THE STUDY OF STRUGGLES OF CHINESE PHONETICS ALPHABET OF STUDENTS AT RAJAMANGALA UNIVERSITY OF TECHNOLOGY SUVARNABHUMI, USING QUALITY CONTROL TOOLS

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Abstract

This article aimed to study Chinese phonetic alphabet pronunciation problems of students at Rajamangala University of Technology Suvarnabhumi – Hantra Campus. This qualitative research was carried out in order to develop their Chinese pronunciation to be clearer and more appropriate. The quality control tools used in this study included check sheets, Pareto diagram, and cause and-effect diagrams. The research results identified problems and causes of Chinese phonetic alphabet pronunciation problem of students at Rajamangala University of Technology Suvarnabhumi. The findings concluded that the main causes were the unfamiliarity with Chinese sounds and pronunciation which did not exist in Thai language, the lack of confidence in pronouncing Chinese words, the confusion between Chinese and English pronunciation, and the lack of vocabulary knowledge. Therefore, implementing activities and creating atmosphere both inside and outside classroom were essential for encouraging students to routinely review and practice Chinese phonetic alphabet pronunciation so that they would be more familiar and confident in pronouncing words. Moreover, there should be a classroom for students to drill and practice Chinese phonetic alphabet pronunciation by themselves. This would improve their skills and expertise in Chinese language sustainably.

Keywords: Chinese Phonetic Alphabet, Pronunciation, Quality Control Tools

Introduction

Chinese Language had existed in Thailand since Ayutthaya period. Originally, Chinese people came to trade with Thailand, then they settled their Chinese communities. When Chinese population grew increasingly, they had the idea to teach native language and cultures to their children. Then Chinese language instruction was initiated to teach Chinese language,

culture, traditions, and beliefs to their descendants in order to preserve their cultural heritage (Tunyanusorn S. and Qi X., 2017). Thailand and China had been friendly neighbors that had strong relations and paid mutual visits to each other since ancient times. At present the two countries are as sister cities with good cooperation in all aspects such as economy, politics, and education (Luo Han, 2017). Nowadays, People's Republic of China plays important roles in developing economy in Asia as well as other regions of the world, and it tends to continually expand its roles in global community. In the aspect of education, Chinese language is one of the most important languages used by almost 2,000 million people around the world, second to English language, and is one of the official languages of the United Nations. Chinese language has become an international language needed for communication and cooperation in economy, society and politics. Teaching and learning Chinese language in Thailand has been expanded significantly to enhance the competitiveness of the country (Benja-arpa P., 2016)

In 21st century, People's Republic of China plays more roles in the global arena. Economic, trading, and investment relations between China and Thailand are growing fast. The need for Chinese language specialists is also increasing, this results in more demand in learning Chinese language in Thailand. There are Confucius institutes established in many universities in Thailand as well as the cooperation in developing modern Chinese language learning, especially in teaching pronunciation. A phonetic pronunciation tool or "Pinyin" 拼音 has been used to facilitate Chinese language instruction as it is convenient for memorizing. (Tunyanusorn S. and Qi X., 2017)

Chinese phonetic system, or Hànyǔ Pīnyīn (汉语拼音) in Chinese language, is a Chinese phonetic alphabet pronunciation tool developed from Zhuyin system which was a traditional Chinese pronunciation system. Pinyin is complete and acceptable among international institutes around the world as a standard pronunciation system for Mandarin Chinese (黄伯荣, 廖序东, 2007). According to a survey on reading pronunciation system used in 59 universities in Thailand, it was found that 57 (96.6%) universities used Pinyin for teaching Chinese pronunciation. This result showed that most of universities in Thailand has used Chinese phonetic alphabet system or Pinyin for reading pronunciation (Chinese Studies Center, Institute of Asian Studies Chulalongkorn University, 2008). Pronunciation is a crucial skill necessary for learning Chinese language. If learners could not pronounce words properly, they may face difficulties and obstacle in their language learning (Kamkoon R., 2019).

Learning Chinese language needs more practice in listening, speaking, reading and writing skills. However, it is different from leaning English language. Learning Chinese language should start with learning Pinyin alphabet (Pin yin: 拼音) Pinyin is a phonological encoding system that uses the English alphabet to represent the sound of the Chinese words. Pinyin helps improving Chinese reading and writing skills. Learning Chinese phonetic system is an important basic part for Chinese language learners and also helps in mastering correct

pronunciation. So, Pinyin is crucial for learning Chinese language to develop listening, speaking, reading and writing skills respectively.

Rajamangala University of Technology Suvarnabhumi - Hantra Campus has offered Chinese language courses for undergraduate students majoring in English for communication and English for Aviation Industry, Faculty of Liberal Arts, including students majoring in Information System and Digital Innovation, Faculty of Business Administration. According to the instruction and evaluation of learning in each previous semester, it was found that students' basic Chinese language proficiency is not good enough, especially pronunciation and speaking skills. Although the students have studied Chinese language courses for several semesters, they could not understand Chinese phonetic alphabet pronunciation system correctly. Chinese phonetic alphabet pronunciation is a necessary skill for mastering Chinese language that should be considered essentially.

