

CHAPTER IV

RESULTS

This chapter reports the results of the study. The research questions addressed in chapter one provide the organization of the presentation of the findings. The answer to each research question is based upon the data collection from the Grade 2 students at Phichit Inter School. All the data obtained are computed and analyzed, and the results are presented below.

Research Question One: *To what extent has the use of minimal pairs compared to the traditional technique effected on learners' abilities to pronounce English consonant sounds correctly?*

The results on students' ability to pronounce words were presented in Tables 1.1, 1.2, 1.3 and 1.4.

Finding One

Table 1.1: Students' performance in pronouncing words, based on the test given at the end of the course.

| Test | Experimental | | Control | | F | p |
|-------|--------------|-------|---------|------|------|-----|
| | Mean | SD | Mean | SD | | |
| Words | 10.05 | 9.886 | 4.00 | 5.16 | 5.88 | .02 |

The data from Table 1.1 indicate that there is a significant difference between the experimental group and the control group in the ability to pronounce words correctly ($p < .05$). The difference can result from educational experiences the experimental group received through the minimal pair technique, whereas the control group was taught with a traditional way which followed the manual of the core course.

It is clear that the experimental group has gained more benefit from the minimal pair treatment than the control group has from the traditional way since its mean scores in pronouncing words is much higher (10.05 : 4.00, respectively).

Consequently, it can be assumed that this technique enables students to gain better pronunciation.

Table 1.2: The comparison between the member of highly-proficient and low-proficient students according to their score received in correctly pronouncing English words given

| Score | LEVEL | | | | | | | | Total***** (N=40) | |
|-------|----------------------------------|-----|-----------------------------------|-----|----------------------------------|------|-----------------------------------|------|----------------------|------|
| | highly- proficient1* (N=9) | | highly- proficient2** (N=9) | | low- proficient1*** (N=11) | | low- proficient2**** (N=11) | | | |
| | Count | % | Count | % | Count | % | Count | % | Count | % |
| 0 | 0 | 0.0 | 0 | 0.0 | 5 | 12.5 | 8 | 20.0 | 13 | 32.5 |
| 1 | 0 | 0.0 | 0 | 0.0 | 1 | 2.5 | 1 | 2.5 | 2 | 5.0 |
| 2 | 0 | 0.0 | 0 | 0.0 | 2 | 5.0 | 2 | 5.0 | 4 | 10.0 |
| 4 | 0 | 0.0 | 2 | 5.0 | 1 | 2.5 | 0 | 0.0 | 3 | 7.5 |
| 5 | 0 | 0.0 | 1 | 2.5 | 1 | 2.5 | 0 | 0.0 | 2 | 5.0 |
| 6 | 0 | 0.0 | 1 | 2.5 | 0 | 0.0 | 0 | 0.0 | 1 | 2.5 |
| 7 | 1 | 2.5 | 2 | 5.0 | 0 | 0.0 | 0 | 0.0 | 3 | 7.5 |
| 9 | 0 | 0.0 | 1 | 2.5 | 0 | 0.0 | 0 | 0.0 | 1 | 2.5 |
| 13 | 1 | 2.5 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 1 | 2.5 |
| 15 | 1 | 2.5 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 1 | 2.5 |
| 16 | 0 | 0.0 | 1 | 2.5 | 1 | 2.5 | 0 | 0.0 | 2 | 5.0 |
| 17 | 0 | 0.0 | 1 | 2.5 | 0 | 0.0 | 0 | 0.0 | 1 | 2.5 |

Table 1.2 (continued)

| Score | LEVEL | | | | | | | | Total***** (N=40) | |
|-------|----------------------------------|-----|-----------------------------------|-----|----------------------------------|-----|-----------------------------------|-----|----------------------|-----|
| | highly- proficient1* (N=9) | | highly- proficient2** (N=9) | | low- proficient1*** (N=11) | | low- proficient2**** (N=11) | | | |
| | Count | % | Count | % | Count | % | Count | % | Count | % |
| 19 | 1 | 2.5 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 1 | 2.5 |
| 21 | 1 | 2.5 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 1 | 2.5 |
| 22 | 1 | 2.5 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 1 | 2.5 |
| 23 | 2 | 5.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 2 | 5.0 |
| 28 | 1 | 2.5 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 1 | 2.5 |

* highly-proficient1 = highly-proficient students from experimental group

**highly-proficient2 = highly-proficient students from control group

***low-proficient1 = low-proficient students from experimental group

****low-proficient2 = low-proficient students from control group

*****Total = all students in this study

According to the data in Table 1.2, most highly-proficient students in the experimental group have higher scores than those in the control group. That is, 7 out of 9 students in the experimental group receive 19-28 scores, while 7 out of 9 from the control group receive 4-9 scores. Also, a number of students who failed in pronunciation with the score of 0, are from the control group, and only 2 of them passed the test. In contrast, most students who passed the test are from the experimental group (8).

