(v) is Really a Problem Sound for Thai Speakers

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The main purpose of this research is to investigate stylistic variation of (v) in the English of Thai speakers. Three styles are chosen in this study: conversation (informal), reading text (formal), and minimal pairs (very formal). The data analysis shows that there is a significant difference between the use of syllable-initial and word-final (v). Most of syllable-initial (v) occurs as [v] in each style while the word-final (v) occurs most frequently as [f], followed by [v].

1. Background of the study

The problems that Thai students experience in pronouncing English correctly have been well-established (e.g. Boonruang 1993, 1996; Bavorn 1994; Sripimol 1996; Varakorn 1997; Ongarch 1998; Rachanee 2000; Sompit 2001). English sounds (f) and (v)[2] in particular are problematic for Thai learners for several reasons. In English, while (f) occurs both in syllable initial and syllable final positions, in Thai it is restricted to syllable initial position. The pronunciation of initial (f) in English therefore, while not being a problem for Thai speakers in words

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[1] This research paper is dedicated to the memory of Gwyn Williams, colleague in the Department of Linguistics from 1989 to 1996 and initiator of this research project. His all round contribution including teaching, thesis supervision, writing, journal editing, and particularly relevant here, as instructor in the course English Phonetics and Phonology, was no less than outstanding, and his departure from our midst has been a great loss. The researchers would like to thank Peter Ross for his comments.

[2] Following the convention originated by Labov (1972: 11), round brackets refer to the phonological variable under investigation which varies according to social factors. Square brackets refer to phonetic realizations.

such as "fast" and "fine," is to be expected to cause difficulties syllable finally. In an earlier study, Tippawan (1981) showed that Thais substitute sounds such as [p] or [∅] (i.e. no sound) in words like "safe," "half," and "life." However, more recently Boonruang & Nantana (2000) showed that statistically Thai students really have no problem with (f). They pronounce it initially as [f] 100% of the time and finally as [f] 95% of the time. Three minor variants, [v], [p] and [b], along with [∅], occur only 5% of the time.

English (v) poses greater problems for Thai speakers as this sound does not occur in Thai at all, either in syllable initial or syllable final position. Thai speakers are likely to substitute [w] in initial position as in "vast" and "very," and substitute [p], [f], or [∅] in syllable final position as in "save," "halve," and "live" (Tippawan 1981). Furthermore, they will have particular difficulties distinguishing such minimal pairs as "safe" and "save," "half" and "halve."

While such substitutions for (v) are quite predictable given the differences between Thai and English sound systems, there has been no detailed investigation of the actual relative frequencies of occurrence for these substitutions in real speech, or of situational factors such as degree of formality which may play a role in determining which phonetic variant is realized or is realized more frequently at any given time. At the very least, however, Boonruang & Nantana (2000) have suggested that Thai speakers indeed have much problem with (v). The aims of the present study are then, specifically to:

(1) examine the phonetic realizations of (v) in the English of female Thai English majors in the Faculty of Liberal Arts, Thammasat University (phonetic variables will be analyzed in syllable-initial and word-final positions); and

(2) explore the degree to which the phonological variable is conditioned by style. Three stylistic levels will be investigated: conversation (informal), reading text (formal), and minimal pairs (very formal).

2. Methodology

Informants in this study consist of 21 female English majors at Thammasat University's Faculty of Liberal Arts, seven each from second, third and fourth year. Informants were randomly selected from lists of English majors provided by the Head of English Department, Faculty of Liberal Arts, Thammasat University. Each informant was tape-recorded in a single face-to-face interview which was conducted in English with one of the researchers and lasted for about 20 minutes. Informants were not informed of the real purpose of the study but were instead told that the interview was aimed at finding out about their background in ESL. Conversation topics centred on informants' biographical information (e.g. name, age, place of birth, place of residence), educational background, English learning experience, and their plans for the future. Following Beebe (1980: 381), no attempt was made to elicit specific words or sounds, with the result that the number of tokens for phonological variables in interviews varies from speaker to speaker. After the conversation, each informant was asked to read a list of minimal pairs and a reading text. Data collection was conducted in February and March 1997 and recorded conversations subsequently transcribed in English. All words requiring syllable initial or word final (v) occurring in the minimal pairs, reading text, and conversation were then underlined and transcribed phonetically.