Studying on Chinese phonetic alphabet pronunciation problem emphasized on improving students' Chinese pronunciation. The results obtained would reveal the problems and their causes. It is important to study on Chinese phonetic pronunciation problem as Chinese language sounds are difficult to pronounce and are often mispronounced. The results obtained from this research would be useful for developing Chinese language teaching to be more efficient and also enhancing student's potential for the future.

Research Objectives

To study the Chinese phonetic alphabet pronunciation problem of students at Rajamangala University of Technology Suvarnabhumi - Hantra Campus by using quality control tools

Literature Review

1. Quality Control Tools. Mongkol K.,(2018) stated that quality control tools are important tools for solving quality problems. They help defining general problem conditions, sorting or prioritizing problems, surveying present condition of problems, searching and analyzing the root causes of problems and monitoring as well as developing standards to prevent recurrence. Aphichit S., Aekkarat S., Samruai S. and Thanitsak P., (2021) asserted that identifying issue topic, selecting problem as well as analyzing causes and solutions by using quality control tools could be applied effectively. Quality control tools are as follows.

1.1 Check Sheet is a form designed with certain format to record data. It is easy to use for collecting and recording basic data of the study of Chinese phonetic alphabet

pronunciation problem of students at Rajamangala University of Technology Suvarnabhumi - Hantra.

1.2 Pareto Diagram is a diagram used for examining problems, categorizing and prioritizing problems or factors by ranking them in decreasing order of occurrence to display the ratio of each problem compared with the overall problem. The 80:20 rule is applied to identify the top 2 0 % of important problem that impact 8 0 % of the consequences.

1.3 Cause and Effect Diagram is a diagram which shows the relations between problems (effects) and related factors (causes). It systematically helps identifying possible causes for an occurred problem and categorizing groups of cause. When root causes are identified, possible solutions will be developed through brainstorming session.

Tunyanusorn S. and Qi X., (2017) addressed that most consonant sounds that students majoring in Business Chinese, International College, Chiang Mai Rajabhat University pronounced incorrectly included üe, üan, and er. The second group of difficult consonant sounds were x, zh, ch, sh, r, z, c, s respectively.

Hence, Chinese consonants that included üe, üan, ün, er, x, zh, ch, sh, r, z, c, and s were used in the test in order to select issue topic, prioritize the importance, analyze causes of problem and solutions. Quality control tools included a check sheet, a Pareto diagram, and a cause and effect diagram were applied in this research to study Chinese phonetic alphabet pronunciation problem of students at Rajamangala University of Technology Suvarnabhumi- Hantra Campus.

Conceptual Framework

The conceptual framework of this qualitative research composed of identifying issue topic, selecting problem, analyzing causes and solutions by using quality control tools as shown in figure 1.