From the data revealed above, it can be summarized that the minimal pair technique has effected and influenced upon the performance of students who pronounce the problematic English consonant sounds efficiently, especially on the highly-proficient students.

In addition, the results demonstrated that the learners who have been trained by using the minimal pairs could pronounce words more correctly than those who have been trained to pronounce every sound of a word correctly, as seen in Table 1.3.

Table 1.3: Frequencies and Percentages of correct answers by all participants in highly-proficiency students and low-proficiency students of the experimental group and the control group.

| Words tested | Highly-proficient students | | | | Low-proficient students | | | | Total | |
|--------------|----------------------------|------|-------------------|------|-------------------------|------|-------------------|-----|------------------------|-------------------|
| | Experimental (N=9) | | Control (N=11) | | Experimental (N=9) | | Control (N=11) | | Experimental (N=20) | Control (N=20) |
| | Correct answer | | | | Correct answer | | | | | |
| | Count | % | Count | % | Count | % | Count | % | | |
| z (British) | 8 | 20.0 | 7 | 17.5 | 4 | 10.0 | 0 | 0.0 | 12 | 7 |
| z (American) | 6 | 15.0 | 7 | 17.5 | 5 | 12.5 | 0 | 0.0 | 11 | 7 |
| zoo | 8 | 20.0 | 5 | 12.5 | 3 | 7.5 | 0 | 0.0 | 11 | 5 |
| zip | 8 | 20.0 | 5 | 12.5 | 3 | 7.5 | 0 | 0.0 | 11 | 5 |
| shin | 8 | 20.0 | 3 | 7.5 | 1 | 2.5 | 0 | 0.0 | 9 | 2 |
| ship | 8 | 20.0 | 2 | 5.0 | 1 | 2.5 | 0 | 0.0 | 9 | 2 |
| sherry | 8 | 20.0 | 2 | 5.0 | 1 | 2.5 | 0 | 0.0 | 9 | 2 |
| this | 8 | 20.0 | 1 | 2.5 | 1 | 2.5 | 0 | 0.0 | 9 | 1 |
| right | 7 | 17.5 | 8 | 17.5 | 1 | 2.5 | 2 | 5.0 | 8 | 10 |
| vat | 8 | 20.0 | 3 | 7.5 | 0 | 0.0 | 0 | 0.0 | 8 | 3 |
| they | 7 | 17.5 | 2 | 5.0 | 1 | 2.5 | 0 | 0.0 | 8 | 2 |
| thin | 8 | 20.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 8 | 0 |
| thank | 7 | 17.5 | 0 | 0.0 | 1 | 2.5 | 0 | 0.0 | 8 | 0 |
| shop | 5 | 12.5 | 4 | 10.0 | 2 | 5.0 | 0 | 0.0 | 7 | 4 |
| there | 6 | 15.0 | 0 | 0.0 | 1 | 2.5 | 0 | 0.0 | 7 | 0 |
| van | 6 | 15.0 | 6 | 15.0 | 0 | 0.0 | 1 | 2.5 | 6 | 7 |
| rock | 6 | 15.0 | 4 | 10.0 | 0 | 0.0 | 0 | 0.0 | 6 | 4 |
| rice | 6 | 15.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 6 | 0 |
| zinc | 4 | 10.0 | 1 | 2.5 | 1 | 2.5 | 0 | 0.0 | 5 | 1 |
| those | 4 | 10.0 | 1 | 2.5 | 1 | 2.5 | 0 | 0.0 | 5 | 1 |
| share | 4 | 10.0 | 0 | 0.0 | 1 | 2.5 | 0 | 0.0 | 5 | 0 |