3. Variants and frequencies

The data set comprises a total of 1,229 occurrences with the variable (v) of which 54.5% occur in syllable-initial position and 45.5% occur word-finally. There are six variants:

(1) voiced labio-dental fricative [v]

(2) voiceless labio-dental fricative [f]

(3) voiced bilabial stop [b]

(4) unaspirated voiceless bilabial stop [p]

(5) voiced bilabial semi-vowel [w]

(6) non-occurrence of (v) in word-final position, i.e. (v) becomes [Ø].

Only two variants, [v] and [f], occur in both positions. [w] only occurs syllable-initially while [b] [p] [Ø] only occur word-finally (Table 1).

Table 1. Distribution of (v) variants according to position of occurrence

Position	(v) variants
Syllable-initial	[v] [f] [w]
Word-final	[v] [f] [b] [p] [Ø]

Place of occurrence plays a significant role in distribution patterns for different realizations (Table 2). (v) occurs initially as [v] 72%, followed by [w] 27.8%. On the other hand, word-finally it is realized as [f] 59% while [v] drops to 40.2%. Differences in the use of (v) according to place of occurrence are statistically significant. Realization of (v) can therefore be said to vary according to place of occurrence.

Table 2. Frequency of (v) variants by position

(v) Variants	Syllable-initial		Word-final	
	%	No.	%	No.
[v]	71.9 %	482	40.2 %	225
[f]	0.3 %	2	59.0 %	329
[w]	27.8 %	186	-	-
[b]	-	-	0.2 %	1
[p]	-	-	0.3 %	2
[Ø]	-	-	0.3 %	2
Total	**100 %**	**670**	**100 %**	**559**

$\chi^2 = 123.48$ df = 1 $p<0.01$

4. Stylistic variation

4.1 Stylistic variation of initial (v)

Rate of occurrence for [v] in initial position for each style is always higher than 60%, followed by [w]. Frequency of [v] gradually decreases from the most formal style, that of minimal pairs (93%), to the most informal, that of conversation (63.5%). Conversely the rate of [w] gradually increases from 6% to 36.5% for the corresponding styles (Table 3).

Table 3. Frequency of initial (v) variants by style

(v) variants	Minimal pairs		Passage reading		Conversation	
[v]	93.0 %	93	81.4 %	123	63.5 %	266
[w]	6.0 %	6	17.9 %	27	36.5 %	153
[f]	1.0 %	1	0.7 %	1	-	-
Total	**100 %**	**100**	**100 %**	**151**	**100 %**	**419**

χ^2 for all three styles = 46.30 df = 2 $p<0.01$

χ^2 for minimal pairs and passage reading = 7.39 df = 1 $p<0.01$

χ^2 for minimal pairs and conversation = 34.91 df = 1 $p<0.01$

χ^2 for passage reading and conversation = 17.51 df = 1 $p<0.01$

Differences in the realizations of (v) variants in all three styles or any two styles are statistically significant. Thus, the data supports the hypothesis that the more formal style the more frequently the standard variant is used.

Further analysis of (v) variants in each informant group reveals similar patterns. Firstly, informants use [v] in more than 50% of all (v) occurrences, followed by [w] (Tables 4-6). Frequencies for [v] range from 53.1% (Table 4, second year, conversation) to 100% (Table 5, third year, minimal pairs).

Secondly, [v] and [w] have exactly the opposite pattern. Where the

frequency of [v] decreases from minimal pairs to conversation, that of [w] increases.

Table 4. Frequency of second year students' initial (v) variants by style

(v) variants	Minimal pairs		Passage reading		Conversation	
[v]	92.9 %	26	64.3 %	27	53.1 %	78
[w]	7.1 %	2	35.7 %	15	46.9 %	69
Total	**100 %**	**28**	**100 %**	**42**	**100 %**	**147**

χ^2 for passage reading and conversation = 1.67 df = 1 p>0.01

Table 5. Frequency of third year students' initial (v) variants by style

(v) variants	Minimal pairs		Passage reading		Conversation	
[v]	100 %	32	98.0 %	48	75.4 %	86
[w]	-	-	2.0 %	1	24.6 %	28
Total	**100 %**	**32**	**100 %**	**49**	**100 %**	**114**

Differences in the use of initial /v/ variants of fourth year group are statistically significant while those of second and third year groups are not likely to be significant. Therefore, the data does not totally support the hypothesis that the more formal style, the more frequently the standard variant is used.

