"
/prɒbləm/	[pʰɹɔbləm]	"problem"

Also included in [ɹ] is its voiceless counterpart, since its place of occurrence is phonetically determined.

In English, [ɹ] is largely voiceless when following voiceless stops /p,t,k/ (Ladefoged 1975:55).

4.2.4 [ɻ] a voiced alveolar retroflex

This sound is produced by the same manner of articulation as an alveolar approximant [ɹ] (4.1.3) but the difference is the place of articulation. A retroflex is formed by the tip of the tongue and the back of the alveolar ridge (Ladefoged 1975:7).

Examples:

/rɪdʒənt/	[ɻɪdʒənt]	"the Regent of Bangkok"
/dɪgri/	[diggɻi]	"degree (in education)"

[ɹ] and [ɻ] are prestigious English /r/. [ɹ] is used in British English and [ɻ] is found in American English.

4.2.5 [l] a voiced lateral

Examples:

/rɪsepʃən/	[lisepcʰan]	"reception"
/ɪkspres/	[eksples]	"express"

[l] is the stigmatized prevocalic E(r) variant and is second to r-deletion in English r-clusters (1.6.1.2).

4.2.6 [ø] a zero representation or non-occurrence of (r)

[ø] occurs in the postconsonantal position. It is the stigmatized E(r) variant (1.6.1.2).

Examples:

/prɔpəti/	[pʰɔppəti]	"property"
/frəm/	[fɔm]	"from"

4.2.7 Others

There are other deviant E(r) variants occurring in the data. Due to their low frequencies of occurrence, they are classified into one category, i.e. "others". These variants are as follows:

4.2.7.1 /dr-/>[ɹ]

The sound /dr/ as in the word "laundry" /lɔndri/ is pronounced [lɔnɹi], with the /r/ in /dr-/ dropping and /d/ becoming [ɹ]. This is not the same case as the third variant (4.2.3) above. Notice that /dr/ does not exist in Thai phonological system. It occurs in some English loanwords in Thai, however. For example, /draɪ/ "dry" (meaning in Thai "to dry the hair") is pronounced [dajø].

4.2.7.2 /dr-/>[l]

The sound /dr/ as in the words "hundred", "laundry" and "dress" was pronounced by some speakers as [hanlet], [lɔnli] and [les], with the /r/ in /dr-/ dropping and /d/ becoming [l]. This is another variant different from categories 4.2.5 and 4.2.7.1 above.

4.2.7.3 /t^{h}r-/>[ʃ]

One informant once pronounced /t^{h}r/ in the word "waitress" as [ʃ].

4.2.7.4 /ə/ epenthesis

Another informant pronounced /kr/ in the word "secretary" as [sek^{h}əɹetɹi].

4.3 Number of all the tokens

There are altogether 8,968 tokens of the Thai (r) and English (r) variables, of which slightly more than two-thirds are Thai variants and the rest the English (r) variants, as shown in Table 4.1.

When classified by place of occurrence, the prevocalic variants of both Thai (r) and English (r) account for almost two-thirds of all the tokens, the remaining one-third occurring in clusters, as shown in Table 4.2. Table 4.2 also shows that the prevocalic variants make up more than half of all the tokens in each language.

Table 4.1 - Number of T(r) and E(r) tokens

Variable	No.	%
T(r)	6418	71.6%
E(r)	2550	28.4%
Total	8968	100%

Table 4.2 - Frequency of tokens by language and place of occurrence

Position	T(r)		E(r)		Total	
Prevocalic	67.4%	4,328	59.1%	1,506	65.1%	5,834
Postconsonantal	32.6%	2,090	40.9%	1,044	34.9%	3.134
Total	100%	6,418	100%	2,550	100%	8,968

4.4 Frequency of prevocalic (r) variants

As mentioned earlier, approximately two-thirds of all the tokens occur in the prevocalic position. This section will deal with frequency of prevocalic T(r) and E(r) variants.

4.4.1 Prevocalic T(r)

As shown in Table 4.3, out of the total tokens, the stigmatized [l] accounts for almost 91%, with the other T(r) variants occurring less than 10%. [ɹ] comes second (6%), exceeding [r] (2.5%). The use of the prestigious [r] is minimal.

The subjects' rate of [l] in the prevocalic position confirms once again the fact that native Thai speakers make extensive use of the stigmatized variant. In Treyakul's study (1986), the informants make great use of prevocalic [l] in conversational style (75%). In Beebe's survey (1974:161 fn. 5), the average score of the use of [l] of the five occupational classes is 81%. Therefore, regardless of sample group of Thai speakers, the most preferred variant for the prevocalic T(r) is [l].

