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附錄

附錄一

漢語拼音方案解説表

1955 到 1957 年中國文字改革委員會漢語拼音方案委員會研究制訂，1958 年 2 月 11 日全國人民代表大會批准公佈，1982 年國際標準化組織承認為拼寫漢語的國際標準。

一　字母表

字母：	A a	B b	C c	D d	E e	F f	G g
名稱：	ㄚ	ㄅㄝ	ㄘㄝ	ㄉㄝ	ㄜ	ㄝㄈ	ㄍㄝ
	H h	I i	J j	K k	L l	M m	N n
	ㄏㄚ	ㄧ	ㄐㄧㄝ	ㄎㄝ	ㄝㄌ	ㄝㄇ	ㄋㄝ
	O o	P p	Q q	R r	S s	T t	
	ㄛ	ㄆㄝ	ㄑㄧㄡ	ㄚㄦ	ㄝㄙ	ㄊㄝ	
	U u	V v	W w	X x	Y y	Z z	
	ㄨ	ㄪㄝ	ㄨㄚ	ㄒㄧ	ㄧㄚ	ㄗㄝ	

v 只用來拼寫外來語、少數民族語言和方言。

字母的手寫體依照拉丁字母的一般書寫習慣。

二　聲母表

b	p	m	f	d	t	n	l
ㄅ玻	ㄆ坡	ㄇ摸	ㄈ佛	ㄉ得	ㄊ特	ㄋ訥	ㄌ勒
g	k	h		j	q	x	
ㄍ哥	ㄎ科	ㄏ喝		ㄐ基	ㄑ欺	ㄒ希	
zh	ch	sh	r	z	c	s	
ㄓ知	ㄔ蚩	ㄕ詩	ㄖ日	ㄗ資	ㄘ雌	ㄙ思	

在給漢字注音的時候，為了使拼式簡短，zh ch sh 可以省作ẑ ĉ ŝ 。

三　韻母表

	i ㄧ　衣	u ㄨ　烏	ü ㄩ　迂
a ㄚ　啊	ia ㄧㄚ　呀	ua ㄨㄚ　蛙	
o ㄛ　喔		uo ㄨㄛ　窩	
e ㄜ　鵝	ie ㄧㄝ　耶		üe ㄩㄝ　約
ai ㄞ　哀		uai ㄨㄞ　歪	
ei ㄟ　欸		uei ㄨㄟ　威	
ao ㄠ　熬	iao ㄧㄠ　腰		
ou ㄡ　歐	iou ㄧㄡ　憂		
an ㄢ　安	ian ㄧㄢ　煙	uan ㄨㄢ　彎	üan ㄩㄢ　冤
en ㄣ　恩	in ㄧㄣ　因	uen ㄨㄣ　溫	ün ㄩㄣ　暈
ang ㄤ　昂	iang ㄧㄤ　央	uang ㄨㄤ　汪	
eng ㄥ　亨的韻母	ing ㄧㄥ　英	ueng ㄨㄥ　翁	
ong （ㄨㄥ）轟的韻母	iong ㄩㄥ　雍		

(1) “知、蚩、詩、日、資、雌、思”等七個音節的韻母用 i，即：知、蚩、詩、日、資、雌、思等字拼作 zhi，chi，shi，ri，zi，ci，si。

(2) 韻母儿寫成 er，用作韻尾的時候寫成 r。例如：“兒童”拼作 ertong，“花兒”拼作 huar。

(3) 韻母ㄝ單用的時候寫成ê。

(4) i 行的韻母，前面沒有聲母的時候，寫成 yi（衣），ya（呀），ye（耶），yao（腰），you（憂），yan（煙），yin（因），yang（央），ying（英），yong（雍）。

u 行的韻母，前面沒有聲母的時候，寫成 wu（烏），wa（蛙），wo（窩），wai（歪），wei（威），wan（彎），wen（溫），wang（汪），weng（翁）。

ü行的韻母，前面沒有聲母的時候，寫成 yu（迂），yue（約），yuan（冤），yun（暈）；ü上兩點省略。

ü行的韻母跟聲母 j，q，x 拼的時候，寫成 ju（居），qu（區），xu（虛），ü上兩點也省略；但是跟聲母 n，l 拼的時候，仍然寫成 nü（女），lü（呂）。

(5) iou，uei，uen 前面加聲母的時候，寫成 iu，ui，un。例如 niu（牛），gui（歸），lun（論）。

(6) 在給漢字注音的時候，為了使拼式簡短，ng 可以省作ŋ。

四　聲調符號

陰平	陽平	上聲	去聲
ˉ	ˊ	ˇ	ˋ

聲調符號標在音節的主要母音上。輕聲不標。例如:

媽 mā	麻 má	馬 mǎ	罵 mà	嗎 ma
（陰平）	（陽平）	（上聲）	（去聲）	（輕聲）

五　隔音符號

a，o，e 開頭的音節連接在其他音節後面的時候，如果音節的界限發生混淆，用隔音符號(’)隔開，例如：pi’ao（皮襖）。

（引自 http://residence.educities.edu.tw/feima/index.htm 飛馬小間網站）

附錄二

表一：漢語聲母表（分別以 IPA，注音符號，以及漢語拼音標註。紅色部分表示發音方法和部位和泰語輔音發音系統相異的部分，如：發聲母 r[ʐ]時為摩擦音，但泰語為顫音。）

發音部位 發音方法	Bilabial 雙唇音		Labio-dental 唇齒音	Alveolar 齒齦音		Palatal 硬顎音				Velar 軟顎音		Glottal 喉音
				Apical 舌尖音		Hard 硬顎 Retroflex 捲舌音		Alveolopalatal 齒齦硬顎音				
Plosive 塞音	[p] ㄅ b	[pʰ] ㄆ p		[t] ㄉ d	[tʰ] ㄊ t					[k] ㄍ g	[kʰ] ㄎ k	
Nasal 鼻音	[m] ㄇ m			[n] ㄋ n								
Fricative 擦音			[f] ㄈ f	[s] ㄙ s		[ʂ] ㄕ sh	[ʐ] ㄖ r	[ɕ] ㄒ x		[x] ㄏ h		
Affricate 塞擦音				[ʦ] ㄗ z	[ʦʰ] ㄘ c	[tʂ] ㄓ zh	[tʂʰ] ㄔ ch	[tɕ] ㄐ j	[tɕʰ] ㄑ q			
Trill 顫音	（無）											
Approximant 無摩擦延續音	（無）											
Lateral approximant 邊音				[l] ㄌ l								

（出自葉德明，2007，漢語語音學課程講義。）

附錄三

“代表稱謂”著色活動

圖 3. 1

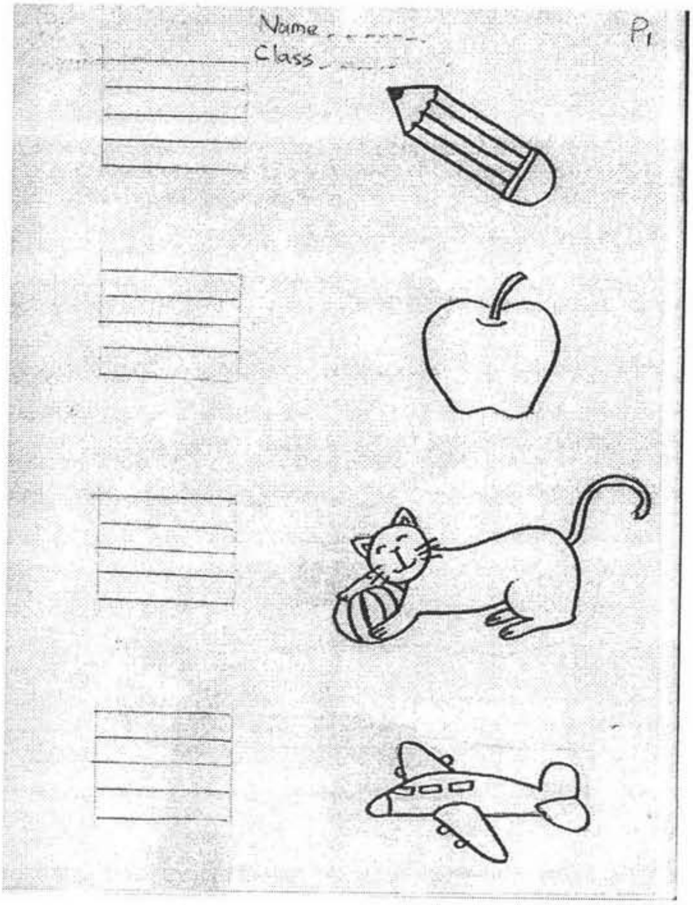

Name
Class
P1

圖 3. 2

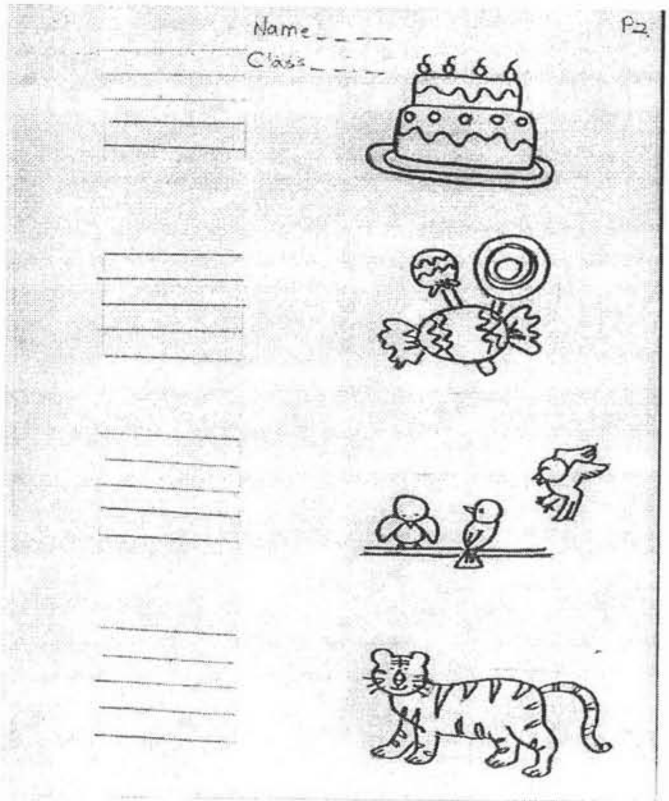

Name
Class
P2

圖 3.3

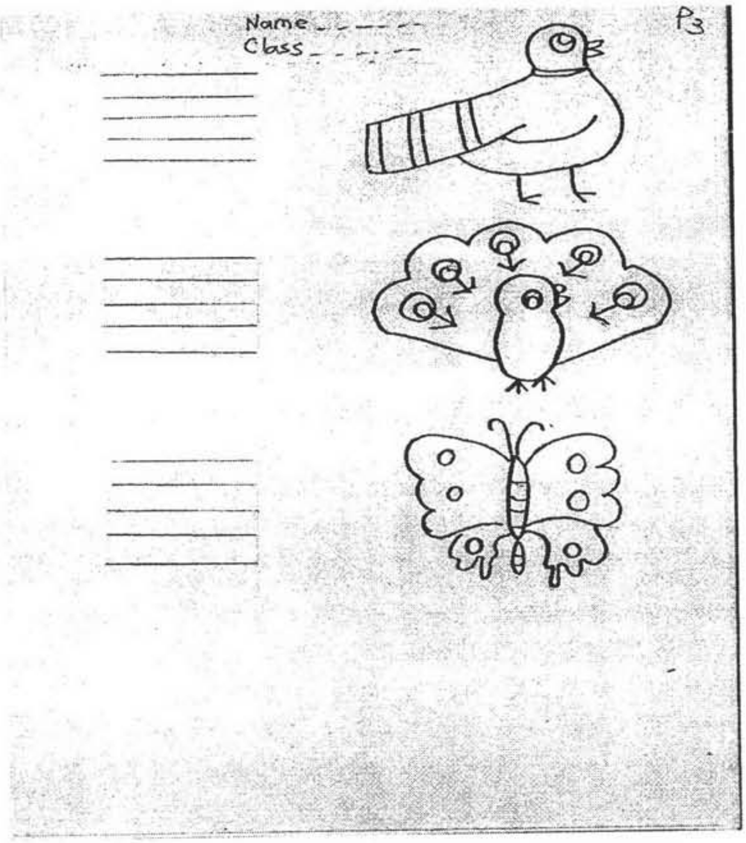

Name
Class
P3

圖 3.4

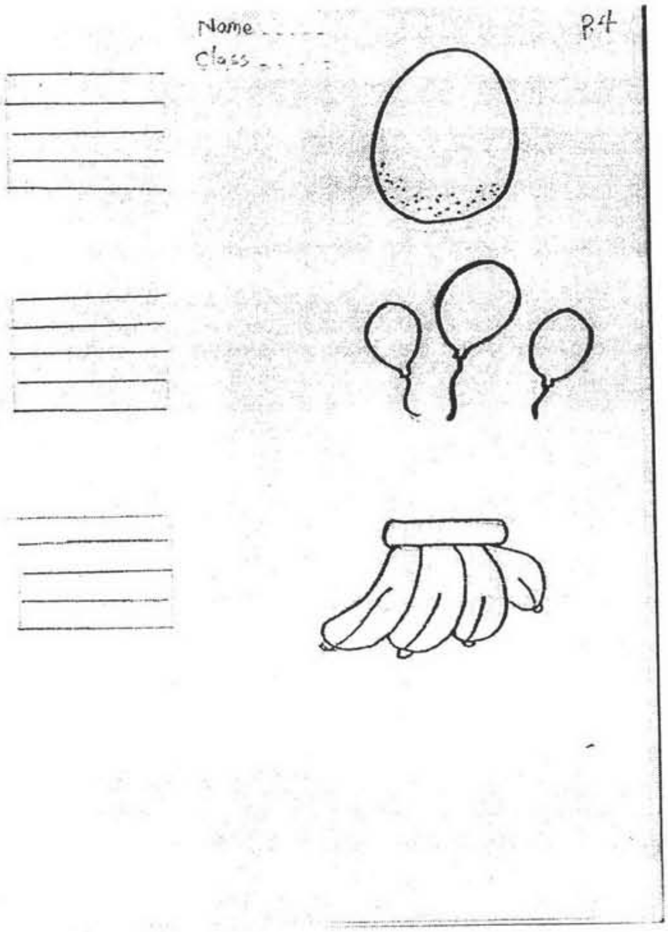
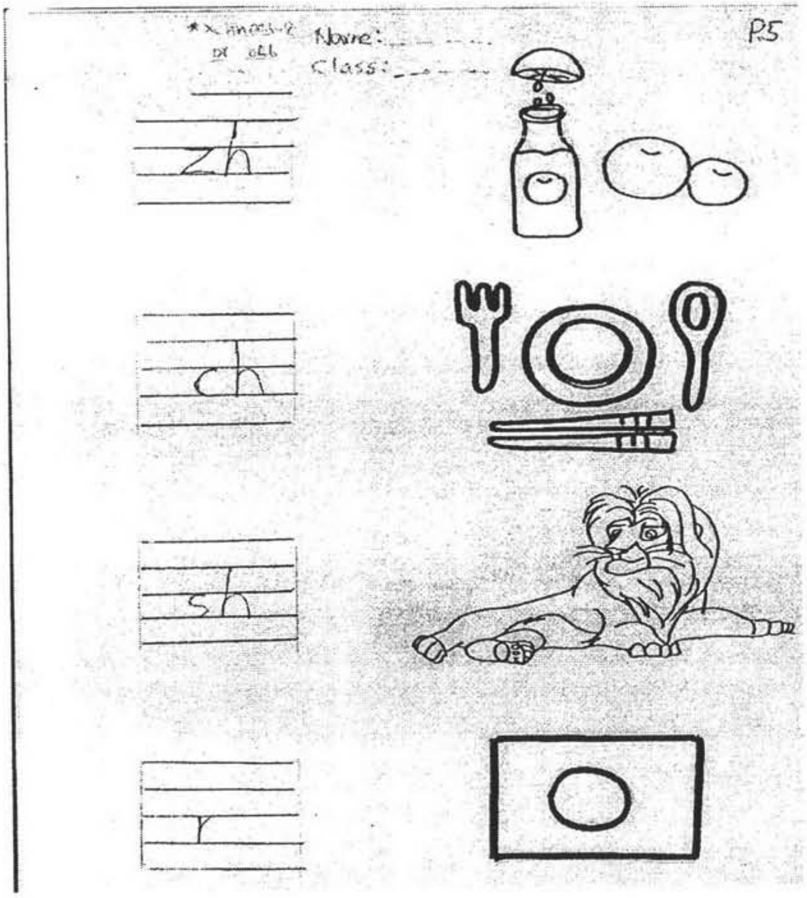

Name
Class
P.4

圖 3. 5



*[illegible]