Table 6. Frequency of fourth year students' initial (v) variants by style

(v) variants	Minimal pairs		Passage reading		Conversation	
[v]	87.5 %	35	80.0 %	48	64.6 %	102
[w]	10.0 %	4	18.3 %	11	35.4 %	56
[f]	2.5 %	1	1.7 %	1	-	-
Total	**100 %**	**40**	**100 %**	**60**	**100 %**	**158**

χ^2 for all three styles = 10.91 df = 2 $p<0.01$

χ^2 for minimal pairs and passage reading = 4.13 df = 1 $p>0.01$

χ^2 for minimal pairs and conversation = 25.73 df = 1 $p<0.01$

χ^2 for passage reading and conversation = 5.68 df = 1 $p>0.01$

4.2 Stylistic variation of final (v)

Realizations of final (v) offer yet another interesting picture almost totally different from that of the initial counterpart. While the rate of [v] is always higher than 50% in syllable-initial position (see 4.1), it is always less than 50% word-finally. (v) in final position is more often realized as [f] than [v] (Table 7). In general, the rate of occurrence of [f] is more than 50% of all occurrences in minimal pairs and conversation but slightly less than 50% in passage reading. As for the [v] variant, frequency is always less than 50% in each style under investigation.

Table 7. Frequency of final (v) variants by style

(v) variants	Minimal pairs		Passage reading		Conversation	
[v]	46.0 %	46	49.0 %	49	36.2 %	130
[f]	54.0 %	54	49.0 %	49	62.9 %	226
[b̥]	-	-	-	-	0.3 %	1
[p]	-	-	1.0 %	1	0.3 %	1
[∅]	-	-	1.0 %	1	0.3 %	1
Total	**100 %**	**100**	**100 %**	**100**	**100 %**	**359**

χ^2 for all three styles = 7.26 df = 2 p>0.01

χ^2 for minimal pairs and passage reading = 0.32 df = 1 p>0.01

χ^2 for minimal pairs and conversation = 2.96 df = 1 p>0.01

χ^2 for passage reading and conversation = 5.85 df = 1 p>0.01

Differences in the use of final position (v) variants of the three styles or any two styles are not statistically significant. The hypothesis that the more formal the style the more the standard variant is used is thus not supported.

Analysis of each informant group's use of final (v) (Tables 8-10) reveals that only second and fourth year informants maintain a similar pattern to that of the overall group, that is, higher use of [f] than [v]. As shown in Tables 8 and 10, usage of [f] ranges from 50% to 57.7% for second year (Table 8) and 57.5% to 70% for fourth year (Table 10). On the other hand, second and fourth year rates for [v] range from 41.4% to 50% (Table 8) and 30% to 40% (Table 10) respectively. However, in neither case are the differences in their use of final (v) statistically significant.

Table 8. Frequency of second year students' final (v) variants by style

(v) variants	Minimal pairs		Passage reading		Conversation	
[v]	50.0 %	14	42.8 %	12	41.4 %	46
[f]	50.0 %	14	53.6 %	15	57.7 %	64
[b]	-	-	-	-	0.9 %	1
[Ø]	-	-	3.6 %	1	-	-
Total	**100 %**	**28**	**100 %**	**28**	**100 %**	**111**

χ^2 for all three styles = 0.62 df = 2 p>0.01

χ^2 for minimal pairs and passage reading = 0.17 df = 1 p>0.01

χ^2 for minimal pairs and conversation = 0.61 df = 1 p>0.01

χ^2 for passage reading and conversation = 0.08 df = 1 p>0.01

Table 9. Frequency of third year students' final (v) variants by style

(v) variants	Minimal pairs		Passage reading		Conversation	
[v]	62.5 %	20	65.6 %	21	32.4 %	35
[f]	37.5 %	12	34.4 %	11	66.7 %	72
[p]	-	-	-	-	0.9 %	1
Total	**100 %**	**32**	**100 %**	**32**	**100 %**	**108**