Table 4.3 - Frequency of prevocalic T(r) variants

Prevocalic T(r) variants		
[r]	0.8%	36
[ɾ]	2.5%	107
[ɹ]	6.0%	258
[ɬ]	90.7%	3,927
Total	100%	4,328

4.4.2 Prevocalic E(r)

Of all the prevocalic E(r) variants, [ɹ] accounts for nearly 60%. [l] ranks second, accounting for almost one-third of all the prevocalic occurrences. Other variants have each a share of 6% or less. The details are presented in Table 4.4.

Table 4.4 - Frequency of prevocalic E(r) variants

Prevocalic E(r) variants		
[r]	0.1%	2
[ɾ]	2.9%	43
[ɹ]	58.6%	883
[ɻ]	6.0%	90
[l]	32.4%	488
Total	100%	1,506

Table 4.4 also shows that [ɹ] and [ɻ], which are both considered prestigious E(r) variants make up almost two-thirds of all the prevocalic English tokens. The use of [ɾ] and [r] accounts for only 3%. When speaking English, the subjects thus prefer most the prestigious E(r) variants.

4.5 Frequency of postconsonantal (r) variants

As shown in Table 4.2, there are 3,134 tokens occurring in the postconsonantal position. Of these, two-thirds belong to the T(r) and the rest, the E(r). Frequency of T(r) and E(r) variants will be discussed in this section.

4.5.1 Postconsonantal T(r)

As can be seen from Table 4.5, [ø] accounts for 80% of all the postconsonantal occurrences, with the other T(r) variants having a share of less than 10% each. [l] ranks second and [ɹ] third. The prestigious variants once again trail behind, with the use of [ɾ] exceeding [r]. Compared to the prevocalic T(r) (4.4.1), it is noticed that the order of [l] [ɹ] [ɾ] and [r] is exactly the same in both prevocalic position and in clusters. The variant the subjects prefer most is the stigmatized one. In clusters, it is r-deletion.

Table 4.5 - Frequency of postconsonantal T(r) variants

Postconsonantal T(r) variants		
[r]	0.4%	8
[ɾ]	2.4%	56
[ɹ]	7.8%	163
[l]	9.5%	199
[ø]	79.6%	1,664
Total	100%	2.090

The rate of r-dropping by Bangkok Thai speakers in the present study confirms the predominant use of this variant among Thai speakers. In the two previous findings of the T(r), i.e. Beebe (1974:156) and Treyakul (1986), [ø] always accounts for more than half of all postconsonantal occurrences (58.4% and 62.4%, respectively). Therefore, [ø] always prevails in T(r) clusters, no matter which group of informants are studied.

4.5.2 Postconsonantal E(r)

As can be seen from Table 4.6, the prestigious [ɹ] and [ɻ] account for almost half of all the postconsonantal occurrences of E(r). Two other frequent variants are the r-deletion (35%) and [l] 14%. The use of other variants, i.e. [ɾ], [r] and "others" is minimal. It can be concluded that in clusters the subjects favour the standard E(r) variant most, followed by [ø] and [l].

Table 4.6 - Frequency of postconsonantal E(r) variants

Postconsonantal E(r) variants		
[r]	0.1%	1
[ɾ]	0.7%	7
[ɹ]	46.3%	483
[ɻ]	2.2%	23
[l]	14.4%	150
[ø]	35.2%	368
Others	1.1%	12
Total	100%	1,044

4.6 Grouping (r) variants

It is worth noting that in Table 4.3 and Table 4.4 the frequencies of some variants are relatively small, for example, the trill [r] and the tap [ɾ] in Thai and in English. In addition, some variants are found to exist only in English, and not in Thai, namely the retroflex [ɻ] and variants classified as "others". In order to facilitate further analysis, to make comparisons easier and neater, and more importantly to pave the way for application of appropriate referential statistical tests in the following chapters, it is necessary to reduce the number of (r) variants in both languages. This can be done by grouping some variants with some similar characteristics together. For example, the trill [r] and the tap [ɾ] can be combined since both are prestigious forms in Thai but less prestigious in English.