Name: _____

Class: _____

P.5

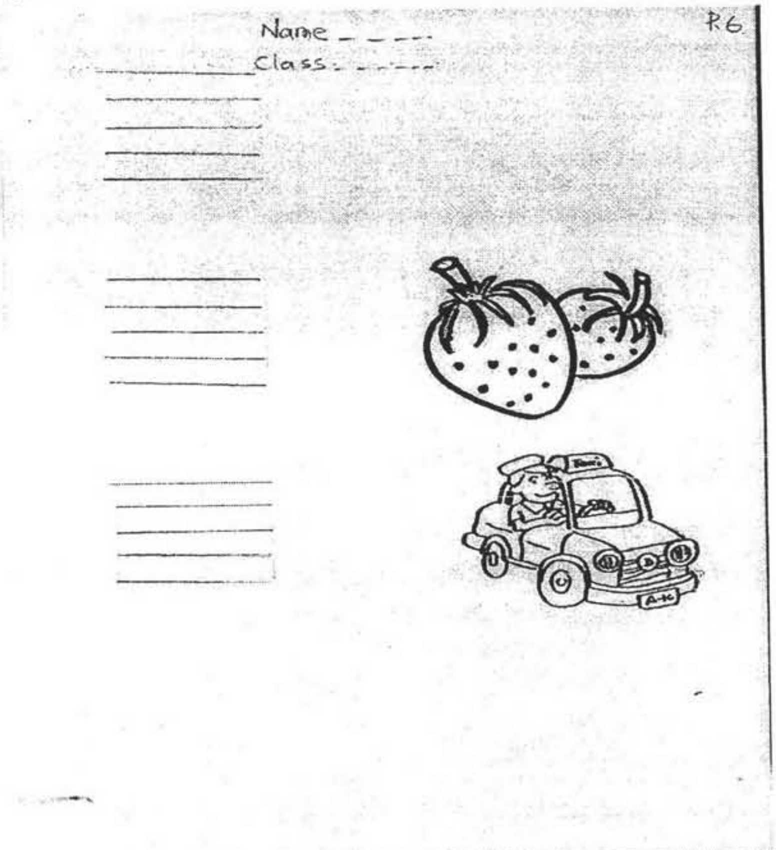
zh

ch

sh

r

圖 3. 6



Name _____

Class _____

P.6

圖3.7

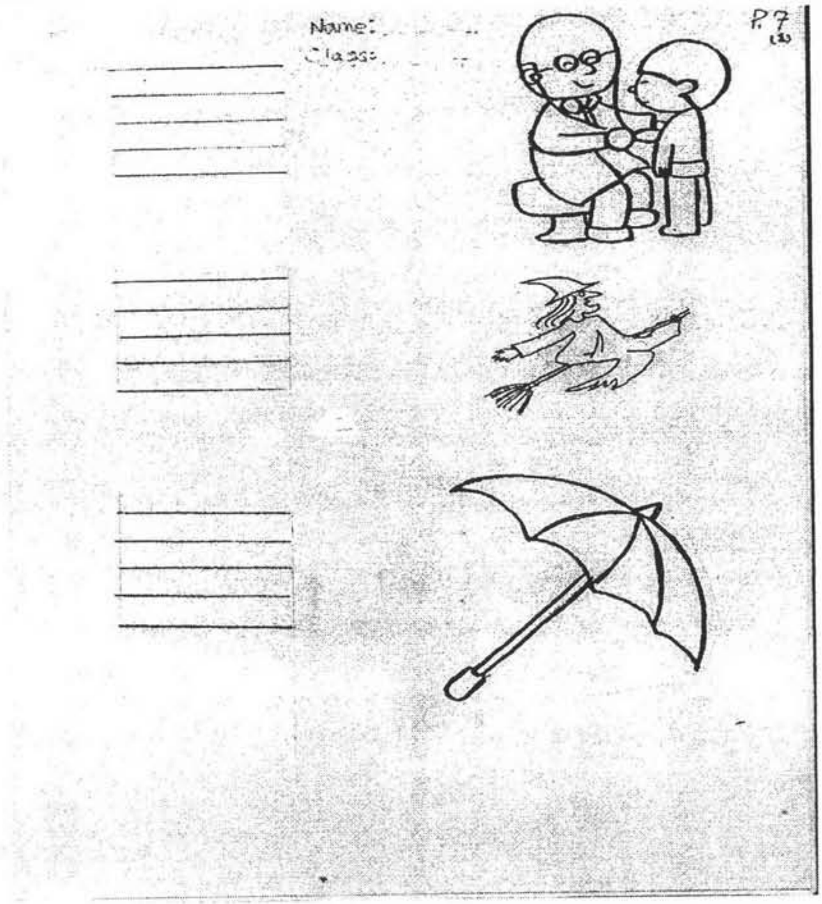

Name:
Class:
P.7

圖3.8

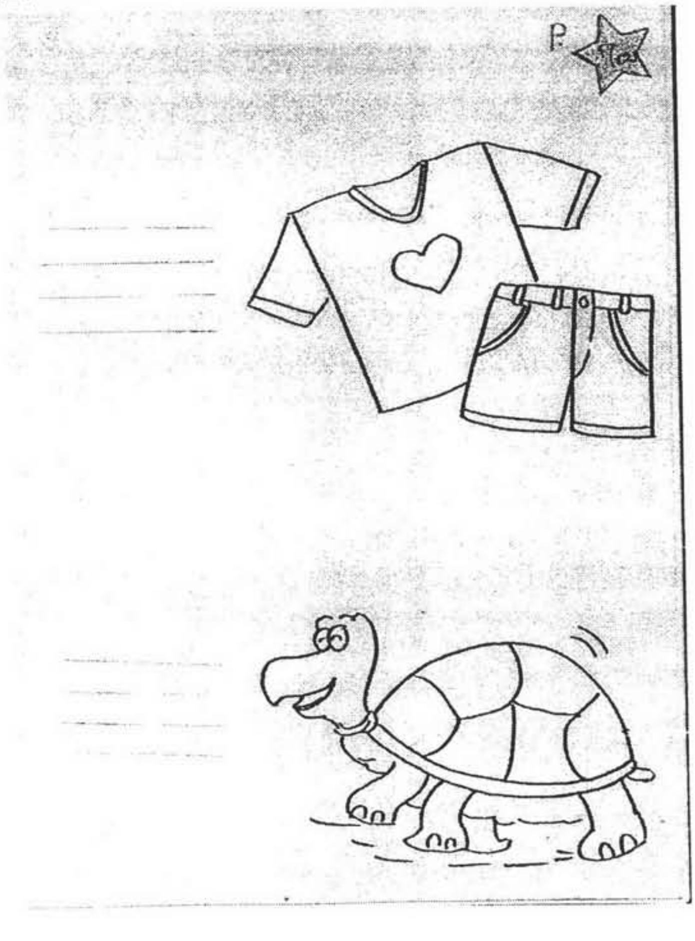


圖 3. 9

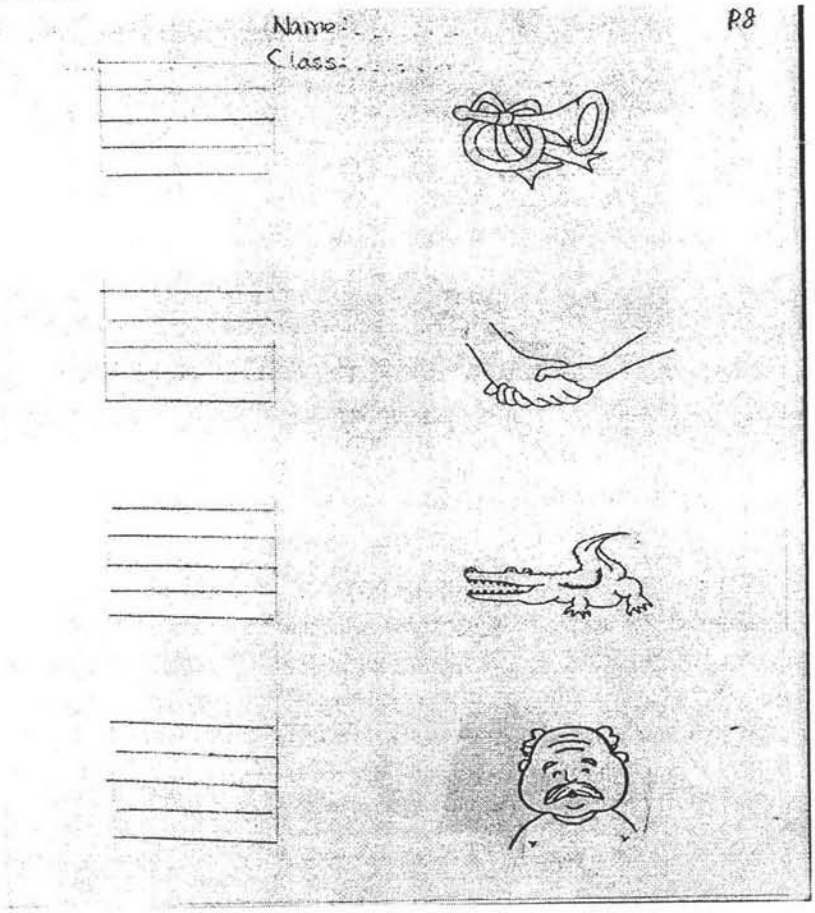


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圖 3. 10

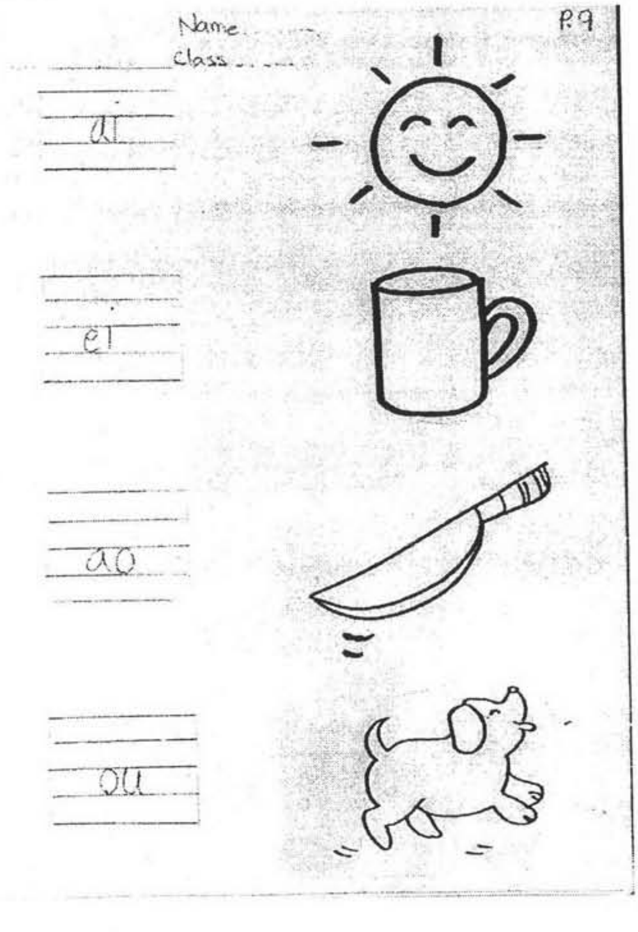

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圖 3.11

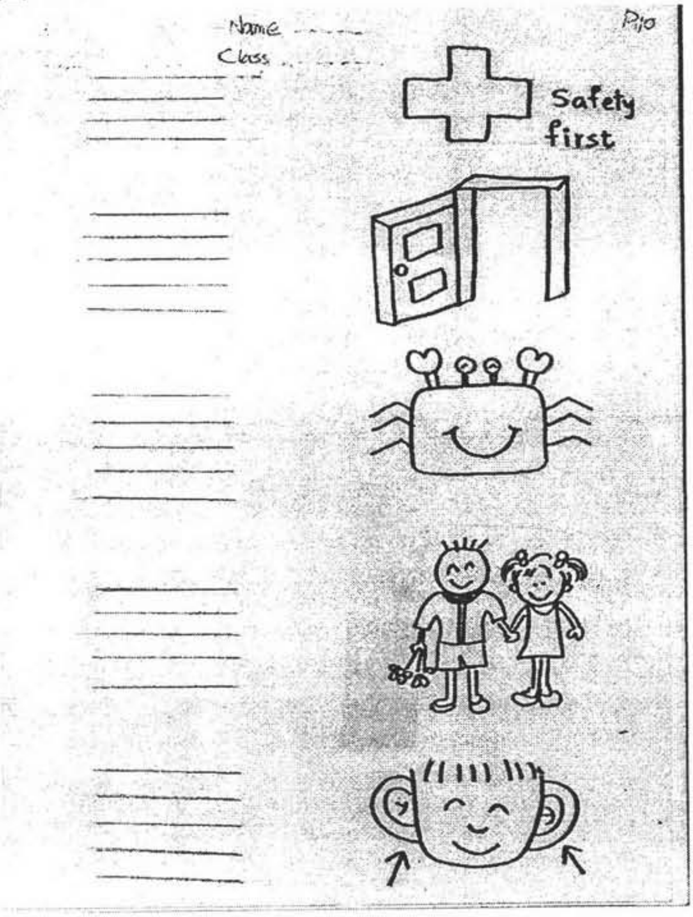
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圖 3.12

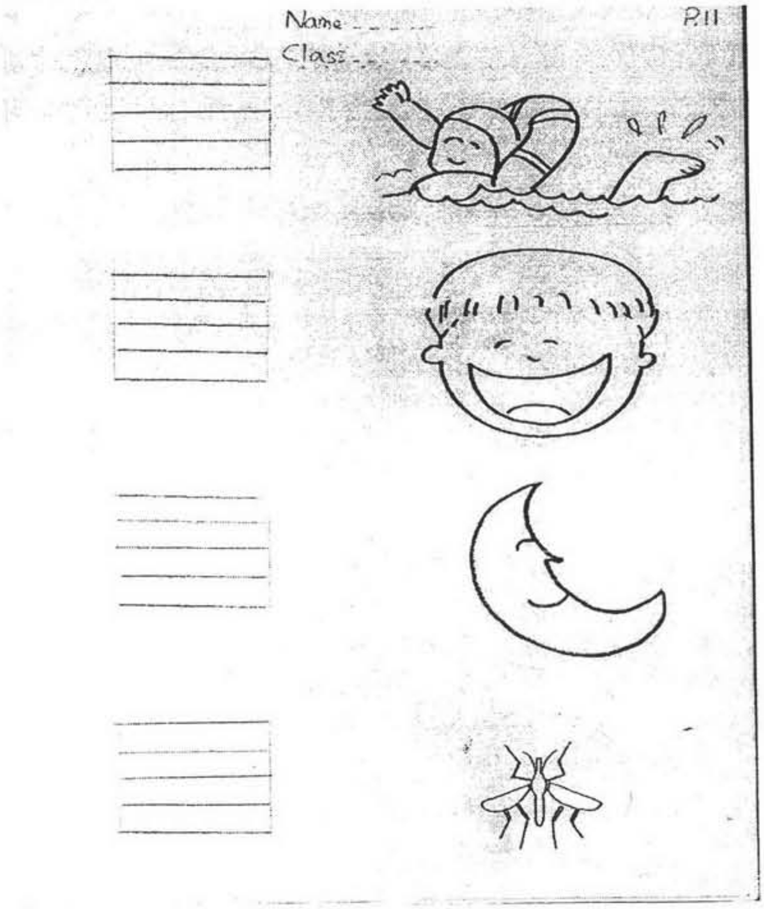
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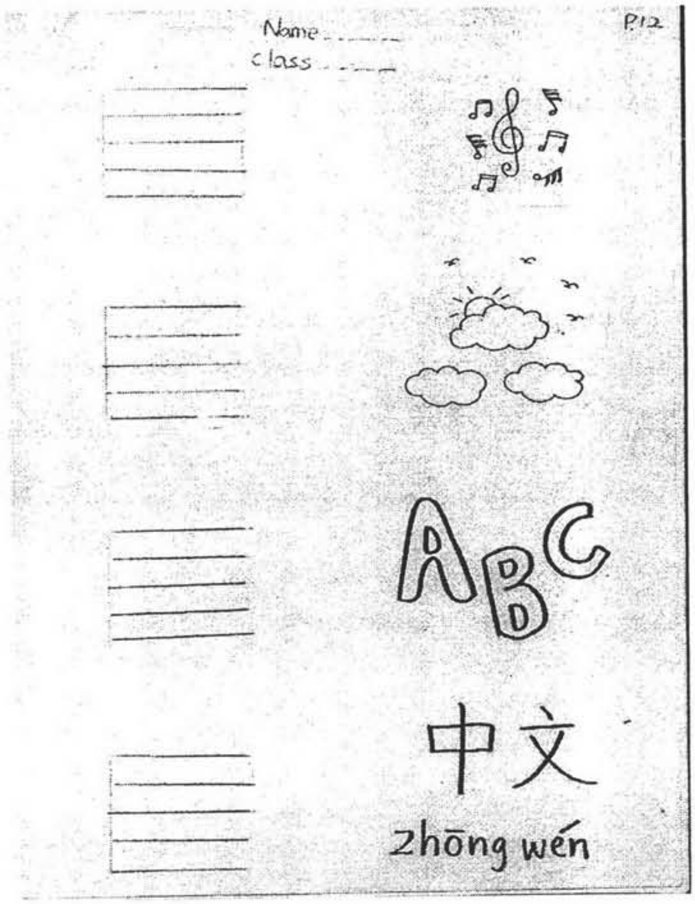
圖 3. 13


Name ______
Class ______
P.12
ABC
中文
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附錄四

學生自己做的“拼音書”