χ^2 for all three styles = 16.01 df = 2 p<0.01

χ^2 for minimal pairs and passage reading = 0.07 df = 1 p>0.01

χ^2 for minimal pairs and conversation = 9.14 df = 1 p>0.01

χ^2 for passage reading and conversation = 11.09 df = 1 p<0.01

Table 10. Frequency of fourth year students' final (v) variants by style

(v) variants	Minimal pairs		Passage reading		Conversation	
[v]	30.0 %	12	40.0 %	16	35.0 %	49
[f]	70.0 %	28	57.5 %	23	64.3 %	90
[p]	-	-	2.5 %	1	-	-
[∅]	-	-	-	-	0.7 %	1
Total	**100 %**	**40**	**100 %**	**40**	**100 %**	**140**

χ^2 for all three styles = 1.05 df = 2 p>0.01

χ^2 for minimal pairs and passage reading = 1.05 df = 1 p>0.01

χ^2 for minimal pairs and conversation = 0.38 df = 1 p>0.01

χ^2 for passage reading and conversation = 0.44 df = 1 p>0.01

In contrast, the third year group rate of [v] in minimal pairs and passage reading is always higher than 60% but decreases to 32% in conversation. Conversely, third year use of [f] is lower than 40% in the minimal pair and reading styles, increasing to 66.7% in conversation. Statistical analysis shows in general, differences in their use of final (v) variants are significant. However, individually, only differences between passage reading and conversation are statistically significant. The data, therefore, does not totally support the hypothesis that [v] occurs more frequently in more formal style.

Of all three informant groups, second year has the highest frequency of [v] (more than 60%) in both minimal pairs and reading passage. The reason for this is rather unclear but one possible explanation might come from the fact that the group has had more exposure to English than the other two. Closer examination of each informant's background provided by the taped interviews indicates this indeed is the case for the majority. Some students have lived in America for extended periods of one to two years while others have been to western-run schools in Bangkok before entering the university and/or have taken specialized courses with

a native speaker focussing on pronunciation (eg. English phonetics and phonology LG236).

4.3 Comparison of initial and final (v) variation

As shown in 4.1-4.2 above, distribution patterns vary for realization of (v) in initial and final positions. However, actual comparisons have not been made. Therefore, to show explicitly these differences, comparisons of initial and final (v) in each style of each informant group are presented in this section.

As can be seen from Tables 11-13, informants as a whole have a much higher occurrence of [v] in initial position than in final. The lowest frequency of initial [v] is 63.5% in conversation (Table 13) while the highest occurrence of final [v] is 49% in passage reading (Table 12). Differences in the use of [v] are 47% in minimal pairs (Table 11), 32.4% in passage reading (Table 12) and 27.3% in conversation (Table 13). Differences in initial and final realizations of (v) are statistically significant with the data showing clearly that position effects the likelihood of particular realizations.

Table 11. Frequency of initial and final (v) variants in minimal pairs

(v) variants	Syllable-initial		Word-final	
[v]	93.0 %	93	46.0 %	46
[w]	6.0 %	6	-	-
[f]	1.0 %	1	54.0 %	54
Total	**100 %**	**100**	**100 %**	**100**

$\chi^2 = 52.04$ df = 1 $p<0.01$

Table 12. Frequency of initial and final (v) variants in passage reading

(v) variants	Syllable-initial		Word-final	
[v]	81.4 %	123	49.0 %	49
[w]	17.9 %	27	-	-
[f]	0.7 %	1	49.0 %	49
[p]	-	-	1.0 %	1
[Ø]	-	-	1.0 %	1
Total	**100 %**	**151**	**100 %**	**100**