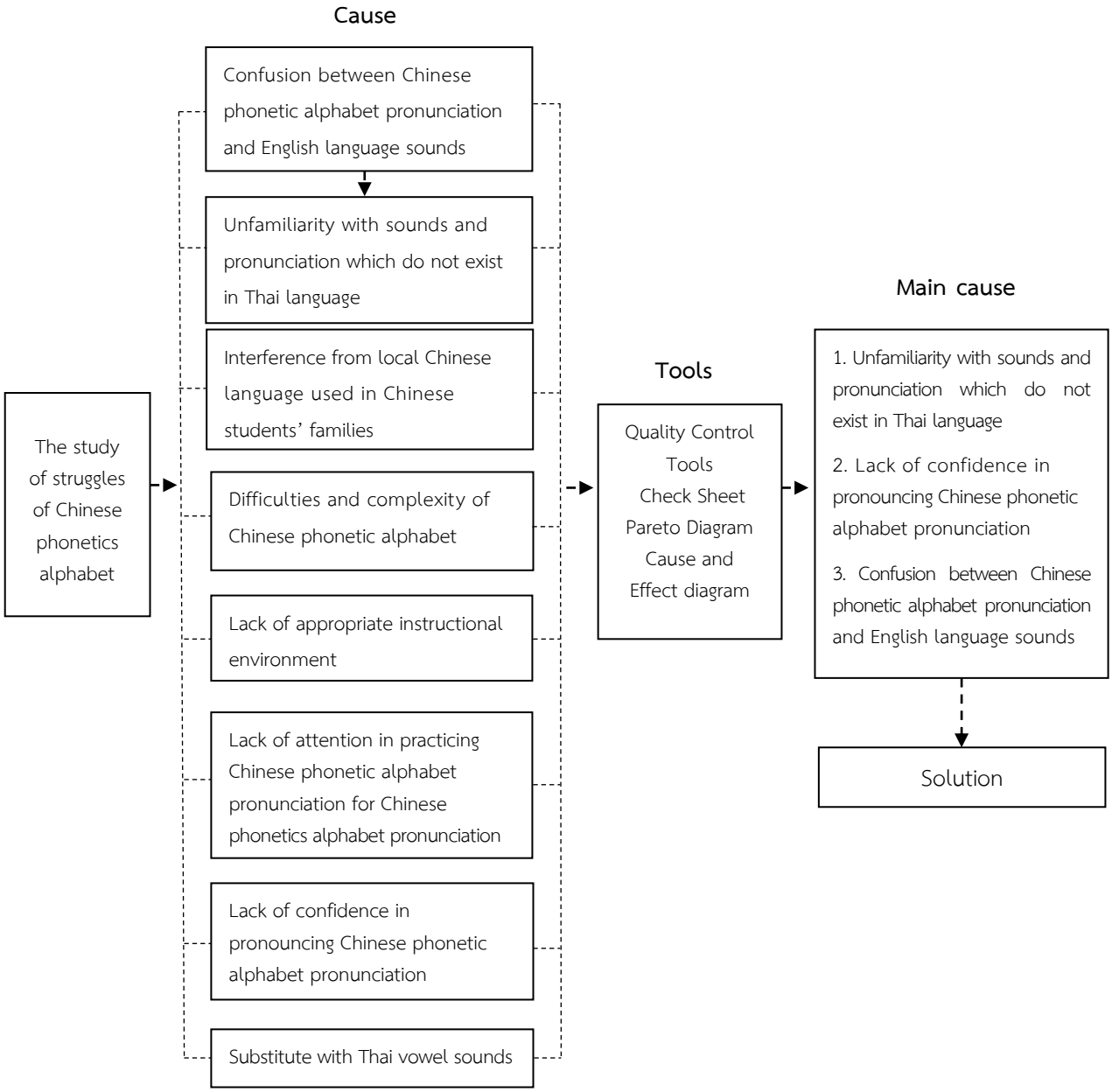

Figure 1 Conceptual Framework

Research method

This qualitative research had studied Chinese phonetic alphabet pronunciation problem of undergraduate students, majoring in English for Communication, who enrolled in Chinese language for daily life, Fundamental English, and Chinese reading and writing. Quality control tools were utilized in the research which was conducted at Rajamangala University of Technology Suvarnabhumi – Huntra Campus. The research approaches were divided into 3 stages as followed.

Stage 1 Survey on current problems of Chinese phonetic alphabet pronunciation.

A survey on current problems of Chinese phonetic alphabet pronunciation was conducted through observing and listening to students' Chinese phonetic alphabet pronunciation. The population were 68 undergraduate students, majoring in English for Communication. 36 students enrolled in Chinese language for daily life, 18 students enrolled in Fundamental English, and 14 students enrolled in Chinese reading and writing. From students' communication during Chinese language class (吕必松, 2005) in order to select problem topics according to research procedure. A check sheet as a quality control tools was applied to collect data from Chinese phonetic alphabet pronunciation test.

Data analysis in stage 1 by using Chinese phonetic alphabet pronunciation test (吕必松, 2530). 10 sentences that students mostly mispronounced were listed and frequency of error were recorded by using Chinese phonetic alphabet pronunciation check sheet in order to note and identify the occurrence. This showed the severity of problem. Then Chinese phonetic alphabet pronunciation problem of students was analyzed. The data collected would be meaningful and reliable.

Stage 2 Select current problems of Chinese phonetic alphabet pronunciation.

Pareto diagram as a quality control tools was applied for selecting current problems of Chinese phonetic alphabet pronunciation. The obtained data were prioritized in descending order from the least to the most significant problem.

Data analysis in stage 2. After collecting data about the frequency of Chinese phonetic alphabet pronunciation error obtained from the check sheet, Pareto diagram was used to examine Chinese phonetic alphabet pronunciation problem of students, and analyze the problem occurred. 8 causes of Chinese phonetic alphabet pronunciation were categorized and ranked to display the ratio of each problem compared with the overall problem. This could show which problem was the most important to be solved. Major causes of problem were separated from other causes.

Stage 3 Analyze problems of Chinese phonetic alphabet pronunciation.

A cause and effect diagram was used to analyze the problems as well as identify potential causes and solutions for solving Chinese phonetic alphabet pronunciation problem of students at Rajamangala University of Technology Suvarnabhumi – Huntra Campus.

Data analysis in stage 3. The data collected from prioritizing Chinese phonetic alphabet pronunciation problem were analyzed by using a cause and effect diagram to show the

relationships between effect and causes of Chinese phonetic alphabet pronunciation problem which always occurred. As there were many causes of problem, so the causes were clarified thoroughly in order to analyze, understand, and propose some solutions in accordance with the brainstorming of experts in Chinese language communication and usage.