圖 4.1

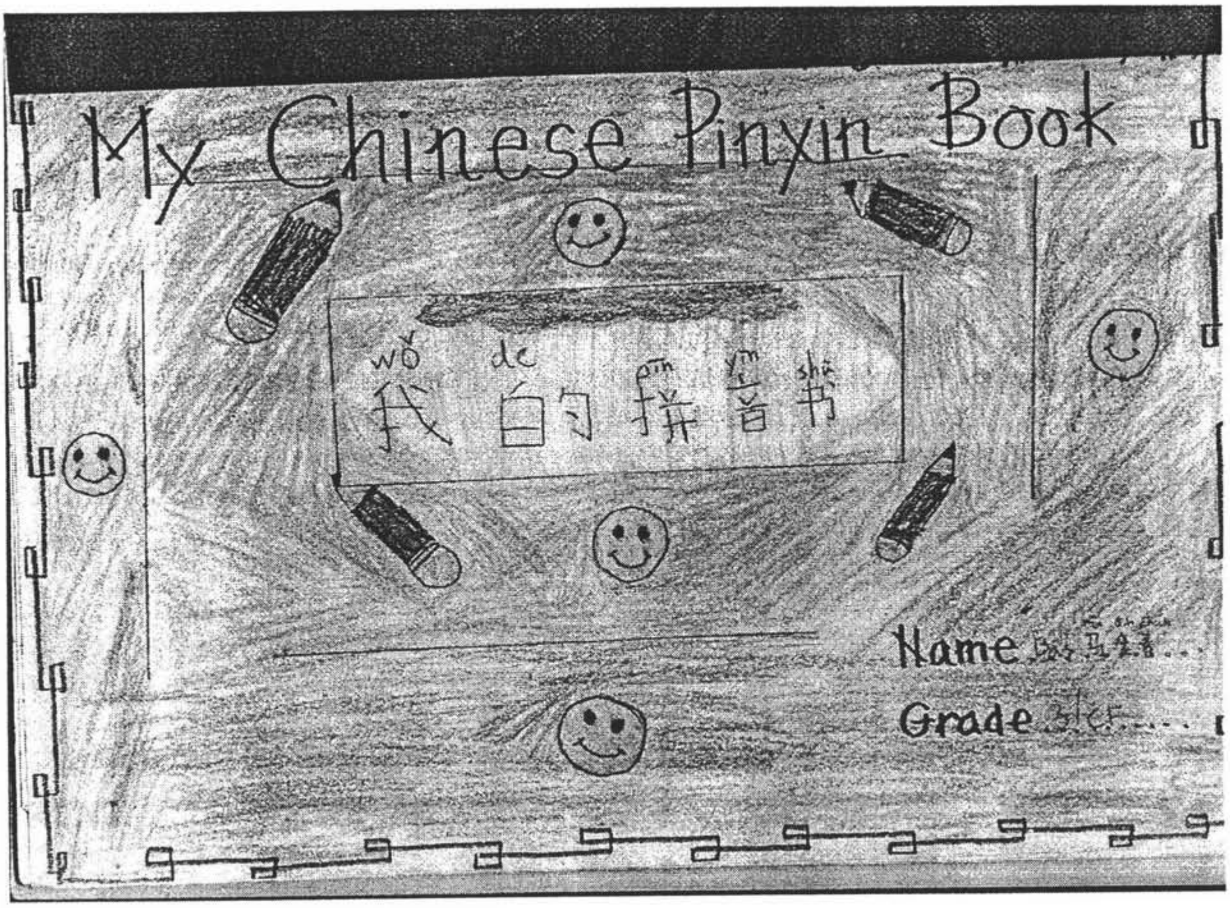
My Chinese Pinyin Book
wǒ de pīn yīn shū
我的拼音书
Name
Grade

圖 4.2

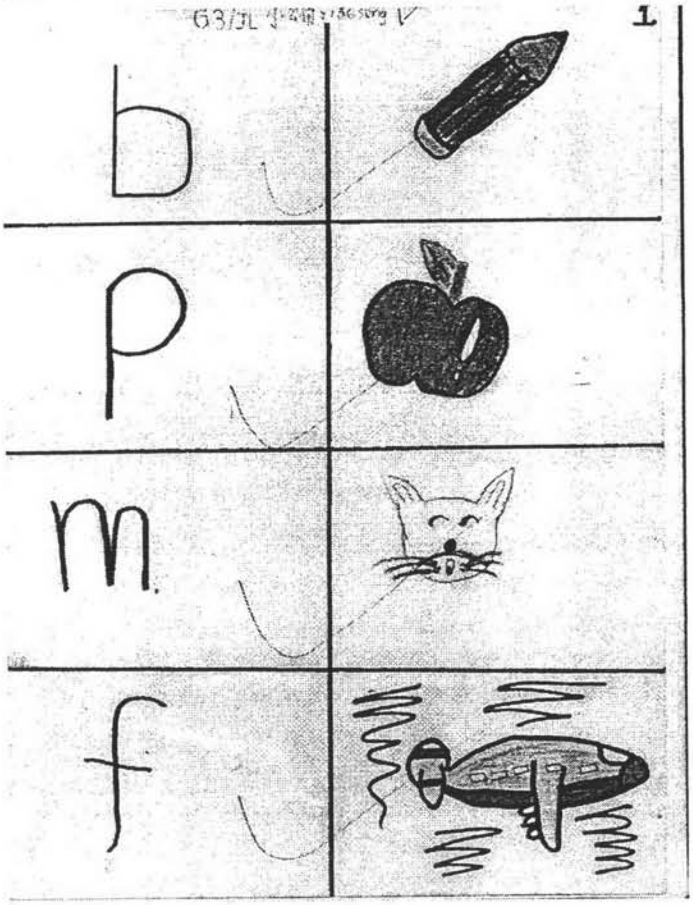

圖 4.3

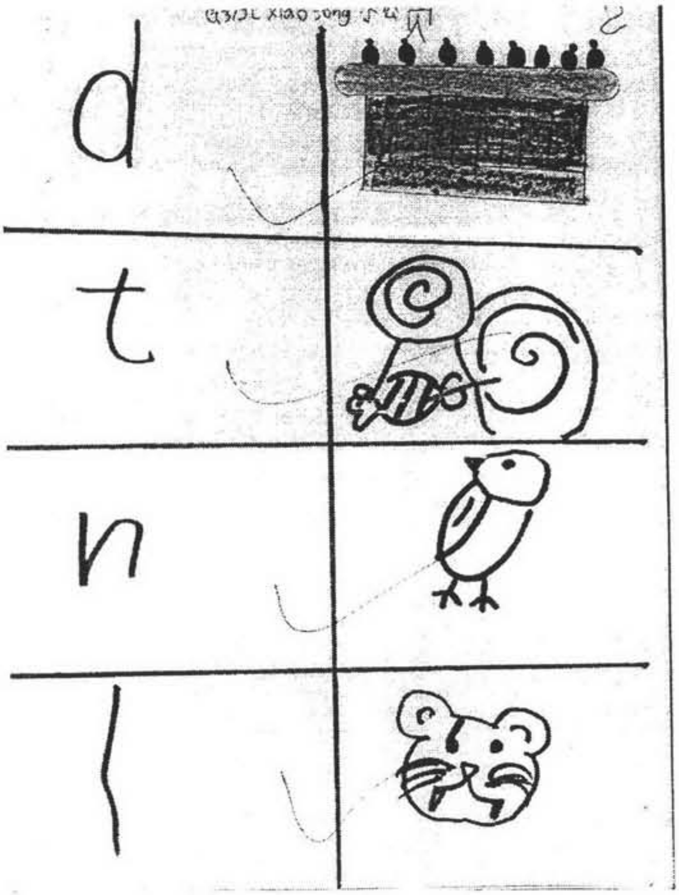
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圖 4.4

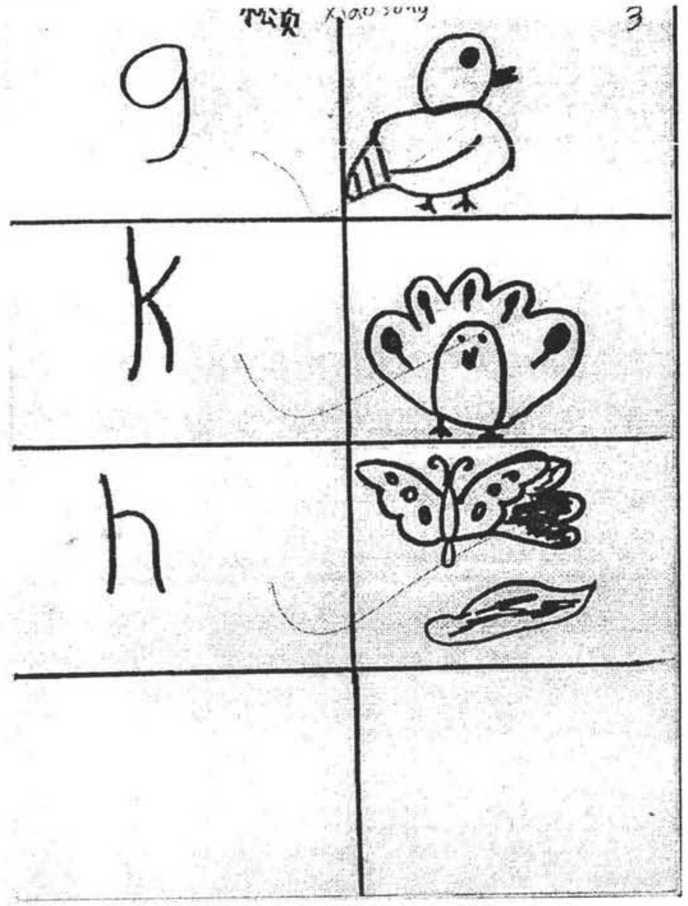
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圖 4.5

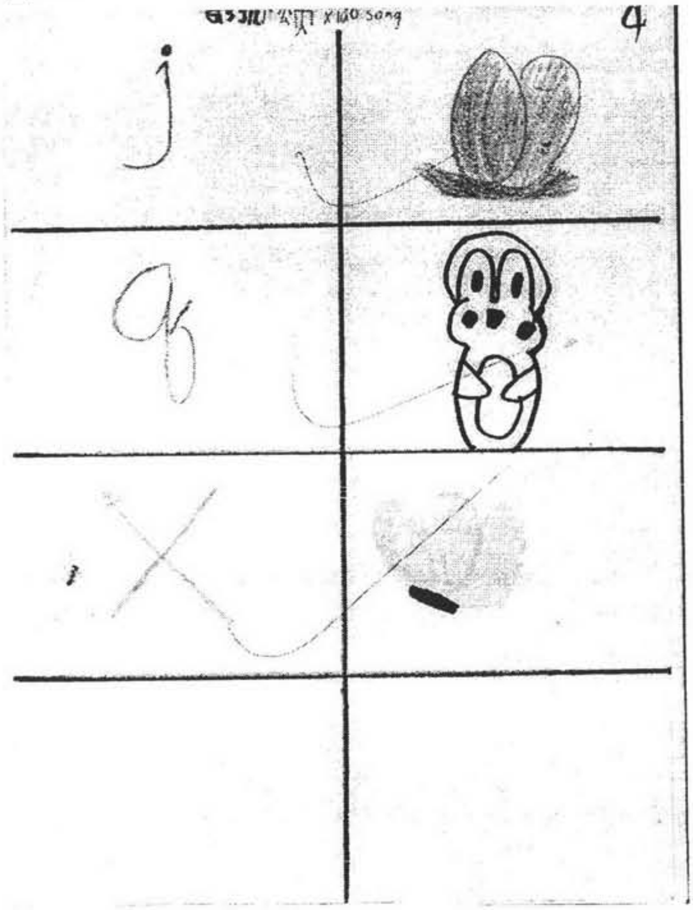
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圖 4.6

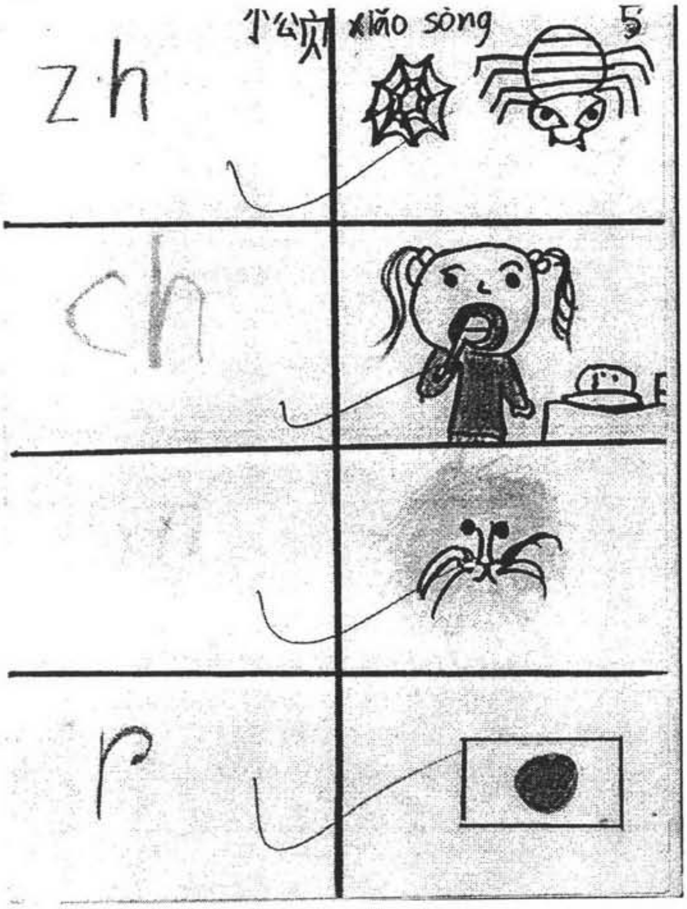
小颂 xiǎo sòng
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圖 4.7

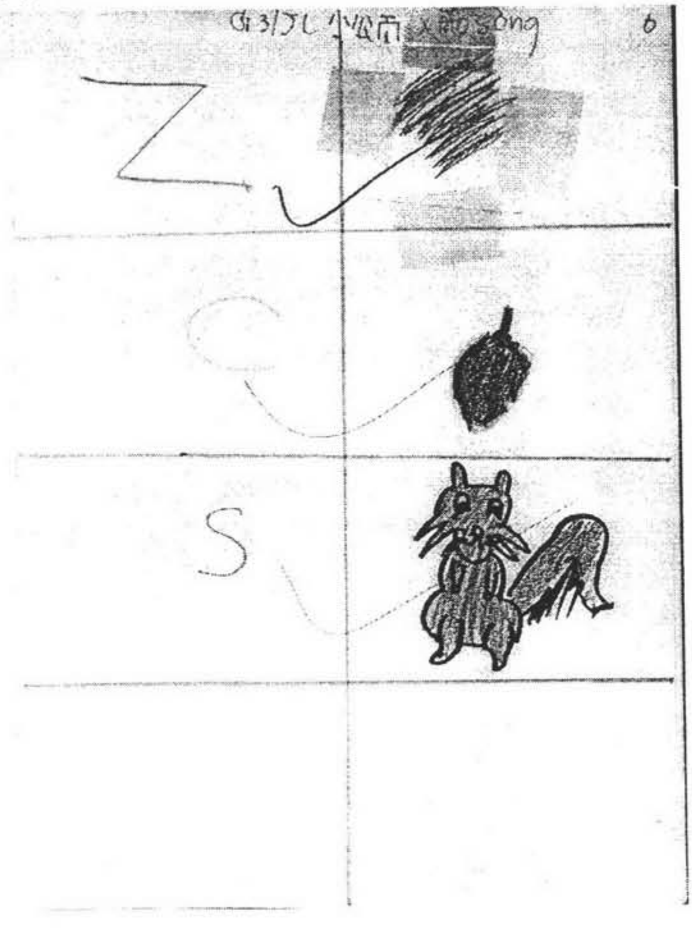
G1 3/31 小頌 xiao song
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圖 4.8

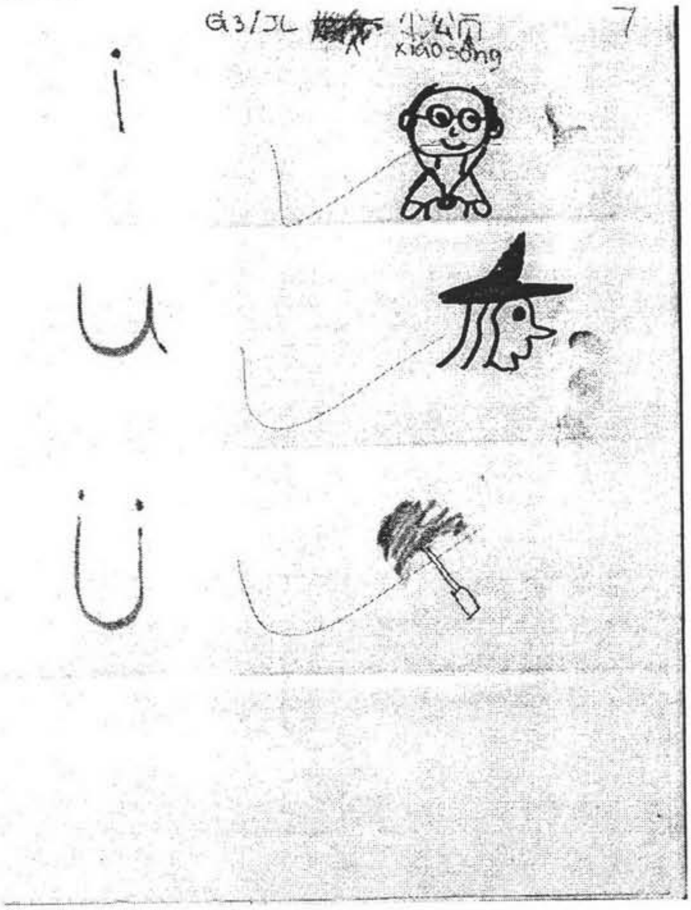
G3/JL [redacted] 小松頁
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圖 4.9