The new variant categories in the prevocalic position are:

[ɾ] for the trill [r] and the tap [ɾ]

[ɹ] for the alveolar approximant [ɹ] and the retroflex approximant [ɻ]

[l] for the lateral [l]

The new variant categories in the postconsonantal position are:

[ɾ] for the trill [r] and the tap [ɾ]

[ɹ] for the alveolar approximant [ɹ] and the retroflex approximant [ɻ]

[l] for the lateral [l] and variants classified as "others" (4.2.7)

[ø] for the zero representation of the postconsonantal (r)

With the reclassified variants, [ɾ] becomes the prestigious variant of the T(r). [l] remains the lowest-status T(r) variant in the prevocalic position. Likewise, [ø] still remains the stigmatized T(r) variant in the postconsonantal position while [ɹ] is less prestigious, followed by [l].

In English, [ɹ] becomes the only standard E(r) variant. [ɾ] is less standard and [l] remains the stigmatized E(r) variant in the prevocalic position. In clusters, [ø] is still the stigmatized E(r) variant while [ɾ] is less standard, followed by [l].

Using the new variant categories, the frequencies of the prevocalic and postconsonantal variants of the T(r) and E(r) will now take a new shape, as shown in

Table 4.7 - Table 4.8. The tables are derived respectively from Table 4.3 - Table 4.6. Comparison and discussion of T(r) and E(r) variation will be made in 7.4.

Table 4.7 - Frequency of prevocalic T(r) variants

Prevocalic T(r) variants		
[ɾ]	3.3%	143
[ɹ]	6.0%	258
[l]	90.7%	3,927
Total	100%	4,328

Table 4.8 - Frequency of prevocalic E(r) variants

Prevocalic E(r) variants		
[ɾ]	3.0%	45
[ɹ]	64.6%	973
[l]	32.4%	488
Total	100%	1,506

Table 4.9 - Frequency of postconsonantal T(r) variants

Postconsonantal T(r) variants		
[ɾ]	3.1%	64
[ɹ]	7.8%	163
[l]	9.5%	199
[ø]	79.6%	1,664
Total	100%	2,090

Table 4.10 - Frequency of postconsonantal E(r) variants

Postconsonantal E(r) variants		
[ɾ]	0.8%	8
[ɹ]	48.5%	506
[l]	15.5%	162
[ø]	35.2%	368
Total	100%	1,044

4.7 Comparison of use of T(r) variants and E(r) variants

At this stage, it would be interesting to compare the usage pattern of T(r) and E(r) variants. Prevocalic comparison will be made in 4.7.1 and postconsonantal in 4.7.2.

4.7.1 Prevocalic (r)

Table 4.11 and the corresponding Figure 4.1 and Figure 4.2 show comparisons of the prevocalic T(r) and E(r) variants used by the subjects. The Thai [l] variant accounts for 91% of all the T(r) occurrences. In contrast, the English [l] accounts for only one-third of E(r)

Table 4.11-Comparison of prevocalic T(r) and E(r) variants

(r) variants	Prevocalic	
	T(r)	E(r)
[r]	3.3%	3.0%
[ɹ]	6.0%	64.6%
[l]	90.7%	32.4%
Total	100%	100%
	(N=4,328)	(N=1,506)