Results

1. The study on Chinese phonetic alphabet pronunciation problem of students at Rajamangala University of Technology Suvarnabhumi- Hantra Campus by using quality control tools. The result obtained from Chinese phonetic alphabet pronunciation test through observing and listening to 68 students' communication during Chinese language classes as shown in Table 1 and details of data collected by using Chinese phonetic alphabet pronunciation check sheet was shown in table 2.

Table 1 Causes of Chinese phonetic alphabet pronunciation errors

Causes	Details of Causes	Cited sources
1	Confusion between Chinese phonetic alphabet pronunciation and English language sounds	(Tunyanusorn S. and Qi X., 2017)
2	Unfamiliarity with sounds and pronunciation which do not exist in Thai language	(Tunyanusorn S. and Qi X., 2017)
3	Difficulties and complexity of Chinese phonetic alphabet	Saowanee D. and Supa P., (2017)
4	Interference from local Chinese language used in Chinese students' families	(Tunyanusorn S. and Qi X., 2017)
5	Lack of appropriate instructional environment for Chinese phonetics alphabet pronunciation	Saowanee D. and Supa P., (2017)
6	Lack of attention in practicing Chinese phonetic alphabet pronunciation	Saowanee D. and Supa P., (2017)
7	Lack of confidence in pronouncing Chinese phonetic alphabet	(Benja-arpa P., 2016)
8	Substitute with Thai vowel sounds	(Benja-arpa P., 2016)

From table 1 The data obtained observation and listening to students' communication during Chinese language classes revealed that there were 8 causes of Chinese phonetic alphabet pronunciation errors.

Table 2 Chinese phonetic alphabet pronunciation skill check sheet

List	Sentence patterns	Causes of Chinese phonetic alphabet pronunciation errors							
		1	2	3	4	5	6	7	8
1	一会儿黄教授和张校长来找我。 Professor Wang and Director Jang are coming to see me soon.	45	32	17	9	3	32	42	51
2	您知道他家的电话号码吗？ Do you know his home phone number?	51	43	16	7	9	41	35	35
3	我觉得汉语语法不太难。 I think Chinese grammar is not difficult.	31	44	21	12	6	33	42	28
4	听和说也比较容易。 Listening and speaking are rather difficult.	24	34	19	11	8	28	32	41
5	我觉得汉语语法很难。 I think Chinese grammar is very difficult.	43	29	15	6	9	42	19	57
6	但是读和写很容易。 But reading and writing are very easy.	21	28	19	8	11	16	29	36
7	请问, 这是办公室吗？ Excuse me, is this an office?	16	33	24	9	5	25	31	21
8	他的手机号码是多少？ What is his phone number?	35	32	13	19	4	19	43	23
9	我先介绍一下儿, 这是马校长,这位是王教授。 First of all, I would to introduce myself, this is Director Ma, and this is Professor Wang.	25	48	16	16	8	9	25	32
10	张东和田芳也都是留学生吗？ Are Chang tong and Tien Fong international students, aren't they?	39	51	21	23	18	21	43	48

From table 2 an application of a check sheet as a quality control tools for recording the frequency of each cause of Chinese phonetic alphabet pronunciation problem of students at Rajamangala University of Technology Suvarnabhumi- Hantra Campus.

Results of data analysis using a Pareto diagram as quality control tools for examining Chinese phonetic alphabet pronunciation problem, ranking from the least to the most important causes of Chinese phonetic alphabet pronunciation errors. a Pareto chart displayed the ratio of each problem compared with the overall problem by applying the 80:20 rule to select 20% of the most important causes that affected 80% of the overall causes (Mongkol K., 2018). The results were shown in figure 2.