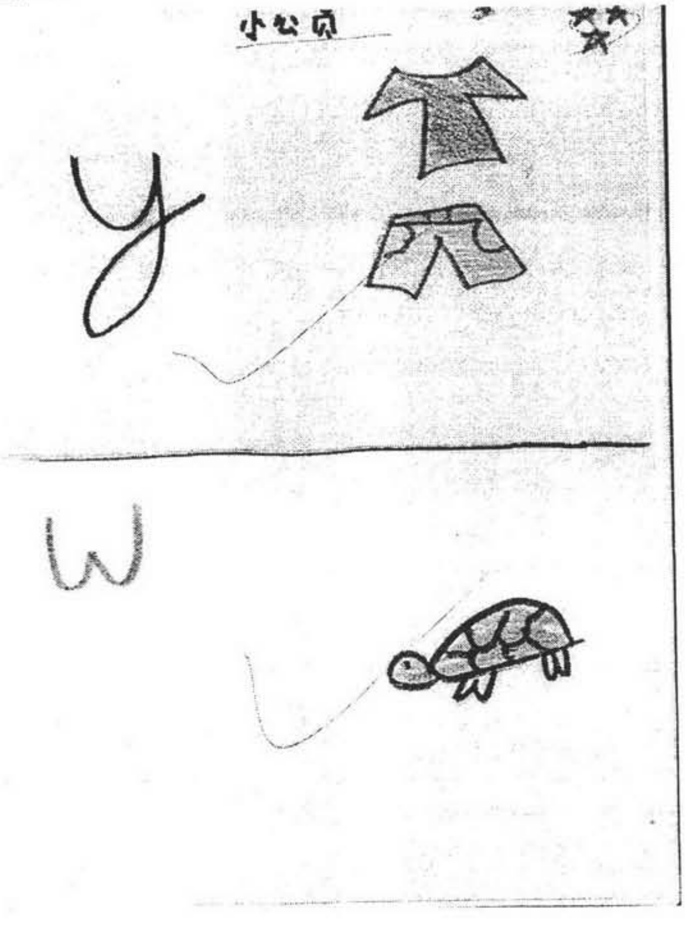

圖 4.10

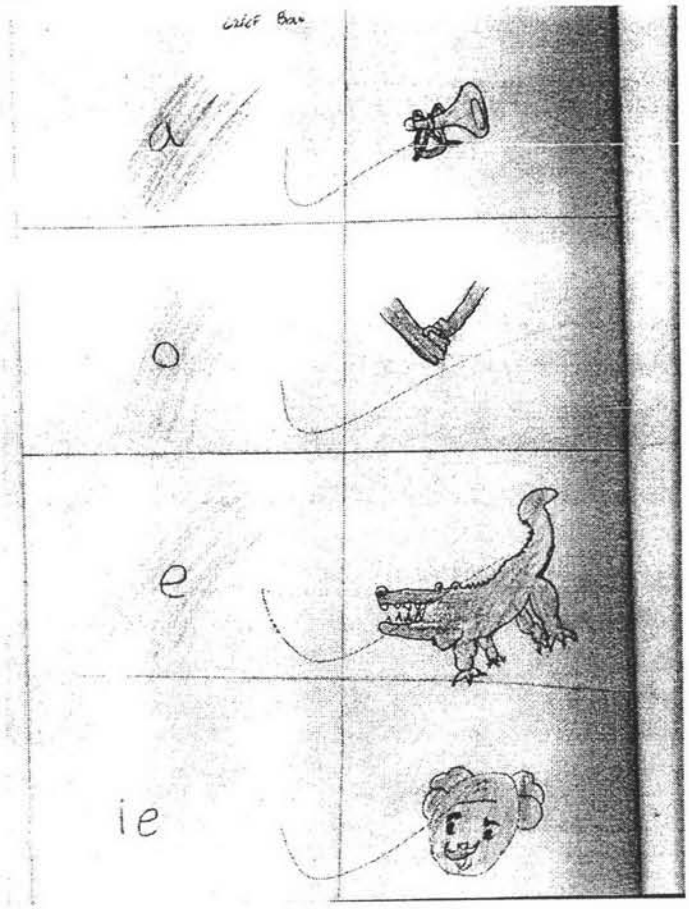

圖 4.11

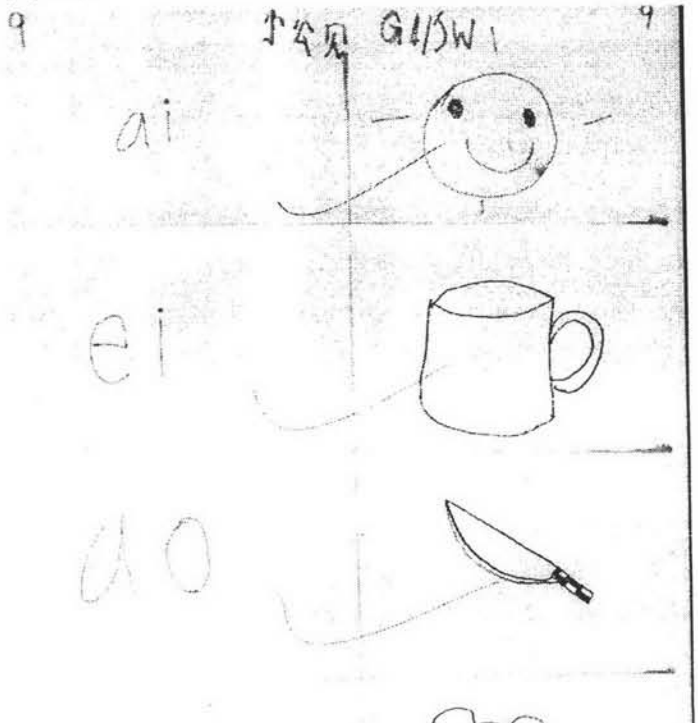
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圖 4.12

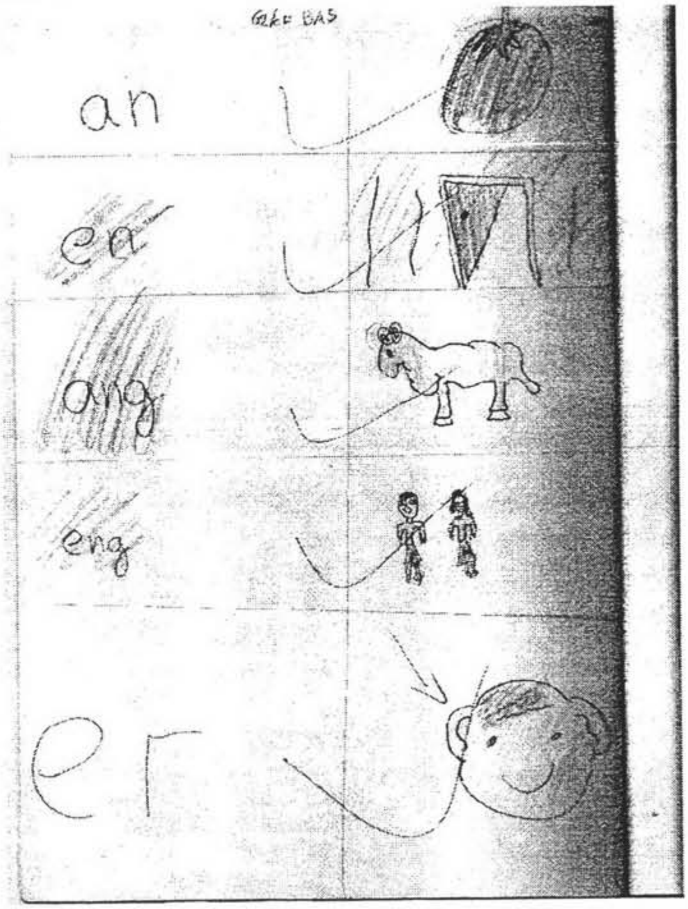
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圖 4.13

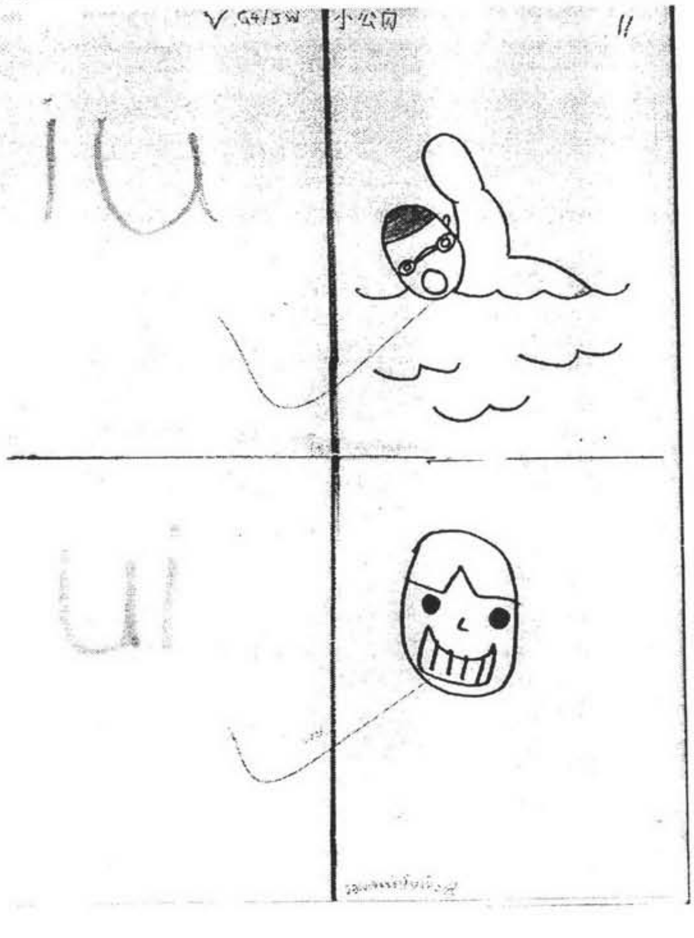
V G4/JW
小公園
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圖 4.14

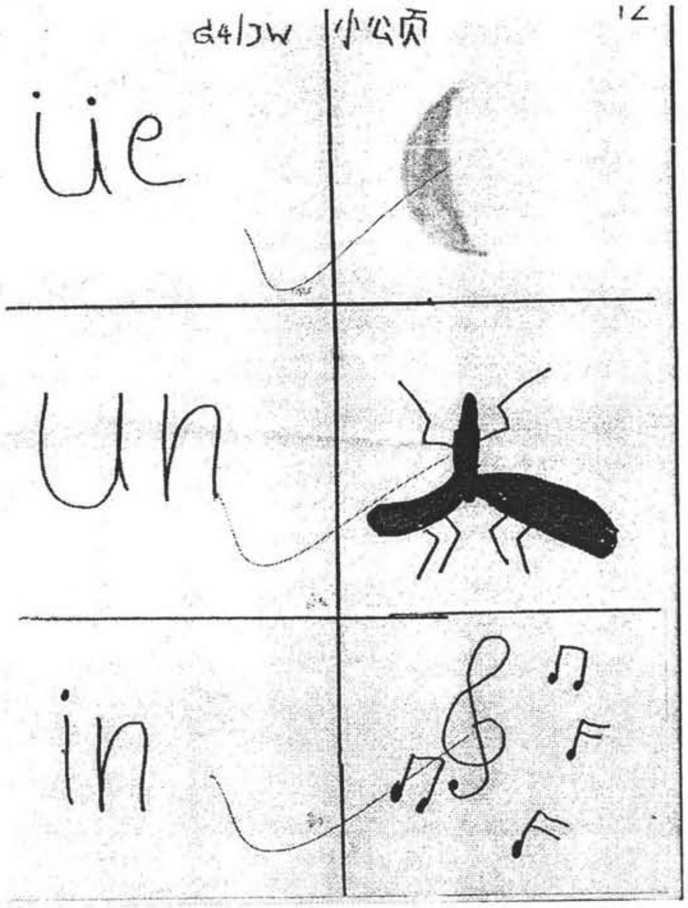
G4/JW
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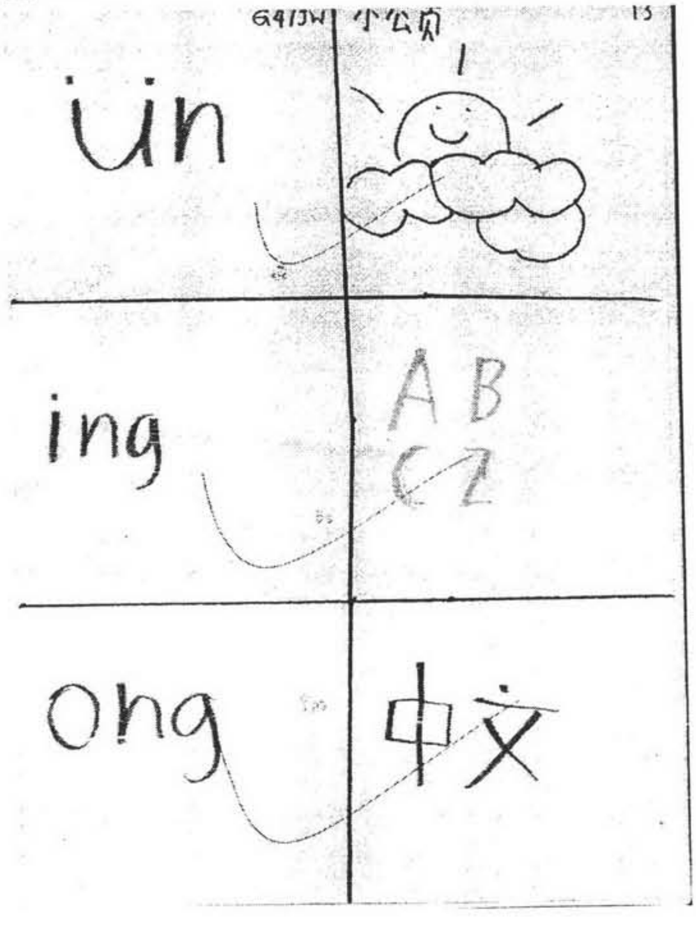
圖 4.15


G4/JW
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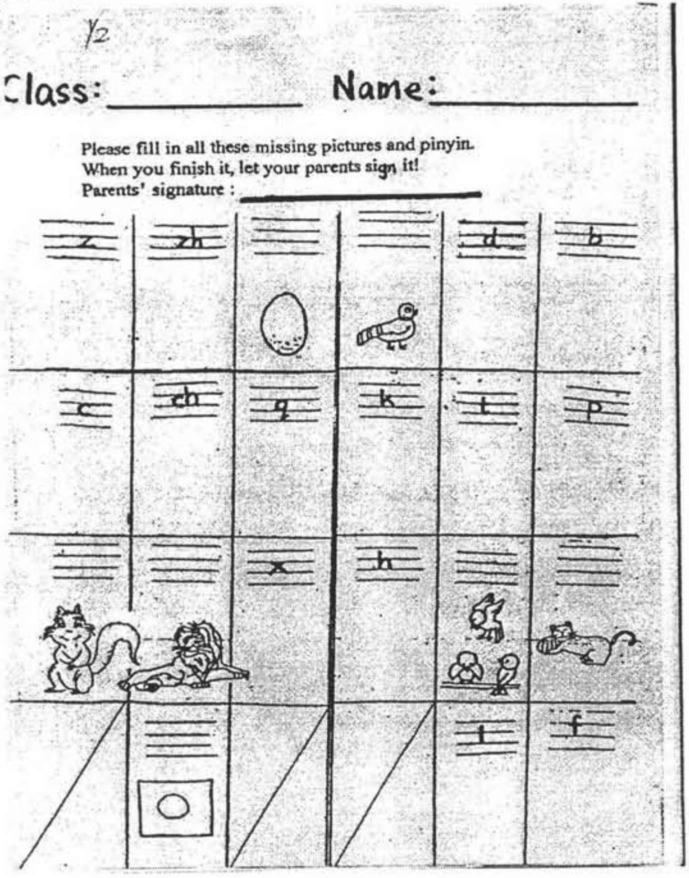
中文

附錄五

“填填看”活動：在“拼音表”內填字母或圖案

圖 5.1



½

Class:________ Name:________

Please fill in all these missing pictures and pinyin.
When you finish it, let your parents sign it!
Parents' signature :________

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zh
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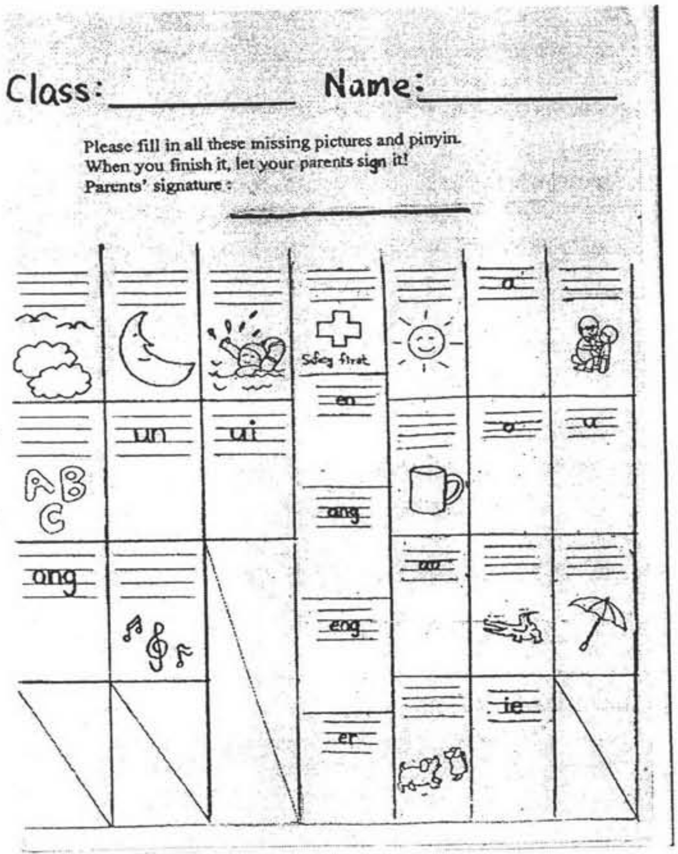
圖 5.2



Class:________ Name:________

Please fill in all these missing pictures and pinyin.
When you finish it, let your parents sign it!
Parents' signature :________

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Safety first
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附錄六

此附錄為本論文之英文簡略版

THE METHODOLOGY OF TEACHING HANYU PINYIN FOR ELEMENTARY STUDENTS AT INTERNATIONAL SCHOOLS IN THAILAND

CHAPTER Ⅰ

INTRODUCTION

"Nihao is coming! *Nihao* is coming!*"* It is believed by many that overseas Chinese teachers are called "Nihao" by their students. At the beginning of class, the teacher will first greet the students with "Nihao," and so the word "Nihao" has become associated with the Chinese teacher's name in the mind of the students. Situations such as these, where the student doesn't know how to apply what he has learned can be seen everywhere. There are many variables which can obstruct a student's study of Chinese in an overseas learning environment. One example is there is really no opportunity for a student to converse in a Chinese speaking environment and the student may easily lose interest. There are also insufficient teaching materials and in order to compensate for the lack of materials, a Chinese teacher must emphasize and strengthen the students' accuracy of pronunciation and conversational skill. To a large extent, teachers have to incorporate phonetics and articulation into their daily lessons.

