CHAPTER 5

CONCLUSION

This chapter concluded this thesis in terms of six main aspects, namely research problem, research solution, research output, key findings and research limitations as well as future research.

5.1 Research problem

To identify the research problems, this thesis collected data from the Basic Education Core Curriculum, recent previous researches, a pretest to assess P2 students' Chinese speaking ability, and data evaluation through error analysis. Based on the result of data evaluation, P2 students at Rattana Auewittaya School have poor pronunciation ability so that they cannot achieve an appropriate Chinese proficiency in speaking skill. Pronunciation errors include initial errors (stop and affricative, alveolar, velar, front palatal, retroflex, and blade alveolar), final errors (simple final, compound final, nasal, and retroflex) and tone errors (rising tone, falling-rising tone, and light tone).

5.2 Research solution

In order to solve the problems mentioned above, Chinese pronunciation incubator is created to improve P2' students' Chinese pronunciation ability as well as their speaking skill. This incubator blended theories, namely constructionism, zone of proximal development, and cone of experience.

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Based on the knowledge audit and domain knowledge identification, Chinese pronunciation incubator is designed based on constructionism with three sections, namely problem solving situation which is the teaching content in this paper, intellectual learning tools which are the tablets, and intelligent learning environment which is the smart classroom in this research. In such an incubator, the teaching content is the main weakness and language errors identified from the pretest, which is also the professional suggestions of an experienced Chinese language teacher from the interview. Intellectual learning tools are tablets installing Bed Time Story applications, with which P2 students are immersed to professional Chinese speaking environment. Intelligent learning environment refers to the smart classroom in this paper, the theme of which is 'play and learn'. And language activities are designed in accordance with cone of experience and other teaching techniques of experts, to attract students' participation and cooperation during the teaching period. Finally, posttest and retention test are conducted to measure students' Chinese speaking ability, error analysis helps to analyze and evaluate students' Chinese level.

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5.3 Research output

The target group in this thesis was 26 P2 students, who were studying Prathom 2 in the second semester from October 2014 to March 2015, at Rattana Auewittaya School of Fang district, Thailand. The implementation period lasted from January to March 2015, and then the retention test was followed. The evaluation of test data manifested that P2 students have achieved an improvement in their Chinese speaking skill, especially their pronunciation ability. The posttest result shows that 26 students have a total of 309.67 language errors via error analysis (Liu, 2012). Compared with 465.66 language errors of the pretest, the number of language errors reduced by 155.99, or 33.50% in percentage. The retention outcome indicates that P2 students still keep 64.44% knowledge retention after two- month summer class period.

5.4 Key findings and research limitations

In this research, the quantitative data was collected to evaluate the Chinese pronunciation incubator for teaching P2 students Chinese language. The data analysis indicated that this incubator have enhanced students' Chinese speaking skill. The pronunciation abilities such as the alphabet, tones, words, sentence models and sentences have been improved successfully. During this seven-week teaching period, the expected findings of this incubator were presented as followed.

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(1) The newly arranged classroom creates a construction zone that supports students' physical movement to reinforce 'powerful ideas in the air' via Chinese language activities, to discuss, share and test their hypothesis among classmates.

(2) The intellectual learning tools, or the modern teaching equipment, such as the tablet, smart classroom, language learning application, presents vivid linguistic classes that strongly motivate and attract students. Meanwhile, students use their ears, eyes, mouth, hands and brain to listen to standard audio, to watch the vivid animation, to follow to speak, to practice writing, and to think. In this way, students are able to remember and use the learning content better and faster.

(3) The task-based collaboration learning activities enhance students' cooperation and interaction with their classmates, peers and teachers. The knowledge that students gain in such a social community is much more than that through traditional individual learning.

(4) The knowledge retention of P2 students is related to the language acquisition and long-term memory system. From the perspective of language acquisition, simple alphabets are easier for Chinese beginners to keep in a good retention than more complicated alphabets, words, and sentences. In the long-term memory system, primacy effect, recency effect and frequent rehearsal of review lessons contribute to a better recall or improvement in retention, of information presented at the beginning and the end of a body of information.

However, some unexpected findings also exist in this research result, which are presented in three aspects:

(1) According to the comparison result of pretest and posttest, students achieve an improvement of most error types, however they still have difficulty in six categories, namely "的 de" phrase, retroflex 'er', simple final 'ü', front palatal 'x', blade alveolar 'c' and retroflex 'sh'. However, the worse is that the error number of "x" "ü" and "er" in posttest are a bit more than that of in the pretest. This phenomenon can be explained by language interference. The similarities between Chinese language and Thai language will facilitate Chinese language learning, which is called positive transfer in language acquisition field. However, the differences between Thai language, there is not an equivalent or similar sound with 'er', 'ü', 'x', 'c' and 'sh', and the word order of "的 de" phrase is exactly contrary to Chinese language.

(2) The comparison result between posttest and retention test suggests that several items' forgetting rate of retention test is lower than that of posttest, such as "x", "sh", "c" and "ü". This special case results from frequent rehearsal in continuous review lessons as these alphabets are the key points in review lessons during the summer class.

(3) Students had 26.48% forgetting rate in the posttest, and after 2 months they had 35.56% forgetting rate in the knowledge retention test. It meant that students had about 9% ($35.56\%-26.48\%=9.08\%\approx9\%$) forgetting rate after 2 months, which proved that students kept about 91% (100% - 9%=91%) knowledge retention after 2 months. Cone of experience (Dale, 1946) proposed that students could keep 90% knowledge retention after 2 weeks. Therefore, this research result is better than that from Cone of experience.

A key limitation of this research is the teaching duration. Language learning takes time, especially for Chinese language that is one of the most difficult languages in the world. A seven-week course is a rather short period; a longer period will be needed to reduce students' language errors and to improve their speaking skill.

5.5 Future research

In this study, the comparison between pretest and posttest indicated that Chinese pronunciation incubator have enhanced students' Chinese pronunciation ability as well as their spoken Chinese. Assessment through error analysis showed that the high-frequency errors decreased after a teaching duration of seven weeks, and the total number of language errors reduced by 155.99, or 33.50% in percentage. Although there was a decrease in the total number of language errors, the number of a few language errors increased. This is mainly caused by interlingual errors, which is one main language error type of language interference. The differences between Thai language and Chinese language interfere and hinder target language learning.

To achieve a higher level in students' Chinese pronunciation and spoken skill, to lessen students' highly frequent language errors, Chinese teachers should change their teaching methods from teachers' passive teaching to students' active learning. As the view on the important role of Chinese language in the near future is coming to more and more consensus, and due to the Chinese teaching issues in Thailand, it is rather essential to adapt the Chinese learning content, learning tools, learning environment as well as learning methods. The Chinese pronunciation learning incubator in this study has initiated the discussion in this field.