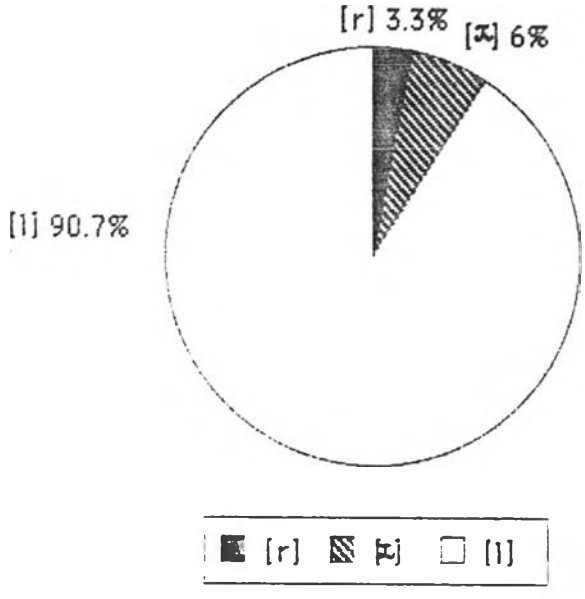

Figure 4.1 - Frequency of prevocalic T(r) variants

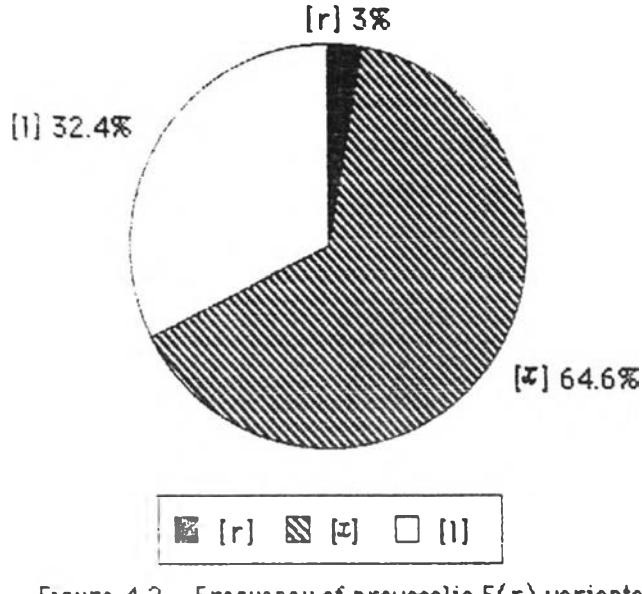

Figure 4.2 - Frequency of prevocalic E(r) variants

occurrences, and also only one-thirds of the Thai [l]. The rate of [ɹ] in Thai is 6%. On the contrary, nearly two-thirds of all the prevocalic E(r) variants go to the standard English [ɹ]. The use of [ɹ] in English is ten times as much as [ɹ] in Thai. The use of [r] is equal in both languages. i.e. approximately 3%.

Thus in the prevocalic position, the subjects do not favour the prestigious form of (r) when speaking Thai as they do when speaking English. The frequency of the prestigious [r] appears to be minimal indeed in Thai conversation. When speaking English, the subjects command the standard E(r) variant most often. It is also noticed that the subjects do not adopt the middle-status [ɹ] as much in Thai. [ɹ] obviously is no problem sound for them since they pronounce it frequently in English. In Thai, they almost always use the stigmatized [l].

The variation patterns of the T(r) and E(r) in the prevocalic position are therefore not the same. In Thai, the use of [l] is much greater than [ɹ]. [ɹ] in turn occurs more frequently than [r]. Thus, the subjects use the stigmatized [l] most extensively and pronounce least the prestigious [r]. This can be shown schematically as

Prevocalic T(r): [l] > [ɹ] > [r]

In contrast, in English the prestigious [ɹ] occurs most frequently, followed by the stigmatized [l]. Like the prevocalic T(r), the less stigmatized [ɾ] in English comes last. That is the schematic pattern of E(r) usage is

Prevocalic E(r): [ɹ] > [l] > [ɾ]

4.7.2 Postconsonantal (r)

As can be seen from Table 4.12 and the corresponding Figure 4.3 and Figure 4.4, the stigmatized

Table 4.12 - Comparison of postconsonantal T(r) and E(r) variants

(r) variants	Postconsonantal	
	T(r)	E(r)
[ɾ]	2.8%	0.8%
[ɹ]	7.8%	48.5%
[l]	9.5%	15.5%
[ø]	79.6%	35.2%
Total	100%	100%
	(N=2,090)	(N=1,044)