Table 1.3 (continued)

| Words tested | Highly-proficient students | | | | Low-proficient students | | | | Total | |
|--------------|----------------------------|------|-------------------|------|-------------------------|-----|-------------------|-----|------------------------|-------------------|
| | Experimental (N=9) | | Control (N=11) | | Experimental (N=9) | | Control (N=11) | | Experimental (N=20) | Control (N=20) |
| | Correct answer | | | | Correct answer | | | | | |
| | Count | % | Count | % | Count | % | Count | % | | |
| thick | 5 | 12.5 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 5 | 0 |
| think | 4 | 10.0 | 0 | 0.0 | 1 | 2.5 | 0 | 0.0 | 5 | 0 |
| river | 4 | 10.0 | 5 | 12.5 | 0 | 0.0 | 2 | 5.0 | 4 | 7 |
| row | 4 | 10.0 | 5 | 12.5 | 0 | 0.0 | 0 | 0.0 | 4 | 5 |
| vine | 4 | 10.0 | 1 | 2.5 | 0 | 0.0 | 0 | 0.0 | 4 | 1 |
| thought | 3 | 7.5 | 0 | 0.0 | 1 | 2.5 | 0 | 0.0 | 4 | 0 |
| vest | 3 | 7.5 | 1 | 2.5 | 0 | 0.0 | 0 | 0.0 | 3 | 1 |
| then | 3 | 7.5 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 3 | 0 |
| vet | 1 | 2.5 | 2 | 5.0 | 0 | 0.0 | 0 | 0.0 | 1 | 2 |

Among six English consonant sounds, /z/, /ʃ/, /θ/ and /ð/ could be produced by students from the experimental group much better than those students from the control group with outstanding numbers of difference. The overall results of two sounds, /z/ and /ʃ/, showed that highly-proficient students of both experimental group and control group could pronounce these sounds better than low-proficient students. That is, students could pronounce *zoo*, *z (American)*, *z (British)* and *zip correctly* (20.0%, 15%, 20%, 20% and 12.5%, 17.5%, 17.5%, 12.5% respectively), and they could also correctly pronounce for the words *shin*, *ship* and *sherry* (20.0%, 20.0%, 20.0% and 7.5%, 5.0%, 5.0% respectively)

However, the majority of those students who could pronounce the less problematic consonant sounds were at the highly-proficient level of the experimental group. The result can reflect the use of minimal pair technique.

Table 1.4: Comparison of mean scores between highly-proficient students and low-proficient students from the control group and the experimental group, based on the test given at the end of the course

| Groups | n | Mean | SD | F | p |
|--------------------|----|------|------|-------|-------|
| Highly-proficient1 | 9 | 19 | 6.34 | 15.93 | 0.001 |
| Highly-proficient2 | 9 | 8.33 | 4.89 | | |
| Low-proficient1 | 11 | 2.72 | 4.73 | 2.46 | 0.132 |
| Low-proficient2 | 11 | 0.45 | 0.82 | | |
| Total | 40 | 7.02 | 8.36 | | |

The data obtained from table 1.4 indicated that highly-proficient students had higher mean scores than low-proficient students, with mean score average 19.00, 8.33, 2.72, and 0.45, respectively. However, both highly-proficient students and low-proficient students from the experimental group still had much higher average scores than those highly-proficient students and low-proficient students who were trained by the traditional way. The result from the analysis of variance (ANOVA) showed that students trained via the minimal pair technique had better pronunciation than those trained via the use of the traditional way at the significance level of .001. Additionally, there was no significant difference between scores by low-proficient students in the experimental group and the control group ($p > .05$).

Research Question Two: *Which English consonants are more problematic to pronounce than others?*

Finding Two

Table 2 : Frequencies and Percentages of correct answers by all participants in the experimental group and the control group