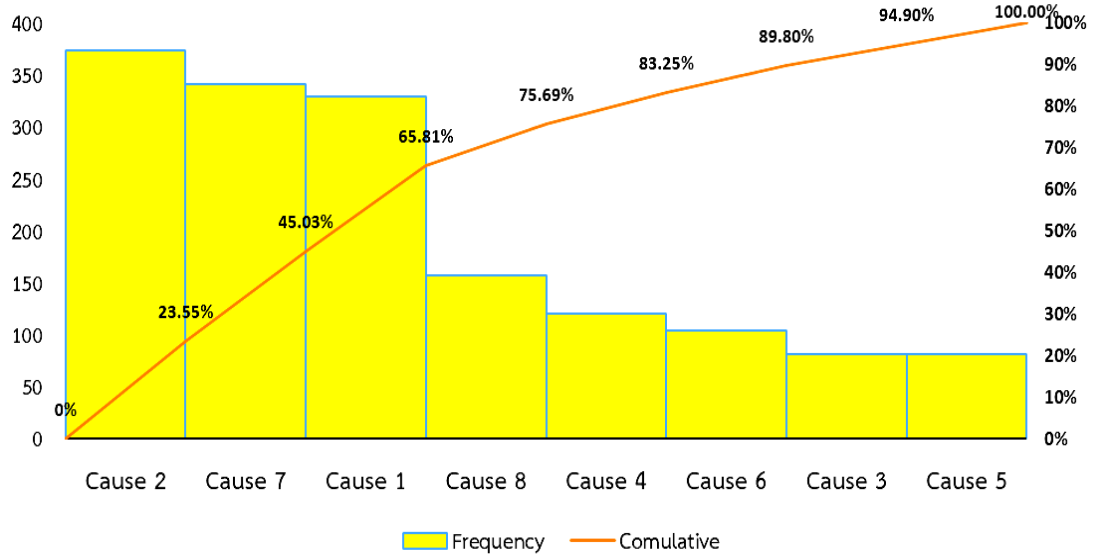

Figure 2 Pareto Chart

From Figure 2, it could be concluded that the most important error of Chinese phonetic alphabet pronunciation was that students were not familiar with sounds and pronunciation which did not exist in Thai language (23.55%). The second was the lack of confidence in pronouncing Chinese phonetics (21.47%), and the confusion between Chinese phonetic alphabet pronunciation and English language sounds (20.78%) respectively.

Results from data analysis by applying quality control tools that included a check sheet, a Pareto diagram, and a cause and effect diagram revealed there were 3 main causes that affected Chinese phonetic alphabet pronunciation of students. The first cause was the unfamiliarity with sounds and pronunciation that did not exist in Thai language, the second cause was due to the lack of confidence in pronouncing Chinese phonetic

alphabet, and the third cause was the confusion between Chinese phonetic alphabet pronunciation and English language sounds. The details were as followed.

3. Results from data analysis on Chinese phonetic alphabet pronunciation problem by using a cause and effect diagram showed that the main cause was students were unfamiliar with sounds and pronunciation that did not exist in Thai language. The experts viewed the second causes included students wrote Thai characters to represent Chinese sounds, vocabulary, settings and Instructional media. As shown in figure 3.

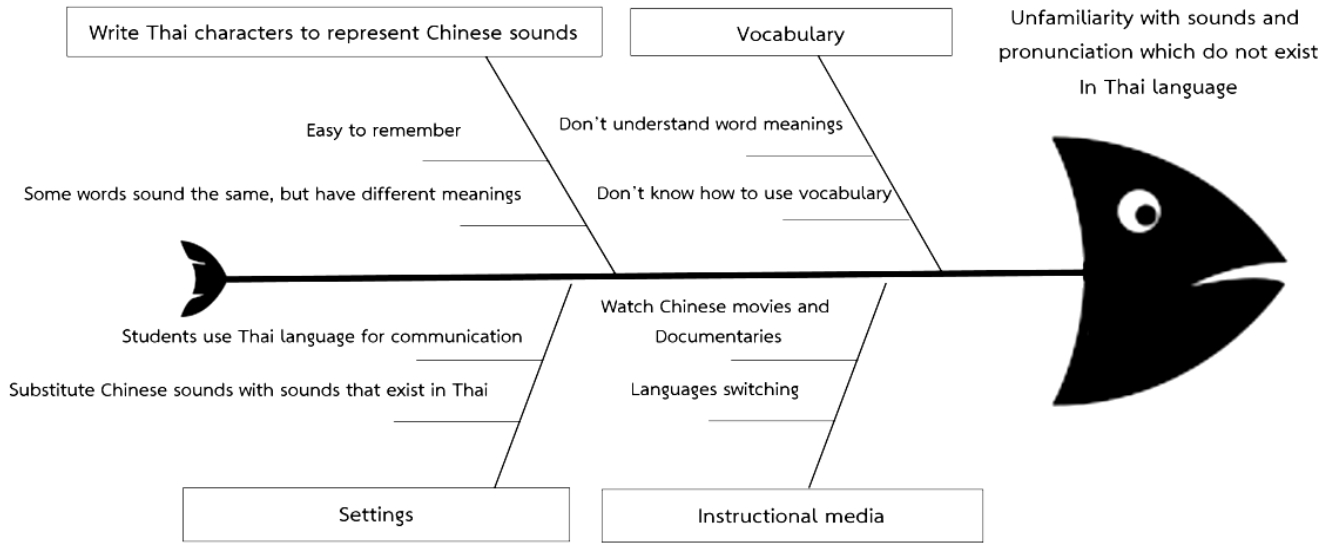

Figure 3 A cause and effect diagram – The 1st cause

From figure 3 minor causes of Chinese phonetic alphabet pronunciation included easy to remember, some words sound the same, but have different meanings, don't understand word meanings, don't know how to use vocabulary, students use Thai language for communication, substitute Chinese sounds with sounds that exist in Thai, and watch Chinese movies and documentaries and languages switching. These causes should be solved by implementing activities or creating atmosphere both in and out of class to encourage students in practicing Chinese phonetic alphabet pronunciation.