1.1 Research Motivation

The purpose of teaching Hanyu pinyin is to allow the students to have a grasp of the basic knowledge of Chinese and to pronounce proper Chinese phonetics, to create a foundation for fluent oral communication. Thus, the motivation for this study is to attempt to discover a learning method for Hanyu pinyin suited to elementary school students at international schools in Thailand. Also, through their ability to encourage students, it is hoped that the teachers will dispel the stereotype of "Chinese is hard to learn". Undeniably, there are many Chinese characters, but there are merely three or four thousands frequently used ones. Further, the Hanyu pinyin only contains 39 symbols, consisting of 21 initials and 36 finals (not including the three -i 〔ɿ〕, -i 〔ʅ〕, er 〔ɚ〕) and four tones (Huang Borong et al.1997:57-58); learning all these symbols allow one to pronounce all the Chinese phonetics.

1.2 Research Purposes

Both Chinese and Thai belong to the Sino-Tibetan language family; both consist of vowels and consonants marked with tones. Although the phonetic systems of the two languages are similar, differences still exist in spelling rules, tones, and pronunciation. In all her years of teaching Chinese, the researcher has found that for Thai people to learn Chinese there are advantages but there are also difficulties. For example, the final "ü" is pronounced with rounded lips with the sound forming the lips into a circle (cuōkŏuyīn). This is one of the most frequent phonetic difficulties for Thai people who learn Chinese phonetics; they frequently pronounce "yusan" as "usan," and "huiqu" as "huichu." Thus, if it is possible to give some "leading activities" before teaching the final "ü," such as first reading some terms in short sentences relating to the "ü" pronunciation, then specifically teaching the final "ü," then students make fewer errors, and think before they pronounce.

In view of this, the main purpose of this study is to suggest that if in the beginning, pronunciation problems can be found and corrected, students can spend less time exploring phonetics, and their learning achievements can be enhanced. Additionally, it is suggested that when teaching, Chinese teachers should use methods that are active, interesting, and which make the abstract concrete. Through various means, they should skillfully teach students to become proactive and autonomous in learning pinyin, so that instruction can be less demanding but yield greater results. It is also hoped that elementary school students at Thai international schools can overcome these problems when learning Hanyu pinyin, in order to more easily grasp the points of learning, to help them gain good foundations in Hanyu pinyin.

1.3 Research Significance and Usefulness

Hanyu pinyin is the basis of learning Chinese phonetics. The key to fluent Chinese is correct pronunciation. The primary premise of phonetic learning is that teachers must first have a grasp on two aspects of learning:

1.3.1 The importance of phonetic learning

Learning Hanyu pinyin not only requires basic knowledge of Chinese phonetics, an understanding of the phonetic system, but it also an understanding of the phonetic structure and rules of changes. Thus, the basic Chinese knowledge of teachers must involve analysis and guidance.

1.3.2 Features of Chinese phonetics

Chinese phonetics comprises initials, finals and tones. Teachers must first grasp this feature of Chinese phonetics.

For students with English language backgrounds, the pronunciation of some Hanyu pinyin characters can be borrowed from English phonemes, such as the initial sounds "p,m,f,t,n,l" and the final sounds "i,u,a" etc. and it is therefore possible to save time memorizing symbols, and learning Chinese. Even though experts and scholars have proven that the earlier second and third languages are learned, the better, it is inevitable that languages are forgotten if not used. Thus, if it is possible to build a good foundation in Hanyu pinyin, when children pick up textbooks to learn Chinese again later, they will have an advantage in grasping the phonetics that bit sooner.

1.4 Research Scope

The research scope of this thesis is to mainly introduce the methodology of teaching Hanyu pinyin to primary students. Since the object is "the elementary student." These students are at an age when they are energetic and high in imagination, but also when their concentration spans are short and they are unable to apply what they learn. Their strengths lie more in their ability to memorize and imitate."

1.5 Terminology:

For the sake of convenience, a few of the concepts are explained below.

1.5.1 Hanyu pinyin

Hanyu pinyin was standardized in the 50s, and can be said to be the summation of various methods of phonetic Chinese. It uses Latin alphabet, the purpose of which are: (1) provide notation of pronunciation for Chinese characters (2) serve as a tool to promote Chinese (Huang Borong and Liao Xudong，1997: 29-30).

1.5.2 Mandarin Phonetics

Chinese characters included the 24 initials, and the 12 finals. For example: ㄅ is derived from 包 [bao], ㄈ is derived from 匚, divided from "fu(府) and liang(良)," pronounced "fāng(方)," ㄉ is derived from "dao(刀)," ㄍ is derived from the ancient word "kuài(澮)," many of which were created from the shapes of ancient words. From historical development, these are the ultimate results of reverse-cutting system of words, which do not use the modern usable Chinese characters but use simplified ancient Chinese characters; this is the first set of established Chinese alphabet.(Xie Tianwei, 2003)

1.5.3 Contrastive analysis

The contrast analysis (Contrastive analysis), refers to the affiliation in comparing two languages systems the similarities and differences. (Chen Junguang 陳俊光, 2007)

1.5.4 Positive/Negative transfer

Positive transfer is learning in one situation which helps or facilitates learning in another later situation. Negative transfer is learning in one situation which interferes with learning in another later situation. (Jack C. Richards et al., 2005:720-721).

1.5.5 "Alphabet representation"

"Alphabet representation" means that each pinyin letter has a representative term, such as: pencil-b, apple-p, etc., the terms can lead the pronunciation of the pinyin letters.

1.5.6 "Interlanguage"

Interlanguage is the type of language produced by second- and foreign- language learners who are in the process of learning of learning a language. （Jack C et al., 2005:343）

1.6 Thesis Structure

The structure of this thesis can be divided into five parts:

Part I (Chapter Ⅱ) is "literature review." There are four main research contents in this chapter. The first is the Chinese phonetic evolution. The second is the foundation of Chinese phonetics. The third is Chinese and Thai phonetic comparison, including initials, finals and tones comparison. The last is the child's language development related literature discussion.

Part Ⅱ (Chapter Ⅲ) is the effective methodology of teaching the initials, the finals and tones, including the key points, the methods and the notices for them.

Part Ⅲ (Chapter Ⅳ) is the methodology of teaching Hanyu pinyin in Thailand. The main purposes of this chapter are to introduce the designed teaching methods by the writer with practical need for Thai students.

Part Ⅳ (Chapter Ⅴ) is the conclusion and recommendation. The content are the whole thesis process and result summary, limitations of the study and suggestions for further research.

Part Ⅴ (Appendix Ⅰ, Ⅱ, Ⅲ, Ⅳ, Ⅴ and Ⅵ) are the Appendices. Appendix I is a table of Hanyu pinyin. Appendix Ⅱ is a table of the Chinese Initials. Appendix Ⅲ, Ⅳ and Ⅴ are all student work sheets designed for teaching the Hanyu pinyin. Appendix Ⅵ is the summary of the English translation of the thesis.

CHAPTER II

LITERATURE REVIEW

2.1 Chinese phonetic evolution

Ye Deming 葉德明(2006:1-16)in "Chinese Phonetics (Previous) - Pronunciation Theory" asserts that the "Beijing dialect" has historically and officially become "Standard Mandarin."

Zhou Youguang 周有光(1,997: 1-9) in "Scheme for the Chinese Phonetic Alphabet - Elementary Knowledge" discusses the history of evolution and the way of the sign sound, and how Hanyu pinyin was finally produced.

2.1.1 Chinese phonetic brief history

1. Chun-Qiu Period (1111-256BC.): beginning of the evolution of the standard ancient language.
2. Zhan-Guo Period (453-221BC.): sounds differ, and changes in writing symbols.
3. Qin, Han Period (221BC-220AD.): founded rhyme book in history.
4. Wei-Jin southern and northern dynasties, Sui Period (220-518AD.): the work "Cutting Rhymes (切韻)" unified the studied sound.
5. Tang-Song Period (618-1279AD.) the rhyme book is in vogue, as exemplified by "Extensive Rhymes (廣韻)." The author was revered for the standard of the Chinese Rhymes dictionary.
6. Yuan Period (1279-1368AD.): "Beijing dialect" officially becomes the national language.
7. Ming dynasty Period (1368-1644AD.): "Beijing dialect" became the major source of standard national pronunciation (guóyīn).
8. Qing dynasty's Mandarin Period (1644-1911AD.): "Beijing dialect" formally became the "official language (guānhuà)" in China.

8. Qing dynasty's Mandarin Period (1644-1911AD.): "Beijing dialect" formally became the "official language (guānhuà)" in China.

2.1.2 The concept of pinyin phonology structured

2.1.2.1 Formation of the Hanyu pinyin concept from Chinese Classic Poems

"Guān guān jū jiū zài hé zhī zhōu, yǎo tiǎo shū nǚ jūn zǐ hào qiú(關關鳩鳩在河之洲，窈窕淑女君子好逑)."This famous sentence clearly shows the characteristics of Chinese phonology, the initials at the beginning and the finals at the end, as well as rhyming. In ancient times, there arose the concept of "first initial - last final" and this is the predecessor of pinyin, so the ancient people also used words of "double initials - double finals" to create some names for grasses, trees, insects, birds, and beasts. For example: "pípá, fēnfāng, zhīzhū."

2.1.2.2 Formation of the pinyin method

The "front initial - back final" structural concept is used to make two words spell the pronunciation of the word; "tone" is one with the finals.

2.1.3 The reason "Beijing dialect" became the national standard language

2.1.3.1 The importance of establishing a national standard language

Countries that use a single national standard language can have a greater sense of consensus, promoting cooperation among the people, and it is easier for such countries to advance.

2.1.3.2 "Beijing dialect" as the standard language

Each established standard language must have a background and reasons for its adoption. The reasons for Mandarin as the standard language include:

1) Beijing has been established as the capital for the longest period of time

2) Clear and simple phonetics

3) Most broadly used

2.1.4 Historical review of Hanyu pinyin

2.1.4.1 Historical review

Chinese characters are mostly radical-phonetics. The sound characters in the radical-phonetics are referred to as the phonetic radicals. The sounds of Chinese characters are not only expressed with the phonetic radicals because some of them can only express similar sounds. Because there are too many Chinese characters which are homophones, it is not possible to clearly express the sound of each word.

2.1.4.2 Evolution of phonetic transcription

Radical-phonetics usually cannot use the phonetic radicals to express pronunciation, and aside from radical-phonetics, it is even more difficult for pictograms and combined ideograms to express pronunciations. Thus, it is necessary to have a way of writing the sounds of Chinese characters.

2.1.4.3 Mandarin Phonetics (Zhuyin Fuhao)

The Opium War of 1840 opened the eyes of the Qing Empire, and awakened some intellectuals. They began to do away with illiteracy, broaden education, and strengthen China. First a set of sound alphabets was established in order to standardize the readings of Chinese characters, and then establish a set of zhuyin letters for Chinese characters, to unify the pronunciation of Chinese characters for the whole country. Finally, in 1918, the Ministry of Education promulgated the newly established zhuyin alphabet (Mandarin Phonetics)(Xie Tianwei.,2003.).

2.1.4.4 Hanyu pinyin

The early origins of Hanyu pinyin began with Italian missionary Matteo Ricci and French missionary Nicolas Trigault who used the Roman alphabet to spell Chinese. During the Ming and Qing dynasties, western missionaries used Roman letters for Chinese for missionary purposes. They finally realized that Chinese could be written in

French missionary Nicolas Trigault who used the Roman alphabet to spell Chinese. During the Ming and Qing dynasties, western missionaries used Roman letters for Chinese for missionary purposes. They finally realized that Chinese could be written in the internationally used Latin alphabet.(Xie Tianwei, 2003.)

From its inception in 1958, this system has brought convenience to those who learn and use Chinese, and has allowed the internationalization of the spelling of Chinese characters; thus it has become globally recognized and is used throughout the world.

2.1.5 Principle for establishing Hanyu pinyin:

Hanyu pinyin uses the Latin alphabet with the most internationally used letters in the world, which determines the design concept of the method, its alphabet and phonetics, and the arrangement of their relationships. In general, Hanyu pinyin has three basic principles: oralization, phonemization, and romanization, collectively referred to as the three transformations of pinyin.

1) Oralization: the spelling and writing of standardized Mandarin.

2) Phonemization: the spelling and writing of syllables based on phonemes and phonemics.

3) Romanization: using the internationally used Latin alphabet.

Once the Latin alphabet has been used to record the phonetics of a language, it becomes the word for the language, such as the English alphabet, German alphabet, or French alphabet. Thus, the Latin alphabet in Hanyu pinyin should be referred to as Hanyu pinyin letters. (Li Ti'an, 2006).

Summary: Hanyu pinyin has a definite purpose and distinct range of use. Even though it has a lot of applicability, it does not address every issue.

2.2 Basis of phonetics

2.2.1 Five major processes in learning phonetics

In studying phonetics, we must understand the principles of pronunciation, and analyze and summarize some concrete differences for a deeper understanding of the nature of phonology. The brain controls the procedures and methods for producing and dealing with language, as well as the locations and formats of linguistic information as saved in the brain. Since language passes to the brain through the ears, we have to understand the physiological structure of human sound articulation. Airflow is regulated by the oral cavity to produce different sounds, and some features of the sound waves transmitted to another person's ear allow the person to understand the meanings of language. In essence: Articulation→ sound wave→ audio perception →feedback → communication (Ye Deming, 2006:19-20).

2.2.2 The physiological structure of pronunciation

Regarding the physiological process of articulation, phonetics are the sounds produced by airflow produced, by the organs used in human breathing passing through organs of articulation. Different locations and methods of air passage create different sounds.

2.2.2.1 Lungs and diaphragm

Human languages all use air exhaled while pronouncing; without breathing with the lungs, speech activity would not be possible.

2.2.2.2 Vocal cords

The adjustment of vocal cords produces different phonetics.

2.2.2.3 Relationship of the four elements of pronunciation and Chinese phonetics

2.2.3.1 Pitch

Pitch refers to the level of the sound, and is also determined by the speed of object vibrations; the higher the frequency, the higher the sound. Chinese tone refers to changes in pitch and sound length, so when the four tones are articulated, there is a clear difference in the level of sound value and range.

2.2.3.2 Length

Length refers to the length of sound, and is determined by the length of time an object vibrates; the longer the time of vibration, the longer the sound. Also, vowels and consonants have different regularities in terms of length in the linguistic environment.

2.2.3.3 Intensity

This refers to the strength or weakness of sound, the magnitude of object vibration, which produces loudness. Phonetically, vowels are louder than consonants; consonants voiced by vibration of the voice box are much louder than unvoiced sounds.

2.2.3.4Timber

Also called voice quality; the overall impression that a listener obtains of a speaker's voice. It is also sometimes called timber. (Jack C. Richards et al., 2005:747-748)

Summary - In Chinese phonetics, other than timber, pitch is quite important. Tone is primarily constituted by pitch, and the level of tone can distinguish meaning. Length and loudness also play important roles in tones and neutral tones(Huang Borong, Liao Xudong,1997：23).

2.3 The comparison of the phonetics between Chinese and Thai

2.3.1 The comparison of the consonants between Chinese and Thai

In Chinese phonetics, consonants are usually referred to as "the initials," which corresponds to the name for vowels, "the finals." In Chinese, "the initials" only occur at the beginning of Chinese characters; this is a unique point of Chinese. There are 21 Chinese initials.

The Thai consonant system is far more complex than the Chinese initial system; there are a total of 44 Thai consonants.

Summary: When Thai students learn Chinese, the consonant system of the native language is extremely complex, the correspondence to the Chinese initial is more than one to one, with the difficulty not being very high. However, Thai does not have the initials "zh,ch,sh,r,z,c," so it becomes a point of difficulty in learning Chinese pronunciation; the initial "h" also does not exist in the Thai consonant system, also becoming a point of difficulty in learning. In the study by Cai Zhengying and Cao Wen(2002) on pronunciation errors of Thai students, the error rate of "h" even reaches 100%. Additionally, the Chinese sounds of zh, ch, r, eng, er have similar sounding letters in Thai, thus students may directly borrow the sounds from Thai letters, resulting in errors.