| Words Tested | Participants | | | | Total | |
|--------------|-----------------|------|-----------------|------|-----------------|------|
| | Experimental | | Control | | | |
| | Correct answers | | Correct answers | | | |
| | Count (N=20) | % | Count (N=20) | % | Count (N=40) | % |
| z (British) | 12 | 30.0 | 7 | 17.5 | 19 | 47.5 |
| z (American) | 11 | 27.5 | 7 | 17.5 | 18 | 45.0 |
| right | 8 | 20.0 | 10 | 25.0 | 18 | 45.0 |
| zoo | 11 | 27.5 | 5 | 12.5 | 16 | 40.0 |
| zip | 11 | 27.5 | 5 | 12.5 | 16 | 40.0 |
| van | 6 | 15.0 | 7 | 17.5 | 13 | 32.5 |
| shin | 9 | 22.5 | 3 | 7.5 | 12 | 30.0 |
| river | 4 | 10.0 | 7 | 17.5 | 11 | 27.5 |
| vat | 8 | 20.0 | 3 | 7.5 | 11 | 27.5 |
| shop | 7 | 17.5 | 4 | 10.0 | 11 | 27.0 |
| ship | 9 | 22.5 | 2 | 5.0 | 11 | 27.5 |
| sherry | 9 | 22.5 | 2 | 5.0 | 11 | 27.5 |
| they | 8 | 20.0 | 2 | 5.0 | 10 | 25.0 |
| this | 9 | 22.5 | 1 | 2.5 | 10 | 25.5 |
| rock | 6 | 15.0 | 4 | 10.0 | 10 | 25.0 |
| row | 4 | 10.0 | 5 | 12.5 | 9 | 22.5 |
| thin | 8 | 20.0 | 0 | 0.0 | 8 | 20.0 |
| thank | 8 | 20.0 | 0 | 0.0 | 8 | 20.0 |
| there | 7 | 17.5 | 0 | 0.0 | 7 | 17.5 |
| rice | 6 | 15.0 | 0 | 0.0 | 6 | 15.0 |
| zinc | 5 | 12.5 | 1 | 2.5 | 6 | 15.0 |
| those | 5 | 12.5 | 1 | 2.5 | 6 | 15.0 |

Table 2 (continued)

| Words Tested | Participants | | | | Total | |
|--------------|-----------------|------|-----------------|-----|-----------------|------|
| | Experimental | | Control | | | |
| | Correct answers | | Correct answers | | | |
| | Count (N=20) | % | Count (N=20) | % | Count (N=40) | % |
| vine | 4 | 10.0 | 1 | 2.5 | 5 | 12.5 |
| share | 5 | 12.5 | 0 | 0.0 | 5 | 12.5 |
| thick | 5 | 12.5 | 0 | 0.0 | 5 | 12.5 |
| think | 5 | 12.5 | 0 | 0.0 | 5 | 12.5 |
| vest | 3 | 7.5 | 1 | 2.5 | 4 | 10.0 |
| thought | 4 | 10.0 | 0 | 0.0 | 4 | 10.0 |
| then | 3 | 7.5 | 0 | 0.0 | 3 | 7.5 |
| vet | 1 | 2.5 | 2 | 5.0 | 3 | 7.5 |

Among six English consonant sounds, the results clearly demonstrated that the /V/ and /θ/ sounds are more problematic to pronounce than others for all students. That is, after students could pronounce *vet*, *vest* and *vine* correctly (7.5%, 10%, 12.5% respectively), so could they pronounce for the words *thought*, *think*, and *thick*. In practice, these two sounds were substituted by L1 similar sounds; for example, /V/ was replaced by either /W/ or /f/, and /θ/ may be replaced by any of /f/, /t/, or /s/. Thus, the word think /θɪŋk/ may be pronounced as fink /fɪŋk/, tink /tɪŋk/ or sink /sɪŋk/.

However, among the most problematic sounds; /V/ and /θ/, there were no differences between the experimental group and the control group for the word 'van'. There were rather a large number of students who could pronounce it correctly, that is 6 students from the experimental group, and 7 students from the control group, respectively. The result may be affected by other factors; for example, combination of

vowel and consonant, also frequency of the word those students have seen previously or it has been adapted to use in Thai as a borrowed word, such as the word 'van'.

Noticeably, the majority of those students who could not pronounce the most problematic consonant sounds were in the control group. The result may come from the lack of ability to discriminate the similar sounds.

The overall results of the study showed that the minimal pair technique and exercise being used to teach pronunciation to students played an important role towards the outcomes. However, the teachers should mainly focus on the words that the target students are familiar with. The fact is, they will not say the words if the words are not known.

Consequently, the teacher should spend more time to teach the words in order to make them become familiar with the words. To conclude, the minimal pair technique is one of the effective ways to teach pronunciation of English consonants to EFL beginners like young children.