Results from the analysis of cause and effect in Chinese phonetic pronunciation errors by using revealed a main cause that was the lack of confidence in pronouncing Chinese phonetic alphabet. The experts viewed there were 4 minor causes that included being bullied by friends, repetition drills and practice, Chinese native speakers do not understand the words and vocabulary.

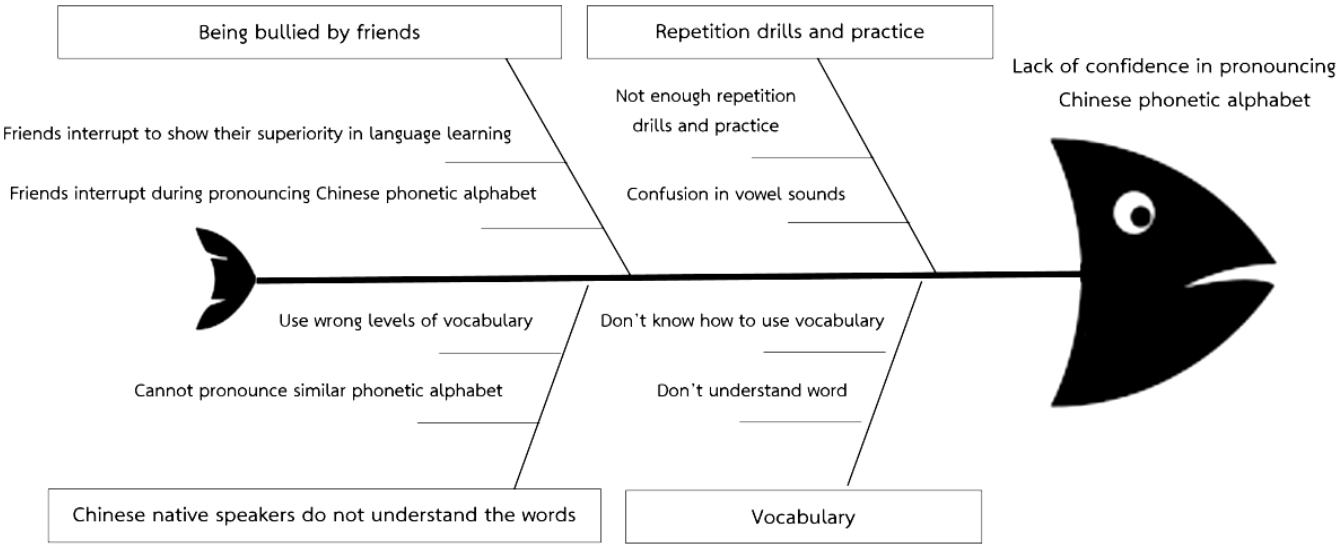

Figure 4 A cause and effect diagram - the 2nd cause

From figure 4, it was found that there were 8 causes of Chinese phonetic alphabet pronunciation problem that included friends interrupt to show their superiority in language learning, friends interrupt during pronouncing Chinese phonetic alphabet, use wrong levels of vocabulary, cannot pronounce similar phonetic alphabet, not enough repetition drills and practice, confusion in vowel sounds, don't know how to use vocabulary and don't understand word. These problems should be solved by assigning students to practice pronouncing Chinese phonetic alphabet. Students would be familiar and feel more confident when pronouncing Chinese words. Moreover, there should be a pronunciation class for students to practice Chinese phonetic alphabet pronunciation by themselves.

Results from the analysis of cause and effect in Chinese phonetic pronunciation problem by using a cause and effect diagram as a quality control tools showed that the third cause that was the confusion between Chinese phonetic alphabet pronunciation and English language sounds. The language experts viewed that there were 4 minor causes that included appropriateness of language levels, repetition drills and practice, settings and vocabulary. As shown in figure 5.