2.3.2 The comparison of the vowels between Chinese and Thai

The Chinese vowel system is referred to as "the final." The finals are sounds produced by vibration of the voice box, so the finals are all voiced. There are 39 Chinese finals, and also include "er" and two apical vowels simple finals "-i (ɿ)" and "-i (ʅ)" to read the phonetics.

There are 39 Thai vowels, but only 28 are frequently used. A characteristic of the Thai vowel system is the symmetrical distribution of long and short sounds. Of the 32 Thai vowels, 24 are divided into twelve groups according to length. This clear characteristic is not present in the Chinese final system.

Summary: In summary of the above, when Thai students learn the finals, the following conditions occur:

Thai does not have ü [y], so students borrow u[u] as replacement. The reasons for this error are that it does not exist in the Thai native language; ü [y] is a sound pronounced with round lips with the tip of the tongue at the front; this method of articulation is less natural and many languages do not have such a method of articulation. This is a high level learning difficulty that naturally results in more errors.

2.3.3 The comparison of the tones in Chinese and Thai

Chinese has 4 tones, which have sound distinguishing functions; if the tone is incorrect, even though the same sound is pronounced, there will be differences.

There are five tones in Thai, which also have the function of distinguishing difference. Thai tones are generally pronounced longer than Chinese tones, so that when Thai students first learn Chinese, they make the error of dragging out words.

Thai has five tones. Thus when learning Chinese, Thai students generally use their native language tones to replace Chinese tones. Given below are the replacement conditions:

Use of the fifth tone of Thai to replace the Chinese second tone

Use of the Thai second tone to replace the Chinese third tone

Use of the Thai third tone to replace the Chinese fourth tone

This is the learning strategy most frequently used with Thai students, which is convenient for them, but also results in negative transference.

Summary: As mentioned above, the Chinese and Thai systems of consonants, vowels, and tones are all different, resulting in learning difficulty for students. When teachers teach, if they can understand the difference between the two language systems, it will mean less work to produce more results.

2.4 Literature review on children's linguistic development

In "Neurological Development and Children's Multilingual learning" by Chen Jinfen (2006), the author discusses in detail what "the critical period" means, and the relationship between neurons and linguistic development of children. It also discusses the relationship between the cerebral development of children and their ability to distinguish sounds.

In "A Brief Discussion of the Principles of Teaching Methods and Materials of Minnanese Language" by Liang Jionghui (2006), the author discusses the characteristics of children learning languages, emphasizing the influential relationship of "listening, speaking," and "seeing, listening," on children's memory and imitation abilities.

2.4.1 The child second language study with the "critical period"

Research by both Genesee (1978) and Kotik (1980) found that learners who have learned a second language before school age use their left brains, and second languages learned after 12 use the right brain.

In 1997, Hirsch et al. found that for those who begin learning a second language after puberty, the learning regions of the native language and the learning regions of the second language are about 9mm apart in the Broca's area, but those who begin learning their second language in the childhood almost have no distance between the learning areas of the second language and of the native language. In other words, bilingual or multilingual learning that begins in the infant stage uses the same part of the brain to learn two or more languages.

Penfield and Robert believe that CPH (the critical period hypothesis） is between 9 years old and puberty, while Lenneberg believes that it is from 2 years old to puberty. This is because after puberty, the linguistic functions at the side of the brain have almost been completed; if a new language begins to be learned after puberty, it would be very difficult.

Macro neurons specialize in lower level language activities, such as distinguishing sounds, and are formed by pyramidal neurons, which are fully developed in childhood. LCN (local-circuit neurons) specialize in cognitive ability and higher-level language activities, formed by stellate cells, which grow according to age and develop slowly; they are fully developed in adulthood. Thus, lower level language abilities reach a key stage earlier, and are more difficult to learn past the childhood stage; thus, it is easier for children to learn a second language than it is for adults to develop the pronunciation and accents similar to speakers of English as a native language. Therefore, it is known that the so-called "Child advantage" should be specific to a certain type of language ability (Chen Jinfen, 2006).

2.4.2 The relationship between brain linguistic mechanisms and children's language ability development

At birth, a baby already has all the neurons that the person will have in his lifetime and these communicate with electrical impulses (the language used by neurons). They continue to increase in size and complexity. The size of a brain at ten years is twice the size of a baby's, and an adult has the brain four times that of a baby. But the number of neurons does not increase; what increases are the dendrites, axons, and synapses of neural circuits; and their growth and gradual decrease is very much related to stimulations from the external environment.

Greater and stronger stimulations from the environment, the more lively the firings of neurons; the greater the connection with the target cells, the more remaining dendrites and axons remain, and the stronger the cognitive ability of the brain. Thus, we can deduce that "an excess of dendrites" means that babies at birth are ready to accept various different living experiences, and the external stimulations determine whether there will be more dendrites or whether they will degenerate, or even disappear completely (Penfield & Robert, 1959; Lennenberg, 1967). Simply put, genetics determines brain structure and the number of neurons, but later stimulation determines the neural circuits and their density.

In other words, the more that a baby is immersed in his own mother tongue, the more likely he is to lose the ability to distinguish the sounds in other languages. Once a baby learns his other tongue, the ability to recognize sounds becomes narrower, and the sounds that he makes are more restricted to what he hears from the surroundings. Even though people are equipped with the ability to recognize various different sounds, it disappears with the advancement of age. Children who grow up in unilingual environments have language mechanisms in their brains that only sense one language; they are very insensitive to sounds that are absent from the mother tongue. Thus, it can be said that language environment stimulation has a great influence on the functions of neurons (Chen Jinfen, 2006).

2.4.3 The relationship between cerebral development and the ability to distinguish sound in children

Huttenlocher (1994) mentioned that the speed at which each area of the brain grows is different. The sensory area completes the process of growth and degeneration before the motor area, where association areas are slowest, completed at around 25 years of age. Thus, the sensory abilities of babies begin with motor abilities, especially hearing.

Werker and Tess (1984) found that English babies between six to eight months can distinguish Hindi and North American Indian; when they are ten months old, their ability to distinguish North American Indian has decreased to 40%; when they are between ten and twelve months, their ability to distinguish these two foreign languages has decreased to 10%. Moon, Bever, Filfer (1992) also found that babies can distinguish sounds of different strengths, lengths, and different consonants in CVC (consonants /vowels /consonants) syllables. The sensitivity of babies to sound continues to improve until around 10 years of age, at which time it slows gradually.

Summary: In summary, the critical period hypothesis (CPH) is from 2 years old to puberty. Therefore, if a new language begins to be learned after puberty, it would be very difficult. Moreover, there is a great influence of language environment stimulation to functions of neurons during childhood.

CHAPTER Ⅲ

THE EFFECTIVE METHODOLOGY OF TEACHING INITIALS, FINALS AND TONES FOR THAI STUDENTS

3.1 The initials teaching

3.1.1 Keys to the initials teaching:

3.1.1.1 The students should learn the 21 initials, which may be classified according to the point of articulation and the pronunciation method studies, for example:

Bilabial sound " b-p-m"

Labio-dental sound " f"

Alveolar apical sound "d-t-n-l ," "z-c-s,"

Alveolopalatal sound "j-q-x."

Hard palatal sound " zh-ch-sh-r,"

Velar sound "g-k-h"

3.1.1.2 The student should be able to read the individual syllables: [zhi, chi, shi, ri], [zi, ci, si].

3.1.2 The initials teaching methods

3.1.2.1 Divide into six groups for teaching based on the place of articulation, move from easy to difficult, and determine the teaching method based on the student's age and degree of understanding.

3.1.2.2 There should be correct guidance and demonstration of places of articulation, the demonstrations can be exaggerated, especially for elementary school students in the lower grades.

3.1.2.3 For each group, one should begin with the difficult parts, and focus on teaching key points, for example:

1) "b-p-m-f." When pronouncing "f," encourage student emphasis on the "labio-dental characteristic."

2) "d-t-n-l." Due to negative transference of the Thai native language, sight-reading of "d" and "t" are often confused with the similar sounding letter in Thai for students. Thus, it is suggested that there be an emphasis on the sight-reading practice of "d" and "t."

3) "g-k-h." Due to the influence of English, students sometimes read "g" as the English G.

For this, it is suggested that one use the features of "representative names." For example, the representative name of "g" is "gēzi (pigeon)," which is used to bring out the initials "g." When teaching elementary school students, it is possible to tell stories about pigeons or their characteristics, in order to strengthen the students' impression of the initial "g." In later review, if students forget, it is possible to use the stories or characteristics to remind students. My experience has been that, as long as the features are hinted, most students will finally be able to say "gēzi-g."

4) "j-q-x." hem as the English G,Q,X. According to literature review, this set of the initials "j-q-x" do not exist in Thai, and is difficult for Thai students in phonetics, This is

especially the case for the initial “x”; however, there is a similar sound in Thai so students often use the Thai sound to pronounce it. In order to decrease errors, it is suggested that in pronunciation, first make the “i” sound to feel the location of the tongue. Then, the position of the tongue remains unchanged. Lift the face of the tongue so that air leaves it while vibrating. Practice “i-x.”

Evidently, it is because of the influence of their native language that Thai students cannot produce clearly sounding “j-q-x.” In particular, Thai students as “s-iè s-ie” and not “xiè xie” usually pronounce “xi.” Furthermore, it was found that Thai students often pronounce “xi” as the English “c.” They do not know how to place front of the tongue face near the hard palate, but rather pronounce the sound with the front of the tongue face touching the upper palate. With respect to this, it is suggested that alternative methods (see below) are used to decrease the errors for students:

“dà xiàng →hǎo xiāng→ xiǎng niàn →xiāng xìn→xiàn xiàng→xiè xie→xǐ huān →xì xīn →xí guàn→xī guā.”

5) “ zh-ch-sh-r.” For zh-ch-sh-r, it is known, as outlined in the literature review in Chapter 2, that this set “zh-ch-sh-r” is another point of difficulty in pronunciation for Thai students. Since the Thai language does not have the sound “r,” Thai students usually cannot pronounce it, due to negative transference of the native language. Thus, when the sound of “r” is practiced, the word is read and then broken up to read the letters; this method is recommended.

Rén → r + én = rén

rán → r + án = rán

réng → r + éng = réng

rùn → r + ùn = rùn

ruì → r + uì = ruì

then

ròu → r + òu = ròu

ruò r + uò = ruò

↘ **u+ò=uò** ↗

6) “z-c-s,” “z” and “c” are difficult for students to sight-read and pronounce. In terms of sight-reading, Thai students are like other English students in pronouncing “z” and “c” as the English Z and K. After correction over time, the error rate of foreign students is still higher than that of Thai students. Strategies of improvement in sight-reading and pronunciation include repetitive review and constant practice.

3.1.3 The initials teaching notices

3.1.3.1 The most important thing in learning the initials are place of articulation and method of articulation; if either one is incorrect, the word is not pronounced correctly. Thus, the sounds that students pronounce incorrectly are found here.

3.1.3.2 The methods that require repetitive practice and constant review can be conducted through game activities. At the same time, Chu Suying (1998) asserted, “using game activities to conduct repetitive practice helps to solidify.” Games do not necessarily have to be active or with a lot of motion; the content can either be static or active, depending on the conditions and stages of student learning.

3.1.3.3 Take caution to use the features of basic knowledge in children linguistic psychological and physiological to help elementary school students learn.

3.1.3.4 Teachers can also borrow English pronunciations appropriately to help learners feel and understand the pronunciation of Chinese. For example, use English to help distinguish “zh,ch,sh;” use words like BRIDGE, LUNCH, and SHIP, to help them comprehend the different pronunciations of these three different initials.

3.2 The finals teaching

3.2.1 Keys to the finals teaching

3.2.1.1 Students should learn the 39 finals, including:

1) The simple finals are formed with single vowel finals, including : “i,u,ü,a,o,e,ê” “-i

（ɿ）,” “-i （ʅ） ”and “er.”

2) The compound finals. The compound finals are formed with two or more than two simple finals, including: ai, ei, ao, ou, ia, ie, ua, uo, üe, iao, iou, uai,uei.

3) The nasal finals. The nasal finals are formed with the simple final and nasal consonants “n, ng” together, including: an,en,ang,eng, ün, in,un,ing,ong.

3.2.1.2 It is suggested that the learning sequence follow the pinyin song, and then use the comparative methods to teach the other finals.

3.2.2 The finals teaching methods:

3.2.2.1 The simple finals: Tongue locations of articulation, vowels whose lip shape and opening do not change are single vowels. The primary differences in single vowels are caused by different mouth shapes and tongue locations. In terms of place and principle of articulation, students should be learning the simple finals.

1) a,o,e. Basically, the pronunciation of these three simple finals are not problematic for students; the mouth shape is biggest when pronouncing the finals “a.” In order to distinguish the pronunciation of “e” and “er,” make the students put their hands on their throats lightly to feel the sound coming from the base of the tongue. Also, as concerns the sight-reading error of “e,” it is often pronounced as the English E. Only “read more, see more, more practice” can correct these errors.

2) The method of writing “ü” is very new to students; it does not exist in Thai, so it does not create a problem in sight-reading. Due to the negative transference of the native language, Thai students generally cannot pronounce this sound, and require practice and correction over a long time. The author also found that if the native language does not have this sound, it is possible to instruct and learn; unfortunately, the native language contains a similar but different sound, which means it takes time and energy to correct.

In view of this, the author has also designed some practices to guide the student.

yī（一）→wǔ（五）→yú（魚）→dà yú（大魚）→xiǎo yú（小魚）→bái yú（白

魚）→jīn yú（金魚）→qù kàn yú（去看魚）→ wǒ men qù kàn yú（我們去看魚）.

3.2.2.2 The compound finals. The unique point of articulation is through gliding one vowel to another vowel. For example, [ai] comprises [a] and [i]. When pronouncing this, first articulate [a], then move the tongue from low to high, the mouth shape becomes smaller to make the [i] sound. Thus, an articulation demonstration by teachers is very important.

1) Both the sight-reading and pronunciation of "ie-ei" are difficult for Thai students. In demonstrations, the teacher should exaggerated and and make the sounds slower to emphasize the differences in mouth shape and vowels.

2) The group of compound finals "ia, ua, uo, iao, uai," can be taught together, using the final-head and the finals vowel to make syllables, and the method of using one sound to glide into another vowel can be used. For example, [ia] is comprised of [i] and [a]. When pronouncing this, first articulate [i], then move the tongue from high to low, the mouth shape becomes bigger to make the [a] sound.

3) "iu-ui, üe-ün, in-un." These three groups of compound finals can be taught together. Use the method of comparison to show the letter cards of "iu-ui, üe-ün, in-un" in groups. For first grade students, it is recommended "representative names" be used to make a greater impression; simply pronounce without explaining the rules. For example: "iu-ui" is originally "iou-uei." The vowels in the front are light and short, the vowels in the back have unclear timbre, and the middle "o" and "e" are bypassed; when spelling and writing, treat them as two vowels, and mark the tone mark on the latter vowel. Such complex definitions do not have to be used.

3.2.2.3 The nasal finals "n, ng." The characteristic is that for the ending, air is trapped in the oral cavity, resulting in a closed place of articulation, which creates the nasal consonant.

1) Due to positive transference from the native language, Thai students usually pronounce "n" and "ng" well. When the "n" sound is pronounced, the tip of the tongue must be pressed against the front part of the palate, and breathe to release the sound. When articulating "ng," gently press the root of the tongue to the back of the palate, and breathe to produce the sound.

2) “an-en, ang-eng, ing-ong.” The teacher should emphasize “n” and “ng,” as well as differences from the voiced sounds. First read “an,” then read “ang,” and then make students imitate.

3.2.3 The finals teaching notices:

3.2.3.1 The simple finals: The simple finals are the basis for learning the compound finals; teachers not only have to have correct and make clear mouth shapes in demonstration, there should also be one-on-one listening to the student pronunciations. The four tones can be combined in teaching. This not only allows for practice of tone, but also can avoid mechanical repetition and elevate learning interest.

1) The alveolar ridge simple final “-i （ɿ） ,” the initials “z,c,s” are difficult to pronounce without adding a final, so we add the alveolar ridge simple finals “i” to prolong the “z,c,s” sound.

2) The hard palate simple final “-i （ʅ） ,” the initials “zh,ch,sh” are difficult to pronounce without adding a final “i,” so we add the hard palate simple final “i” to prolong the “zh,ch,sh” sound.

3) “er（ɚ）” This is only one retroflex final in pinyin. The “er（ɚ）”only means to retroflex the tongue.

4) “y” and “w” forms its own syllable. The rule of Hanyu pinyin is that changes in “i,u,ü” and the relationship between “y” and “w,” and using “y” and “w” are primarily used to avoid ambiguity and to make clear syllable boundaries, as letters that break up syllables, and teachers should make detailed example comparisons. For example: “liwu (present)” can be written as liu (留). It is easy for others to see these two syllables as a single syllable. Writing it as “liwu” would make distinguishing them easy.

3.2.3.2 The compound finals: use various supplemental teaching materials or borrow sounds from English letters to help students understand the way of articulating compound finals. For example: “ei” like “ay” in English “play.”

3.2.3.3 The nasal finals: teachers can use accurate pronunciation demonstrations so students can listen and compare the differences, then make students imitate; phoneme analysis is not necessary.

3.3 Tones teaching

3.3.1 Keys to tones teaching

3.3.1.1 Function of tones: tones are an important part of syllable formation. Regardless of syllables formed with the initials and the finals or syllables constituted with the simple finals, it is first necessary to know the tone. One of the most important characteristics of Chinese is tone. The same syllable with different tones has different meaning, and an incorrect pronunciation results in a totally different meaning.