$\chi^2 = 29.38$ df = 1 $p<0.01$

Table 13. Frequency of initial and final (v) variants in conversation

(v) variants	Syllable-initial		Word-final	
[v]	63.5 %	266	36.2 %	130
[w]	36.5 %	153	-	-
[f]	-	-	62.9 %	226
[b]	-	-	0.3 %	1
[p]	-	-	0.3 %	1
[Ø]	-	-	0.3 %	1
Total	**100 %**	**419**	**100 %**	**359**

$\chi^2 = 57.54$ df = 1 $p<0.01$

Comparison of initial and final (v) for each informant group also shows similar patterning, that is, more occurrences of [v] initially than finally. Tables 14-22 show comparisons of initial and final (v) in each style for second year informants (Tables 14-16), third year (Tables 17-19) and fourth year (Tables 20-22) respectively.

Both second and fourth year groups use [v] most frequently in initial position, followed by [w] (Tables 14-16 and 20-22). On the other hand,

in final position, the use of [f] is most frequent, followed by [v]. Only differences in the use of initial and final (v) variants in each style of fourth year group (Tables 20-22) are statistically significant.

For the third year informants, the occurrence pattern varies from that of the other two groups. Tables 17 and 18 show that (v) in both positions in minimal pairs and passage reading occurs most frequently as [v] although the rate for [v] is much higher syllable initially as opposed to word finally. In conversation, however, the pattern conforms to the norm with (v) being realized most often as [v] followed by [w] in initial position but as [f] followed by [v] in final position. Only one pattern of use of (v) out of the three styles for third year, that is conversation (Table 16), is statistically significant.

Table 14. Frequency of second year students' initial and final (v) variants in minimal pairs

(v) variants	Syllable-initial		Word-final	
[v]	92.9%	26	50.0%	14
[w]	7.1%	2	-	-
[f]	-	-	50.0%	14
Total	**100 %**	**28**	**100 %**	**28**

Table 15. Frequency of second year students' initial and final (v) variants in passage reading

(v) variants	Syllable-initial		Word-final	
[v]	64.3%	27	42.8%	12
[w]	35.7%	15	-	-
[f]	-	-	53.6%	15
[∅]	-	-	3.6%	1
Total	**100 %**	**42**	**100 %**	**28**

$\chi^2 = 3.11$ df = 1 $p<0.01$

Table 16. Frequency of second year students' initial and final (v) variants in conversation

(v) variants	Syllable-initial		Word-final	
[v]	53.1 %	78	41.4 %	46
[w]	46.9 %	69	-	-
[f]	-	-	57.7 %	64
[b]	-	-	0.9%	1
Total	**100 %**	**147**	**100 %**	**111**

$\chi^2 = 3.40$ df = 1 p>0.01

Table 17. Frequency of third year students' initial and final (v) variants in minimal pairs

(v) variants	Syllable-initial		Word-final	
[v]	100 %	32	62.5 %	20
[f]	-	-	37.5 %	12
Total	**100 %**	**32**	**100 %**	**32**

Table 18. Frequency of third year students' initial and final (v) variants in passage reading

(v) variants	Syllable-initial		Word-final	
[v]	98.0 %	48	65.6 %	21
[w]	2.0 %	1	-	-
[f]	-	-	34.4 %	11
Total	**100 %**	**49**	**100 %**	**32**

Table 19. Frequency of third year students' initial and final (v) variants in conversation

(v) variants	Syllable-initial		Word-final	
[v]	75.4 %	86	32.4 %	35
[w]	24.6 %	28	-	-
[f]	-	-	66.7 %	72
[p]	-	-	0.9 %	1
Total	**100 %**	**114**	**100 %**	**108**

$\chi^2 = 41.40$ df = 1 $p<0.01$

Table 20. Frequency of fourth year students' initial and final (v) variants in minimal pairs

(v) variants	Syllable-initial		Word-final	
[v]	87.5 %	35	30.0 %	12
[w]	10.0 %	4	70.0 %	28
[f]	2.5 %	1	-	-
Total	**100 %**	**40**	**100 %**	**40**

$\chi^2 = 27.26$ df = 1 $p<0.01$

Table 21. Frequency of fourth year students' initial and final (v) variants in passage reading