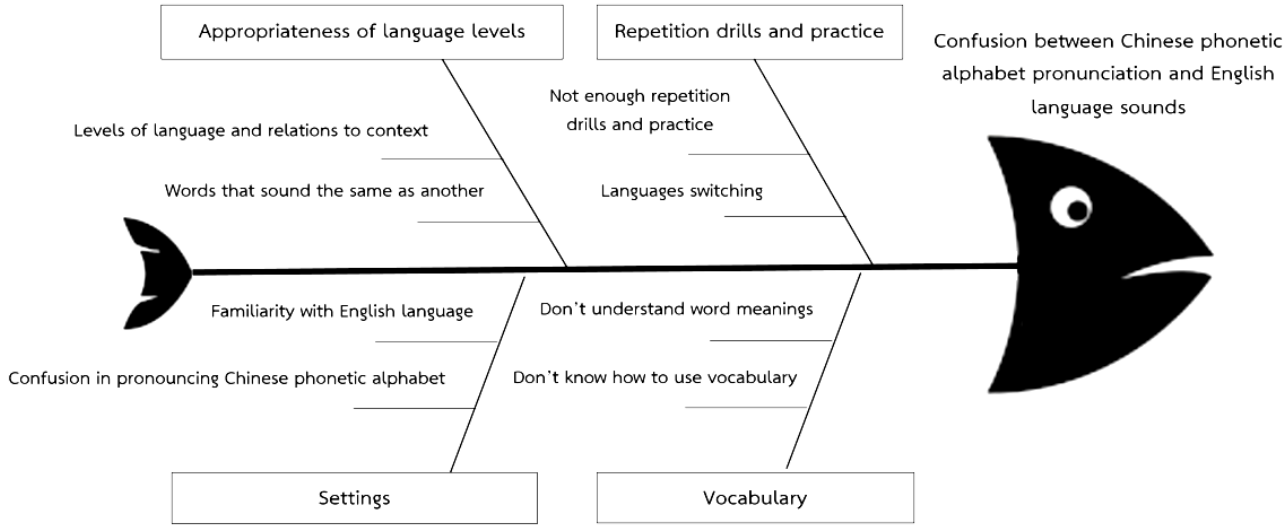

Figure 5 A cause and effect diagram - the 3rd cause

From Figure 5, there were 8 minor causes of Chinese phonetic alphabet pronunciation of students that included levels of language and relations to context, words that sound the same as another, familiarity with English language, confusion in pronouncing Chinese phonetic alphabet, not enough repetition drills and practice, languages switching, don't understand word meanings and don't know how to use vocabulary. These causes needed to be solved by assigning students to practice pronouncing Chinese phonetic alphabet as well as encouraging students to practice Chinese phonetic alphabet pronunciation by themselves via various media and films in order to increase skills and proficiency in Chinese language.

Chinese phonetic alphabet pronunciation of students were observed during their communication in Chinese classes. 10 sentences from 8 causes of Chinese phonetic alphabet pronunciation errors were identified. Frequency of occurrence was recorded by using the check sheet.

Results of data analyzed by using Pareto chart to rank and prioritize the importance of problem showed 3 major causes that affected Chinese phonetic alphabet pronunciation of students. These causes included the unfamiliarity with sounds and pronunciation that did not exist in Thai language, the lack of confidence in pronouncing Chinese phonetic alphabet, and the confusion between Chinese phonetic alphabet pronunciation and English language sounds.

Results of data analysis by using the cause and effect diagram revealed 3 major causes that included 1) students were not familiar with sounds and pronunciation that did not exist in Thai language. This happened from 4 minor causes and 8 possible causes. 2) the lack of confidence in pronouncing Chinese phonetic alphabet. This occurred from 4 minor causes, and

8 possible causes. 3) the confusion between Chinese phonetic alphabet pronunciation and English language sounds. This happened from 4 minor causes and 8 possible causes. The minor causes and possible causes were obtained from the analysis of experts' brainstorming.

Conclusion

The study on Chinese phonetic alphabet pronunciation problem of students at Rajamangala University of Technology Suvarnabhumi Ayutthaya - Hantra Campus by using quality control engineering tools was conducted to identify main causes, implementations, and suggest solutions. The study revealed 3 main causes that included 1. students were not familiar with sounds and pronunciation that did not exist in Thai language, 2. the lack of confidence in pronouncing Chinese phonetic alphabet, and 3. the confusion between Chinese phonetic alphabet pronunciation and English language sounds.

So, the solutions proposed to solve Chinese pronunciation problem of students include implementing activities or creating atmosphere both in and out of class to encourage students in practicing Chinese phonetic alphabet pronunciation. When students have more chance in practicing Chinese phonetic alphabet pronunciation, they will be more familiar, and confident in their pronunciation. Moreover, pronunciation classroom should be provided for students to practice pronouncing Chinese phonetic alphabet by themselves. This will increase skills and proficiency in Chinese language sustainably. Furthermore, students should challenge their Chinese language usage by inflecting tones and writing Chinese characters. Students who master Chinese language should be able to communicate in Chinese automatically, which results from processing their thinking to expressing their thoughts in the form of correct sentences effectively.

Discussion

Results of the study on Chinese phonetic alphabet pronunciation problem of students at Rajamangala University of Technology Suvarnabhumi Ayutthaya - Hantra Campus showed the main problem, which obtained from the analysis using quality control tools, the unfamiliarity with sounds and pronunciation that did not exist in Thai language, the lack of confidence in pronouncing Chinese phonetic alphabet, and the confusion between Chinese phonetic alphabet pronunciation and English language sounds. This was in accordance with Saowanee D. and Supa P.,(2017) and Benja-arpa P., (2016) who stated that these causes were main causes of Chinese phonetic alphabet pronunciation problem of students that studied Chinese language.