3.3.1.2 The initial, the final, and tone are as a whole, similarly important in Chinese phonetics. Tone also has the function of creating discrete meaning; unclear tone creates misunderstanding, so a lack of clarity creates confusion. Teachers cannot overlook education of tones.

3.3.1.3 According to the four tones "high and level tone, rising tone, falling rising tone and falling tone" can be denotes to: the first tone-flat"—," the second tone-rising"/," the third tone - make an u turn" √," the fourth tone-falling" \ ." The main content for the tones include:

1) The four tones.

2) The neutral tone.

3) The raising tone sandhi.

4) The tone sandhi of "yi" and "bu."

3.3.2 The tones teaching methods:

3.3.2.1 First understand the native language of learners to find the sources of error.

1) First tone: when Thai students pronounce the "first tone" of Chinese, it is usually

too low and does not last long enough.

2) Second tone: when students pronounce the "second tone," it is frequently confused with the "third tone."

3) Third tone: when pronouncing the "third tone," the overall feel is that the beginning is not low enough, and the second part is not high enough, so the difference is not clearly heard.

4) Fourth tone: when pronouncing the "fourth tone," it is usually not hard enough. However, overall, the "fourth tone" is most easy for Thai elementary school students, with the lowest error rate; thus beginning with the fourth tone allows children to gain an easier grasp.

3.3.2.2 Grasp the fourth tone, practice tone changing. Begin practice with the example of the fourth tone, and then extend to the "second tone" and "third tone." When teachers teach the "second tone," they can use the sound-leading method – first pronounce the "fourth tone," which is easy for students, then work backwards to the "second tone." Finally, combine the "fourth tone" and "second tone," which teaches students to pronounce the "third tone" more accurately. When the teacher is demonstrating, he/she should pronounce the tone loudly and slowly, so students can understand the difference between the four tones.

3.3.2.3 Using the hand gestures to hint at the changes of four tones. In order to let students grasp the characteristics of the four tones, one can use hand gestures to hint the changes of the four tones, especially for elementary school students. For memorization, a set of oral commands was designed, along with motions. For example:

First tone "—" (flat: cross the arms and place them in front of the chest)

Second tone "/" (raise: bend one forearm, lift it and place it in front of the chest; bend the other forearm with the palm out upward, place the joint of this hand on the back of the first hand.)

Third tone " √ " (bend: lift the forearms and cross them before the chest, with the hands straight (look masculine, like "Ultra man," which students will love.)

Fourth tone " \ " (lower: arms down and lifted at the sides about 45 degrees, palms open and downward.)

Neutral tone is the original way, so jump up and down in one place.

3.3.2.4 Key to mark tones; follow the sequence of "a→o→e→i→u→ü," except "iu-ui." For non-native language children, "jingles" or "tongue twisters" are not recommended. This is because "jingles" or "tongue twisters" are more suited for distinguishing sounds, and the reading of each letter with its tone marked would take too much time. Simply follow the sequence of "a→o→e→i→u→ü," except "iu-ui." However, the "iu-ui" marks the tones always at the back letter. For example, "iu" marks the tone on "u" while "ui" marks the tone on "i."

3.3.2.5 Neutral tone: when reading the neutral tone, the tone is short and light.

3.3.2.6 The changes of "yi, qi, ba, bu" must be taught effectively by the teacher and practiced by the students regularly.

Additionally, it is suggested that after students have practiced pinyin for some time and have a basic concept of it, teachers should know how to conduct the further teaching.

3.3.2.7 Suffixation of the nonsyllabic "r" is not difficult to elementary school students.

3.3.3 The tones teaching notices:

3.3.3.1 A key to learning is the encouragement of imitation and memorization. In terms of children's psychological development, children absorb a large amount of outside information through the avenues of sight and sound. Every first signal that is different can attract the attention of children who save the image and sound in their brains. This is a natural mechanism that does not seek understanding. Because only memory decreases the burden of learning, it allows attention to be placed on other phonetic forms to be memorized. This is the prototype of language learning. This phenomenon of memory aiding language learning never ceases. The best time for this learning, according to psychological research, as is well known, is under 12 years of age (Liang Jionghui, 2006). Thus, teachers should consider how to sufficiently use the best time for children to memorize, so children can save a lot of language information in their minds, creating a basis for fluent language ability for when they grow up.

3.3.3.2 Using the words spoken in common daily life. This allows for the words encountered by learners to be found in natural language contexts, rather than in situations designed by the writers of teaching material.

3.3.3.3 Teachers should use other appropriate teaching resources, such as "tone connection practice," representative name cards, pinyin letter card games, and songs. "Tone connection practice" can be designed as the first tone with three different tones, then the second tone used with the three different tones; third tone with the three different tones; the purpose of this is so that in tone sequence practice, students can be used to the high-low phonology of Chinese to make a foundation for later Chinese. For example: "duo, hai, wo, ai" and "ting, du, xie, kan" and "zhe" then practice.

Summary: As mentioned in this chapter, the effective method of teaching the initials, the finals and tones for Thai students are recommended. At first, following the sequence of the pinyin song. Second, teachers could use the comparison method to teach the "iu-ui→ üe-ün→ in-un→ ing-ong. Third, keys to mark tones could simply follow the sequence of "a→o→e→i→u→ü," and also "iu-ui" marks the tones at the back letter.

CHAPTER Ⅳ

TO TEACH HANYU PINYIN IN THAILAND

The previous chapter introduced an effective method of teaching the initials, the finals and tones for Thai students. This chapter first lists the summary of the curriculum investigation of teaching Hanyu pinyin at the international schools in Thailand. Secondly, all articles and books about the methodologies of Hanyu pinyin are discussed. Finally, in the past few years, the author has worked ceaselessly in teaching Hanyu pinyin, and has conducted research on many teaching materials of Hanyu pinyin, in order to design a set of materials suitable for usage in the international schools of Thailand, in the hope of decreasing student exploration in phonetics, and to serve as a reference for Chinese teachers.

4.1 The curriculum investigation of teaching Hanyu pinyin at international schools in Thailand

4.1.1 Raumrudee International School (RIS):

4.1.2 New International School of Thailand (NIST):

4.1.3 St. Stephen's International School (SIS):

	(RIS)	**(NIST)**	**(SIS)**
Type of class	Elective language subject	Elective language subject	Compulsory language subject
Starts learning Hanyu Pinyin	Grade 6	Grade 2	Kindergarten 1(KG1)
Duration of learned Hanyu pinyin	4-6 weeks	1 year	2 years
Tutoring period	50mins/lesson Twice a week	40mins/lesson Four times a week	50mins/lesson Twice a week
Arrangement in timetable	Within daily timetable	After school learning timetable	Within daily timetable
Teaching materials	Chinese made easy	Topic base	Topic base

4.2 "Pinyin song" [seeing], [singing], [listening] methods

4.2.1 Method

Teaching Hanyu pinyin certainly takes a few class periods. For instance, first grade students have two classes per week and 50 minutes per class. According to the sequence of the pinyin song, if one set is taught per class, then it would require at least ten class periods. For fourth graders, they have better understanding and learning abilities than first graders. If two sets are taught per class, then it would require at least five class periods. Thus, either the ten or five periods are best times to use [seeing], [singing], [listening]. Before teaching Hanyu pinyin, use ten minutes to write the initials then the finals on the whiteboard with different colors; this is called the [seeing] method and is shown as follows:

聲母(shēng mǔ)	韻母(yùn mǔ)
b p m f	i u ü
d t n l	a o e ie
g k h	ai ei ao ou
j q x	an en ang eng er
zh ch sh r	
z c s	

The [listening] method take place after teaching the pronunciation method and techniques, in order to enhance the impression of pinyin letters upon students and to have a chance to rest and "self-digest" the materials. In the last 15-20 minutes, the teacher can design coloring and drawing activities while at the same time playing the "pinyin song" for listening stimulation; the other purpose is that when children hear the song, they can naturally learn to sing it, and after a period of time they will be able to know it without really having learnt it. This is the [singing] method. Also, when they quietness down, their minds become clearer

4.2.2 Function

Stimulation of the sight, hearing, and the physical mechanisms of articulation, and to enhance student impressions and gain a feel for the language.

4.3 Letter "representative name" method

4.3.1 Explanation

"Alphabet representation" means that each pinyin has a representative name. As the targets of instruction are elementary school students, any method that increases their interest or can make a greater impression is a good one.

The author's experience over the years has demonstrated the advantages of:

1. For students of international schools, it is not difficult to remember the sounds of b,p,m,f,d,t,n,l. Because of this, it is possible to use "representative names" to be familiar with initials, finals, and tones of Chinese, while learning some new words at the same time.

2. Enhance the instructional contents and activities. In fact, teaching Hanyu pinyin easily makes students feel bored and lose interest. Especially when having their pronunciation corrected, it is easy for children to lose patience. Therefore, it is necessary to think of various activities to keep their attention, including:

4.3.2 Method:

1. Static activities:

(1) "Representative names" coloring activity (lower grade students) –see Appendix 3. The drawing of representative names allows students to draw "qiānbǐ-b, píngguǒ-p, xiǎomāo-m" etc., and fill in the colors. These are activities for second and third grade students; it is also possible to let children make a "pinyin book"- see Appendix 4.

(2) "Fill in the blanks" activity. Design a "pinyin chart" to fill in the missing letters of pictures – see Appendix 5.

(3) "Listening and writing activity." The teacher says the representative names and letters, and students draw them. For example: for b, draw a pencil (qiānbǐ) and write "b." For children whose native language is not Chinese, the pinyin that they learn must still be in the beginning stages. If "total language" education is used for students who only have two class periods a week, it will cause a "chaotic." Most of their time they use English (or other native language), so this is the best time to give them and for them to listen to some new Chinese words.

2. Active activities:

(1) "Show and Tell." Allow students to act out the features of the representative names, no sounds or questions are allowed, and can be conducted in words. This is also another favorite of the students.

(2) "Card-hitting activity," mixing up the representative name cards and the letter cards and then sticks them on the whiteboard. Divide students into two groups. Give each group a flyswatter, to swat the spoken picture card or letter. This is most suitable for the letters that tend to be wrong in sight-reading, such as: g,j,q,x,z,c,s,u,ü, etc. For this activity, students tend to be very excited, and teachers need to watch out for their safety.

4.3.3 Function:

1. Later during review, the best function of hints is that students can use them as a basis for thinking. For example, for "gēzi-g" the teacher can say "How to say pigeon in Chinese?" When students can say "gēzi-g," they know the answers on their own.

2. Practical teaching experience shows that, even though this takes a long time to do, it is only this way in the beginning. If it can be continued for three to four years, later instruction becomes very easy, and students will get used to learning without textbooks, and can make intelligent reactions.

4.4 "Induction" methods

4.4.1 Method:

Use the pronunciations of English letters to lead into "b-p-m-f, d-t-n-l," and this is easy for students of international schools. However, it is important to note the method of articulation. Only show one card per time, and see how students do in one period of class. For first grade students, in 50 minutes, teaching them the four initials of b-p-m-f should be enough, and no more than d-t-n-l.

4.4.2 Function:

When designing b, for the first two years of teaching Hanyu pinyin I had used "(qiānbǐ) pencil-b," and the original consideration was:

Every child knows "pencil," it is easy to draw, and when playing games the meaning of pencil is easy to convey, easy to guess. Most importantly q-i-ān can accentuate familiarity with the Hanyu pinyin "q," to decrease the interference of English.

Also, there are great and extensive possibilities for "pencil." Teaching "pencil" allows for expanded teaching of classroom stationary vocabulary like "erasers and rulers," so that when these things are needed they can be spoken in Chinese.

It has the effect of "stabilizing" the class. For example, when class has started and students are still bored or moving around, the teacher can say "please put your pencil, eraser, and ruler on the desk." This is preferable to yelling at them to "stop talking" and have them ignore you. Speak slowly and clearly, and if that does not get the attention of the students, the tone can be amplified. If it is found that some smart students have started to take notice, then one can write pinyin on the white board, and use the opportunity to practice Hanyu pinyin; if students still do not understand, one can draw pictures of pencils, erasers, and rulers next to the pinyin.

Later "bānmǎ(zebra)-b" was also attempted, because:

"Zebra" is easy to pronounce for Thai students.

For new students who are just starting school who are not good at English, it is easy for them to understand "zebra." If the children really cannot understand, zebra in Thai is called "malai /málay/" which is not very difficult for non-Thai speaking Chinese teachers to learn.

In fact, both "pencil" and "zebra" work well for Thai and foreign elementary school students at international schools.

"xiǎomāo(cat)-m" In the first couple of years, "māomī(cat)-m" was always used, and then it was found that in Thai, cat is "maew/mæ:w/." Later things were much better when "xiǎomāo" was used.

4.5 "Association" method

4.5.1 Method:

"gēzi-g." For Thai elementary school students in international schools whose native language is not English, when "gēzi-g" is mentioned, it is difficult for them to remember. However, when they see the pinyin letter "g," they will pronounce the English G, and if the picture of a pigeon is shown, students will try to pronounce the sound "g." In this way, repeated simultaneous stimulation with "pictures" and "letters," allows students to memorize more effectively clearly, and there is a significant decrease in the rate of errors. In order to deepen the students' impression of "gēzi," the teacher can tell a story about "pigeons." The purpose of this is that, if students forget during review, they can use the hints from the story. For example, "this animal is like the postman, and always on time when delivering mail!" or "we should have the same spirit and perseverance like that."

"kŏngquè-k" is not easy to pronounce for most Thai students. There is the initial "q" and there is the compound final "üe," but the letter "k" is easy to guess, and also "kŏng" and "què" words can allow students to practice the model of Chinese tones, and when reading aloud, there can be exaggerated reading in order to emphasize the difference of kŏng(2-1-4) and què(5-1).

"jīdàn-j." At first, students most certainly will make the English J sound automatically, but after instruction and learning, in terms of sight-reading, students with English backgrounds make more mistakes than Thai students, often still pronouncing it as J. The way to correct this is to ask students whether in Chinese there are eggs like "jēi-dàn."

"qĭ'é-q" At first, students most certainly will make the English Q sound automatically, but after instruction and learning, in terms of sight-reading, students with English backgrounds make more mistakes than Thai students, often still pronouncing it as Q.

"xiāngjiāo-x." For Thai students, "x" is the most difficult to pronounce of all the initials. In terms of sight-reading, Thai students either pronounce it as "eks" or simply the English X. Students with English backgrounds do not do much better. However, students with English backgrounds do not have problems pronouncing "x[ɕ]" but this is difficult for Thai students.

According to literature, the three the initials "j, q, x" are syllables that do not exist in Thai. They are pronounced by using the face of the tongue. Xu Xiaoying and Zhou Xiaobing (2006: 18-19) also suggest that for Thai people, the most difficult is "x." When pronouncing it, first say "ī" to feel the location of the tongue. Then, maintain the tongue position and lift the face of the tongue slightly, so that air can vibrate out form it. Practice "i-x."

"tàiyáng-ai, dāozi-ao, xiăogŏu-ou." For international school students, "ai,ao,ou" are not difficult to pronounce, especially for elementary school students. But "ao" is often written as "au." Similarly, use the "association method" to deepen student impressions.

4.5.2 Function:

In fact, pigeons and peacocks require more thought from Thai students to remember. The author thought about using other representative names, but as "gēzi-g, kǒngquè-k, húdié-h" are all animals, it was considered that this is more helpful for association. The initials of "j-q-x" are all alveolar palatal sounds, connected readings of j→q→x allow for decrease of phonetics errors for "x."

4.6 "Comparison" method

4.6.1 Method

The three "zǐsè-z, cǎoméi-c, sōngshǔ-s" are usually taught together, "zhīzhū-zh, chīfàn-ch, shīzi-sh, rìběn-r" at the same time. The teacher leads a round of readings, and then verifies the pronunciation of students, and finally conducting practice of individual letters.

A point worth reminding here is that "zh,ch,sh,r" and "z,c,s" must be reviewed together. When practicing "z,c,s," do the "retracting" motion, which involves the palm up with the four fingers together and retract upwards, representing the retroflex tongue. When practicing "z,c,s," the palm is down, the fingers are together and flat, showing a flat tongue. This shows the difference so that can be understood by students.

"zǐsè-z." For the letter "z," students with an English language background usually sight-read it as the English Z. After corrective practice over time, it can be improved a lot. However, after more time, most students still make the same mistake. Thai students are better and after a few corrections, they take more care in pronouncing this sound. Later when they encounter it, they still make mistakes. However, overall, they are easier to correct than students with an English language background.

"cǎoméi-c." For the letter "c," students with an English language background and Thai students, there is a high error rate in sight-reading, with the letter being usually pronounced as the English K or "k." After modification and practice after a period of time, most students still make the same mistake. In order to allow students to better distinguish the pinyin letter "c" usage of the writing involving "classroom tools" begins. e.g.,

I need your: bái bǎn, bái bǎn bǐ, bái bǎn cā

Similarly, it is possible to use comparisons to teach "ānquán-an, dàmén-en, xiǎoyáng-ang, péngyǒu-eng" relying on English pronunciation. "an, en, in, un" are not difficult for students. Use "an" to strengthen the nasal sound to "ang," and emphasize this to students and make comparisons. When they see the syllable coda "ng," they should feel that the sound comes out of the nasal cavity. Then practice "ang, eng, ing, ong,"and students will quickly understand. Then, read "an-ang, en-eng, in-ing, un-ong" set by set, clearly and slowly.

"èyú-e, ěrduō-er" can be used to compare the differences between retroflex sounds.