(v) variants	Syllable-initial		Word-final	
[v]	80.0 %	48	40.0 %	16
[w]	18.3 %	11	-	-
[f]	1.7 %	1	57.5 %	23
[p]	-	-	2.5 %	1
Total	**100 %**	**60**	**100 %**	**40**

$\chi^2 = 16.66$ df = 1 $p<0.01$

Table 22. Frequency of fourth year students' initial and final (v) variants in conversation

(v) variants	Syllable-initial		Word-final	
[v]	64.6 %	102	35.0 %	49
[w]	35.4 %	56	-	-
[f]	-	-	64.3 %	90
[∅]	-	-	0.7 %	1
Total	**100 %**	**158**	**100 %**	**140**

$\chi^2 = 25.92$ df = 1 $p<0.01$

To summarize, there is a clear relationship between style and initial (v) in informants as a whole but differences within each informant group are not significant. The variant most frequently used in initial position is [v] (more than 50%), followed by [w]. As for final (v), the most frequently used variant is [f], followed by [v]. It has been found that there is no relationship between style and final (v) in informants as a whole and also in two out of three informant groups. Comparisons of initial and final (v) in informants as a whole reveal that the patterns are significantly different. Realizations of initial and final (v) in each informant group are found to be statistically significant in most cases.

5. Discussion

5.1 Conclusions

The analysis shows that word-final position is the main problem position for speakers in their production of (v). This can be accounted for firstly due to the fact that (v) is not part of the Thai phonological system. The closest sound in Thai is its voiceless counterpart (f) which only occurs in initial position. This helps explain why the variant [f] is most frequently used word-finally. The only distinguishing feature between (f) and (v) is voicing, and informants resort to the voiceless counterpart when they have to pronounce final (v).

(v) in initial position is less problematic, and this can probably be explained by the fact that informants are more familiar with initial fricative sounds in Thai, /f/, /s/ and /h/. Phonetically the initial (v) is easier for the informants to pronounce: based on (f), they have to deal with only one factor, i.e. voicing. The problem is much less obvious in more formal styles of minimal pairs and passage reading where (v) is realized as [v] in 80% or more of occurrences. In conversation, however, the use of [v] never exceeds 75.4% in any of the informant groups.

Of particular interest are the second most frequently used variants in initial and final position which are [w] and [v], respectively. [w], and not [f], is used initially simply because it shares two phonetic similarities with [v], i.e. the use of the lip and voicing. Informants seem to be well aware that [f] would not be the right sound for the initial (v); otherwise there would be no clear distinction between the two sounds.

5.2 Application

In terms of pedagogical application, and in conjunction with our earlier study (Boonruang & Nantana 2000), the researchers suggest that (f) in English is comparatively not a problem sound for the Thai speakers since they pronounce it as [f] 100% initially and 95% word-finally (in 1). We recommend then for teachers of English pronunciation or conversation to leave out drills or practice for (f) in their classes and instead spend more time on pronunciation practice for (v). Word-final (v) presents the weakest point for students in this study with [v] typically being produced less than 50% of the time and sometimes as low as 32.4% (See Table 9). In pronunciation or conversation classes, much greater emphasis should be placed on word-final (v). For (v) in initial position, emphasis should be placed on conversational style, and to a much lesser extent on reading passages.

5.3 Comparability

A special note should be made regarding the informants in this study. As indicated earlier (in 2), they are English majors in the Faculty of Liberal Arts, Thammasat University. Before becoming English majors, these students, who in fact have passed the National University Entrance Examinations with Faculty of Liberal Arts as their first or second choice, have to sit for a further English Proficiency Test administered by the English Department while they are in their first year. Out of a few hundred students, only approximately the top seventy are admitted to the English program. In short, informants in the present study are by no means average students as far as English proficiency goes. There are two implications here. Firstly, despite the fact that these students rank highly in terms of English proficiency, (v) still remains a problem sound for them, especially in word-final position, thus attesting the difficulty of this sound for Thai speakers. Secondly, the findings of the present study may not be relevant and cannot necessarily be generalized to Thai speakers or Thai university students elsewhere since the informants are of a select group. It would be useful, however, to compare the present results to similar studies with other groups of English majors in other Thai universities.

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