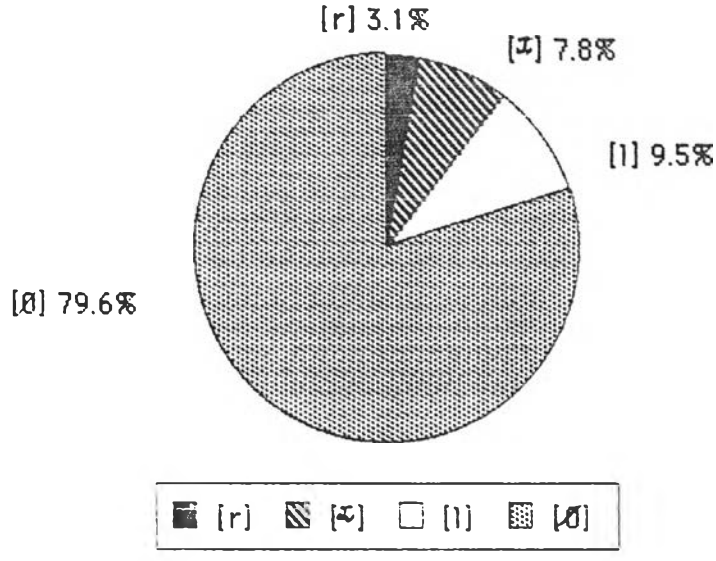

Figure 4.3 - Frequency of postconsonantal T(r) variants

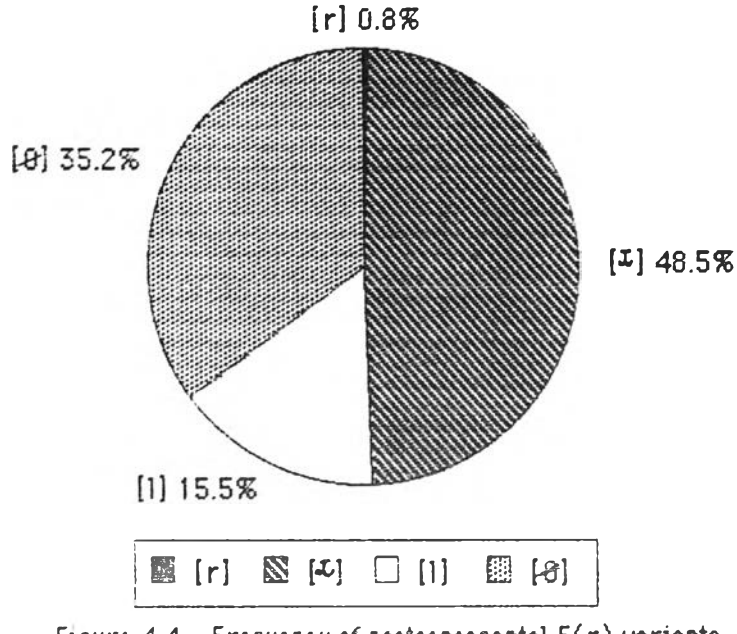

Figure 4.4 - Frequency of postconsonantal E(r) variants

[ø] accounts for 80% of the T(r). That amount is more than twice the use of [ø] in English. In fact, the English [ø] accounts for approximately one-third of all postconsonantal E(r). [ɹ] occurs only 8% in Thai. In contrast, the subjects use [ɹ] almost half of all the E(r) clusters. Their use of the prestigious [ɾ] in Thai remains very low and [ɾ] in English is even rarer.

Therefore, the rate of r-dropping is much more evident in Thai than in English. Besides, [ø] is the most extensively used T(r) variant in clusters. Conversely the rate of E(r) retention is much higher. The subjects are much more likely to retain E(r) by using various variants, of which the majority is the standard [ɹ].

Thus, the T(r) and the E(r) variaton patterns in clusters are not identical. In Thai, the rate of the r-reduction is much greater than [l]. [ɹ] ranks third, followed by the prestigious [ɾ]. The usage pattern is represented as:

Postconsonantal T(r): [ø] > [l] > [ɹ] > [ɾ]

In contrast, in English the prestigious [ɹ] comes first, followed by the stigmatized r-reduction.

[l] ranks third, and [ɾ] last. The pattern of postconsonantal E(r) is represented as:

Postconsonantal E(r): [ɹ] > [ø] > [l] > [ɾ]

It is also noticeable that the pattern of T(r) variation in both prevocalic and postconsonantal positions is always systematic. The variant the subjects prefer most is the stigmatized variant of the respective position. That is, [l] occurs most in the prevocalic position and [ø] in clusters. The variant after [ø] is [l]. [l] in both positions is followed by the less prestigious [ɹ]. The prestigious variant [ɾ] always comes last, as can be seen from the following representations:

Prevocalic T(r): [l] > [ɹ] > [ɾ]

Postconsonantal T(r): [ø] > [l] > [ɹ] > [ɾ]

The order of E(r) variants is also systematic. The prestigious variant [ɹ] always ranks first in both positions. The second most frequent variant is the stigmatized variant of the position, i.e. [l] in the prevocalic position and r-lessness in clusters. [ø] in clusters is followed by [l]. Like the T(r), the tap [ɾ] always comes last, as can be seen from the following schematic representation:

Prevocalic E(r): [ɹ] > [l] > [ɾ]

Postconsonantal E(r): [ɹ] > [ø] > [l] > [ɾ]

To conclude, the subjects use two stigmatized T(r) variants in two different positions. In the prevocalic position, they use [l] and in clusters they use [ø]. In English, they use the standard [ɹ] most frequently in both positions. The results so far presented indicate that the subjects make a greater use of the standard English (r) variant in their English than using the Thai prestigious variant when speaking Thai, their native tongue.