New knowledge obtained

Industrial engineering knowledge can be applied with the use of quality control tools for selecting topics of problem, analyzing Chinese phonetic alphabet pronunciation problem, prioritizing important problems, analyzing problems occurred to identify potential causes and possible solutions as shown in figure 6.

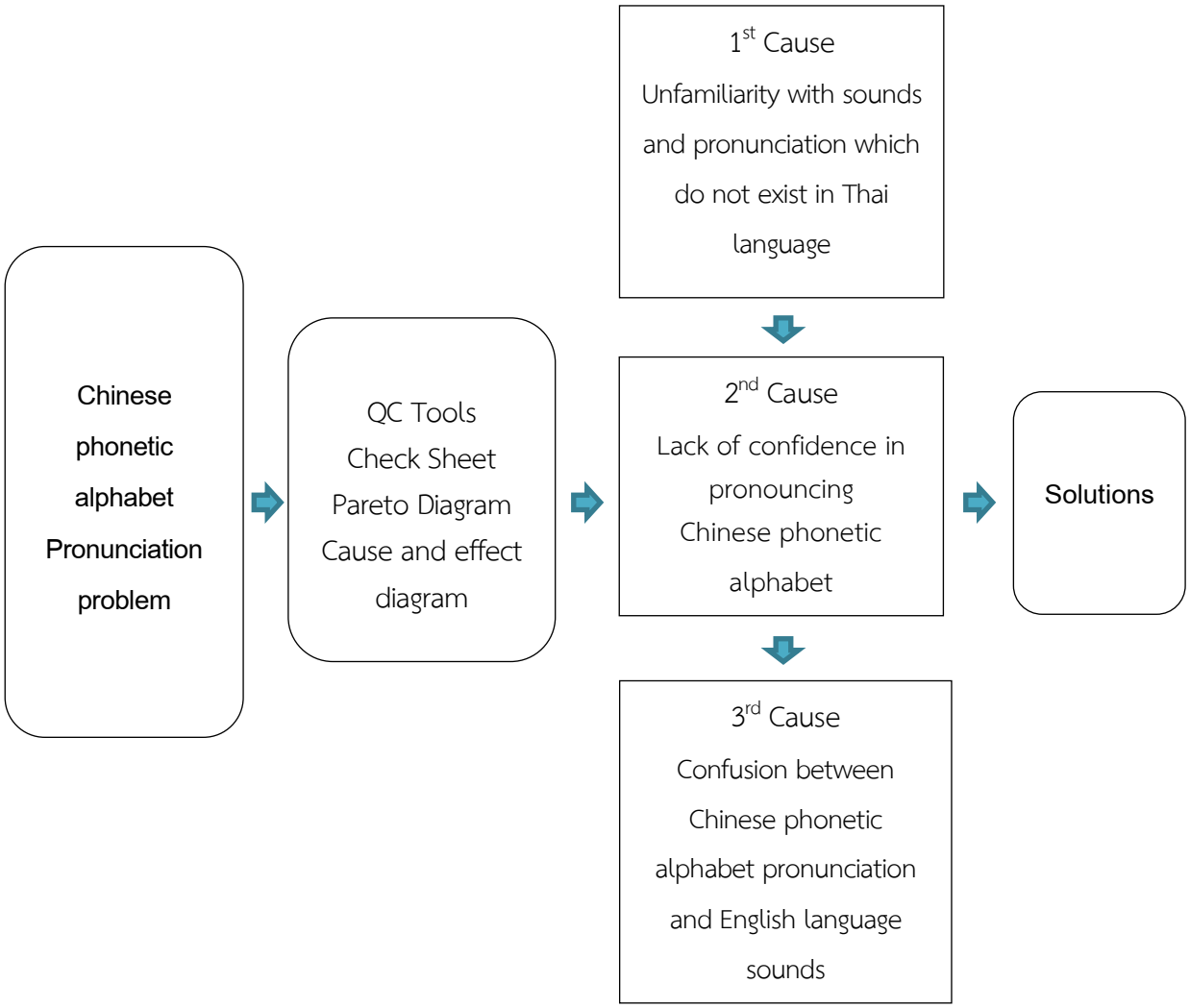

Figure 6 Diagram of new knowledge obtained

Suggestions

1. Suggestion for application of research findings

The study on Chinese phonetic alphabet pronunciation problem of students at Rajamangala University of Technology Suvarnabhumi Ayutthaya - Hantra Campus revealed the main causes of errors in pronouncing Chinese phonetic alphabet. So, the findings could

be applied in teaching and learning Chinese language courses by emphasizing students to practice correct Chinese phonetic alphabet pronunciation and improve efficiency in instructional activities and develop students continually.

2. Suggestions for future research

The study on Chinese phonetic pronunciation problem using quality control tools could be applied with other languages pronunciation problem such as Russian, Myanmar, Indonesian, etc. The emphasis should be on main causes of foreign language pronunciation. Future research should be concerned about active learning for enhancing Chinese phonetic alphabet pronunciation skill.

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