"yóuyǒng-iu, wéixiào-ui," "yéye-ie, bēizi-ei," "yuèliang-üe, báiyun-ün," "yīnyuè-in, wénzi-un." These four pairs seem very similar and it is therefore very easy to make errors in reading them. Only the method of comparison can "accentuate the difference" and leave a greater impression on students.

In pronouncing "ie- ei," Thai students usually cannot distinguish them. Thus when demonstrating, one should be more exaggerated in the sound and shape of mouth, to accentuate the difference. When pronouncing "ie," the mouth is half open, the corners of the lips are spread. "i-e" should be weak first and strong later, gentle first and loud later. When pronouncing "ei," the mouth is smaller and the corners of the mouth are slightly open.

In marking the tones of "iu- ui," remind students that the tone marks are always on the latter letter. In articulation, emphasize the features of "i" and "u" by hitting the head.

For "üe- ün," emphasize the ü feature of hitting the head.

"ie-ei, iu-ui, üe- ün, in-un" These four pairs seem very similar and thus it is very easy to make errors in reading them. Only the method of comparison can "accentuate the difference" and leave a greater impression on students.

4.6.2 Function:

"zh-ch-sh-r" are usually taught together, meaning the four picture cards can be shown at the same time. The teacher leads a round of readings, then verifying the pronunciation of students and conducting a practice of individual letters. Especially concerning the three sounds "zh, ch, sh," students with English backgrounds usually have no problems, but Thai students usually make mistakes; they usually curl their tongues and usually curl it too much, due to the interference of their native language.

4.7 "Adding tones" method

4.7.1 Method

As mentioned in the previous chapter, sets of short phrases are designed for the sake of memorization. When teaching tone, if time allows, these short phrases can be used to lead into some activities in order to increase the students' ability to distinguish different tones.

4.7.2 Function:

1) The "lǎba-a, wòshǒu-o, èyú-e" group of the simple finals can be taught together. Usually after teaching these finals, teaching on tone follows because the three simple finals of "a-o-e" are easy to pronounce and there is a big difference in mouth shape which is easy to distinguish for students. These few finals can be complemented for practice. Here only a general introduction of how to pronounce the first, second, third, fourth, and neutral tones is given. As for the structure and value adjustment of tone, this will certainly be encountered in later practice, and it will be easier to teach them at that time. Now, practice the finals "a-o-e," and practice "ie" later.

When the activity begins, one should begin with the tone that is easiest to distinguish – the fourth tone. The fourth tone (such as: à, è, ò) should be as clear and slow as possible, and the number of repetitions can depend on the situation of the students. After students can make the distinctions, the speed can be increased, and finally the students can be told to close their eyes and only listen with their ears. The teacher can read it three times and once the teacher calls out stop, students have to stop until the teacher says they can open their eyes. At this time, it is easy to tell which students understand the basic concept, and it is also the best time to correct tones. The teacher can also appreciate the naïve ways of the children.

4.8 "Storytelling" methods

4.8.1 Method

"yīshēng-i" When teaching "yīshēng-i," teach "yīfu-y" at the same time, so students can compare.

Similarly, when teaching "wūpó-u," also teach "wūguī-w," so students can automatically tell the difference.

Story 1: i-u-ü becoming yi-wu-yu

After showing all five alphabet cards of"yīshēng-i, yifu-y, wūpó-u, wūguī-w, yŭsăn-ü," lead the reading once and then remove "yīfu-y"and "wūguī-w." Draw a dad and an equal "="sign next to it. Say that y and w are dads. The next three are arranged according to the sequence of "i-u-ü" and draw a baby at the very bottom. Then ask the students who are "i-u-ü," and soon the answer will appear.

Ask students when they are little babies, if their dads and moms must leave them at home by themselves. Students will certainly say no, so now remind the students to say "Remember! The little baby is definitely not allowed to stay at home alone. Your parents will come and help."

Story 2: Where are the hats for i and ü?

Step 1: First show "yīshēng-i" and then read " ī í ĭ ì ." The tones mark can be marked on the whiteboard. One can ask whether the students want to remove the "·" on top of the "i." If the students say remove, remove the dot. If they say keep it, then write the tone mark over the "·." Then let students flip through the letter cards, and the correct answer will naturally appear when asking the students "ī í ĭ ìi."

Step 2: Then ask whether these are dads or babies? Can babies be alone? Who would come with you? At the same time add "y": "yī-yí-yĭ-yì-yi."

Step 3: The final "yŭsăn-ü" can be taught in the same way. In order to accentuate the change of the final "ü" after it has added a tone mark and used the story of dad "yifu-y." Dad "y" would definitely not leave baby "ü" at home, so when dad "y" rushes home, baby "ü" feels very calm now that dad is home, and closes his eyes. "y" + "ü" = "yū-yú-yŭ-yù."

Step 2: "Baby "i" cannot walk in front, so the dad will come help. When the dad "y" has come, baby "i" is very happy and jumps onto dad's stomach to hide."

Step 3: "ya, ye, yao, yan, yang"

Story 4: "j, q, x" Aunties

Earlier it was mentioned that when introducing the finals "i, u, ü," arrange the letter cards in sequence, then draw "baby" and "=" on the bottom. The purpose of this is to point out that among the three "babies" "i, u, ü," "ü" is the smallest. So when aunties "j, q, x" come, they will visit the smallest "baby" "ü" first, for example:

「j」 ↘ 「q」 → ü 「x」 ↗	when aunties "j, q, x" come, they will visit the smallest baby "ü" , and baby "ü" will feel secure, then close eye 「·」 sleep.	= 「jū, jú, jǔ, jù」 = 「qū, qú, qǔ, qù」 = 「xū, xú, xǔ, xù」

Note: (1) It is also necessary to remind students that when they see jū-qū-xū, whether the ending "ū" is "u" or "ü." Aunties "j, q, x" are most worried about the smallest baby, right? This is because there are no sounds of "ju,qu,xu" in Chinese.

(2) When trying "j, q, x," and "ü," the teacher can changes the finals "üe, ün" to "juē, qūn, xūn" and can also change the initials "l, n" to "lü, nü." Here, the students are often tricked and remove the two dots over "ü." Now the teacher can remind students that "j, q, x" are aunties, but "l" and "n" could be strangers or bad people. If the eyes are closed, if the dots are removed, the little baby could be taken away or tricked.

4.8.2 Function:

According to the aforementioned literature review, it is known that when establishing zhuyin and pinyin, considerations of the system's completeness and correspondence to the ancient Chinese sounds, the syllables do not sometimes completely correspond to the alphabet. In teaching practice, it is important to point out these syllables that do not fully correspond,

4.8.2 Function:

According to the aforementioned literature review, it is known that when establishing zhuyin and pinyin, considerations of the system's completeness and correspondence to the ancient Chinese sounds, the syllables do not sometimes completely correspond to the alphabet. In teaching practice, it is important to point out these syllables that do not fully correspond, and when singly writing syllables with final-head, the rule is that "i, u, ü" need to be written as "yi, wu, yu" so that students can use them well without memorizing. Thus the other learning point of "i, u, ü" is the form of writing. Other than when the dot must be removed when tone is added, sometimes "y" and "w" must be added, which sometimes results in. All these matters will keep the students busy. The author thought for a long time about this. Not only reading much information and studying them, but also considered that even though it may be possible to explain the change rules to children over 10, it would not be very effective to make children under 10 sit there and listen to the rules. This would be impossible for children between 4 and 5. Based on these factors, I designed a "pinyin story" so use the characters in the story help children learn the change rules in pinyin.

4.9 "[i] Shadow" methods

4.9.1 Method

First show the row of the initials "zh-ch-sh-r, z-c-s." I believe that the students can read these loudly. Then, tell the students that they only need to pronounce "zh-ch-sh-r, z-c-s" in voiceless and then demonstrate the way to read them voiceless. Finally, add "-i," then read "zh-ch-sh-r, z-c-s" and circle "i," emphasizing that the purpose of "i" is to prolong precede words. It is not the baby "i" or dad "y" in the story. It is not anyone. It's just a shadow, [i]. This is also called the "[i] Shadow method."

4.9.1 Function:

The "-i（ʅ）" at the end of the initials "zh-ch-sh-r" and the "-i（ɿ）" at the end of the initials "z-c-s" are special finals as both prolong the sound of the word. Similarly, elementary school students do not need to understand such complex reasons; thus, another method is used for explanation.

Summary: In summary, this chapter mentioned how the main methodology of teaching Hanyu pinyin has been conducted, and also how the experimentation of all these years has demonstrated the advantages for both teachers and students. It also supplied ideas to teachers about how to increase student's vocabulary, how to avoid the students feeling bored and losing interest and how to calm down the students when class begins. For students, it increases their interest or can make greater impression is a good method, the best function of hints in the later review. Moreover, for both teachers and students, the teachers can enjoy their teaching more while the students also could be enjoying learning more too.

CHAPTER V

CONCLUSIONS AND SUGGESTIONS

The workflow of the research carried out has the following main points: (1) The motivation, the purpose and the importance of teaching Hanyu pinyin for elementary students at international schools in Thailand (Chapter I); (2) The literature review, details the history of the evolution and the sound and how Hanyu pinyin finally came about; the methods for producing and dealing with language and the physiological structure of articulation; the comparison between Chinese and Thai phonetics (Chapter II); (3) The methods, the key points and the notices of teaching the initials, the finals and tones for Thai students (Chapter III); (4) The teaching methods designed by the writer to meet the practical needs of Thai students are recommended (Chapter IV). The following is the conclusion of the research process and the results.

5.1 Current problems in teaching Hanyu pinyin

Below are some problems with the way Hanyu pinyin is currently implemented and taught in international schools in Thailand:

Regarding Hanyu pinyin itself, it has been found that (1) Students still cannot pronounce "j,q,x" properly, especially "x." It does not exist in Thai, so students often borrow the sound from their native language to make the sound of "x." Therefore "xi" is pronounced like "s-ī"; and the "x" pronunciation of Thai students is tight in the voice box with a stronger flow of air, like s [s]. (2) As for the initials "zh,ch,sh," and "z,c,s,," obviously due to the interference of English, the sight-reading errors of "z,c" are more serious. Even if the students have been constantly corrected, they improved upon the phonetic errors. (3) Thai students make many "phonetic errors," and the final "ü" is most likely the most frequent of all. Such a high rate of error is due to the outer environment. Although after years of correction, some of the fourth and fifth grade students think before pronouncing it and even a rare few can evaluate their own pronunciation, most students still cannot correct themselves properly. (4) When "ie, uo, ua," pronounce alone, students can pronounce it well, but when spelled with any initials, it usually produces errors e.g. students pronounce "wǒ" well, but when pronounce "guǒ" they pronounce it as "guǎ."(5)The first tone is not high enough and not maintained long enough. The second and third tones are easily confused.

Additionally, Chinese is their third language, so most of the students lack enthusiasm in their attitudes towards learning it. Also, there are only a few course hours; the schools focus on English rather than Mandarin, thus affecting the learning of students. Moreover, there is really no opportunity for a student to converse in a Chinese speaking environment, so the pronunciation errors are difficult to correct. Finally, there are only 39 symbols in Chinese phonetics, so it is difficult to create variation in teaching; and also there are insufficient teaching materials. Therefore, to compensate for the lack of materials, most of them are made by the teachers themselves, and this takes a lot of time.

5.2 Suggestions for current teaching of Hanyu pinyin

Below are some suggestions and improvement strategies for the problems involving the current teaching of Hanyu pinyin in international schools in Thailand:

For Hanyu pinyin itself: (1) The source of phonetic error for “x” is because of interference by the native language. It is suggested that every time the initial “x” sound is made, remind students to leave the part of the front of their tongues open, put it back, and use the front of the tongue to approach the hard palate. (2) Guide students to pay attention on “input corpus,” and encourage them to try “output corpus.” by themselves. (3) For helping them improve upon these tone errors, correct them every time they make a mistake, and frequently practice the “tone connect practice.”

Beside the pinyin itself, there are also some more suggestions. For example, since the learners are elementary school students and the teaching goal is to make children learn Hanyu pinyin eventually, whatever method is used for teaching, as long as the teacher is comfortable with the students, he/she will be able to teach students effectively. Additionally, daily classroom use words should be frequently spoken in Chinese, such as “textbooks, pencils and erasers,” in order to increase the familiarity of children to new words. Also, the number of terms can slowly be increased, and over time these become considerable.

The author has personally tested the students and their phonetic errors in pronouncing words. The method used is to allow students to pronounce 20 phonetic mistakes frequently made by Thai students, (such as: j, q, x, zh, ü, et. al.) and it has been found that students make fewer errors with the words frequently spoken by the teacher, such as good morning, pencil, eraser, etc. Thus it can be said that the input corpus is extremely important to children. Moreover, set up a “certain sentence” in Chinese, and insist students speak it. When elementary school students are in class, sometimes they will ask to drink water and use the bathroom, thus some “certain sentences” should be used. For example, if the teacher asks the students to know how to say “Can I have a drink of water?” or “Can I use the bathroom?” if children really want to do these things, they will figure out how to learn them. However, when teaching a “certain sentence,” they should be taught gradually and actions should be added to increase interest. Furthermore, apply the pinyin theory as a learning strategy to establish a good learning attitude for children, to build up effective learning techniques as foundations for the future. Even though first grade students do not have Chinese backgrounds, and their vocabularies are still in the input stage, if the teacher can use various methods and teach them patiently, the children will produce their own output when they have sufficient vocabulary. Finally, teachers should appropriate the teaching materials and tools for application. For example, teachers should first absorb, comprehend, and understand all teaching materials, and teach them to children in ways they can most accept. Add some easy Chinese characters to increase the sense of reality. The process of teaching pinyin can also add the concept of stroke order, and then pinyin is used to teach simple Chinese characters, such as 大 (big), 小 (small), and 人 (person).

In fact, only teachers understand the needs of their students. Teachers can select the most appropriate and effective teaching materials based on actual conditions, or even collect materials most appropriate to their students. Suitable and useful teaching tools are actually a shortcut toward successful teaching. Chinese phonetics only have 39 symbols, including 21 initials and 39 finals with 4 tones, it is difficult to make changes in teaching methods. However, if teachers can devote more effort, good teaching materials will require teacher interpretation. If the existing teaching materials and tools have some changes made to them, I believe that the new generations will be able to speak fluent standard Chinese.

5.3 Suggestions for Pinyin instruction in different grades

Different teaching methods should be used for elementary school students from different grades who learn Hanyu pinyin. For example, those who begin learning Hanyu pinyin in kindergarten can use short but frequent courses, such as 20 minutes per class three times a week,. At this age, children are active but have low concentration. Thus, using audio and visual methods to give frequent stimulation will allow for the phonetic forms to be saved in the brain as memories. Additionally, the "phonetic-distinguishing" ability of children cannot be overlooked. If this ability can be further used, many future pronunciation problems can be resolved.

At the international school the author works at, Chinese courses begin with the first year of kindergarten (KG1). In the last semester of KG1 (the third term), in these ten-minute daily classes, these initials will not take too much time. Thus, in the second year of kindergarten, all of Hanyu pinyin can be taught. In the third year of kindergarten, it is not only possible to learn pinyin methods of greater difficulty and different practices can be done based on difficult points. Thus, with sufficient time, teachers can teach happily and the children can learn happily. For the first and second grades, normal teaching methods can be used such as, 50 minutes each class twice a week. First grade students are in the transition between infancy and childhood. Children in this stage are not good at understanding, but are good at memorization, have decent concentration and tend to enjoy activities such as drawing and writing. Thus it is suggested that the "representation method" be used to teach Hanyu pinyin. Various methods of content design in the classroom have already been mentioned. For the third and fourth grades, use the "pinyin song" and "iu-ui, üe-ün, in-un, ing-ong," for comparison when teaching Hanyu pinyin. Finally, for the fifth and sixth grades, it is suggested that the initials "b-p-m-f, d-t-n-l, g-k-h, j-q-x" and the finals "a-o-e, ao -ao-ou, er," can be introduced at first, then comparisons with "zh-ch-sh-r, z-c-s, i-u-ü, y-w, ie-ei, an-en-ang-eng" and "iu-ui, üe-ün, in-un, ing-ong," be used. Also, comparisons be used to show the small differences between them. Pick the special characteristics, so that students can remember through their understanding. At this stage, students can make "pinyin charts," to be used to remind them, without solid memorization.

5.4 Suggestions for future research development

In order to make elementary school students learn Hanyu pinyin and enhance the accuracy of pronunciation, the author also designed a set that shows the relationship between y,w and i-u-ü and the influences they have upon each other. This has been illustrated in Chapter 4's "Storytelling." However, the story given in that chapter cannot be used to explain (iou, uei, uen, üen) being written as you, wei, wen, yun as independent syllables. Thus, I hope that teachers who research teaching methods relating to elementary school students who learn Hanyu pinyin can conduct research in this area, and find a method to create stories that are even more attractive to children, in order to achieve more ideal teaching.

When teaching Hanyu pinyin, the learners were students at the international schools where the author taught. Most of the students' mother tongue was Thai with only a few students speaking English as their native language. In the process of teaching, not only do Thai students make phonetic errors, but students whose native language is English also do so. Further, it has been found that the mistakes are in different places. However, due to the lack of sufficient numbers, it was impossible to conduct further studies on the students whose native language was English. Thus, I hope that I can continue research in this area to provide more references to teachers of Chinese.

作者簡介

陳淑娟(Ms. Shu-Chuan Chen)，女，臺灣臺北人，一九六七年十月五日出生。一九九八年底開始從事漢語教學工作，再進修台師大教育學分班及海外華語專業教師學分班，二〇〇一年起任教於曼谷的國際學校，二〇〇四年就讀朱拉隆功大學文學院東語系漢語專業中文作為外語教學碩士國際課程。