

The Pedagogy of Learning: Engaging Teachers in Observing Children’s Spoken Word Errors for Professional Development*

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Abstract

Effective teaching requires teachers to have shared understanding with learners. If learners see the world in a way different from that of the teacher, the teacher may not be able to make connections with the learners, thus failing to convey the instructional content to them. Along this line, our project adopted the notion of ‘the pedagogy of learning’ and involved iterative cycles of research on children’s ways of seeing and the professional development of kindergarten teachers. In terms of research, we investigated the qualitatively different ways of seeing of children as manifested by the errors in the spoken words they used in everyday conversations in kindergartens while they learned to speak. Over the three years of the project, we had engaged a total of 254 in-service kindergarten teachers in observing children’s errors in their own kindergartens. A pool of 788 children’s errors was collected

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* Some of the early results of this project were presented in Asia-Pacific Symposium for the Teaching of Asian Languages, The Seventh CLS International Conference at National University of Singapore, Singapore in 1-3 December 2016.

and 5 categories of errors were inductively identified: sound imitation (A), non-existent combination of characters from words (B), inappropriate use of the spoken forms of words (C), use of characters with inaccurate meanings (D), and creative exploitation of characters with relevant meanings (E). Concerning professional development of in-service kindergarten teachers, we presented the five categories of errors to the teachers in our professional development programmes to explore what they needed to know to teach children to correct each of the categories of errors and to use the appropriate spoken words. The presentation generated stimulating discussion among the teachers, inducing them to reflect upon their understanding of the Chinese language and their scientific knowledge about the world. On the whole, this project put forth the positive value of children's errors and called attention to the potential contribution of the notion of the pedagogy of learning in improving the teaching of teachers for children to learn Chinese.

Keywords: error analysis, phenomenography, spoken words, teacher education, the pedagogy of learning

1 INTRODUCTION

A teacher in front of a class of children pointed at a picture card with the word 大鵝 ‘big goose’.

Teacher: What is this?

Child: 小鴨 ‘little duck’

Teacher: No, no. It’s a 大 ‘big’ ... 大 ‘big’ what? [expecting child to say 大鵝 ‘big goose’]

Child: 大鴨 ‘big duck’!

(Level: K1, 10 children, Location: Kowloon City)

We, the authors, observed the above conversation in a kindergarten in Hong Kong. The teacher tried to induce the child to say 大鵝 ‘big goose’ by giving the hint that the answer began with the word 大 ‘big’. But the child was stuck with the word 鴨 ‘duck’ in mind. Despite taking the hint of the teacher, the child gave the wrong answer of 大鴨 ‘big duck’. In this conversation, the teacher and the child focused on different aspects of the same word in the picture card (i.e., 小 ‘little’ or 大 ‘big’ against 鴨 ‘duck’ or 鵝 ‘goose’). Their interpretations of the problem differed, causing the breakdown of communication. The teacher failed to teach the child due to a lack of shared understanding with the child.

In this paper, we report the results of our project to enhance kindergarten teachers’ understanding of children’s ways of seeing. We are teacher educators in a university by profession, striving to facilitate kindergarten teachers to improve their teaching of Chinese. The nature of the project reported here was for research as well as professional development of teachers. In the project, the notion of ‘the pedagogy of learning’ was adopted to improve the teaching of teachers through engaging them in observing children’s ways of seeing as manifested in the errors in the spoken words the children used while learning to speak.

This paper is organised as follows: in the next section, we will introduce the notion of the pedagogy of learning. This notion is then put into the context of the learning and teaching of Chinese, in which our project was implemented. Then we

will report the results of our investigation into the different categories of children's errors in the spoken words they used in speech, followed by the kind of discussion generated as we presented the results to in-service kindergarten teachers, who taught in kindergartens during the daytime, in professional development programmes. This paper will be concluded with a discussion of the positive value of children's errors and the potential contribution of the notion of the pedagogy of learning in improving the teaching of teachers.

2 PHENOMENOGRAPHY AND THE PEDAGOGY OF LEARNING

Our project adopted the notion of the pedagogy of learning termed by Professor Ference Marton as a helpful way for teachers to improve their teaching. The pedagogy of learning was developed under the broader research tradition of phenomenography. Before proceeding to explain what the pedagogy of learning is, we need to clarify some of the assumptions that underpin the phenomenography tradition.

Phenomenography has been widely used as a qualitative research approach for investigating learning and teaching in Australia, Hong Kong, Sweden, and the United Kingdom (e.g., Bowden & Marton, 1998; Entwistle & Ramsden, 1983; Marton & Tsui, 2004). It places special emphasis on the content of learning. Marton et al. (2004, p. 3) argued, 'it is highly unlikely that there is any one particular way of arranging for learning that is conducive to *all* kinds of learning [original emphasis]'. Phenomenography is unconcerned about general teaching arrangements (e.g., Should less whole-class teaching, more project work or more information technology be used?). Marton (2015, p. 22) suggested, 'learning is always the learning of something: there cannot be any learning without something being learned. Focusing on what is learned implies focusing on the content of learning'. For that reason, the principal concern of phenomenography rests in the content or, more accurately, the specific topic learners have to learn (called the

object of learning).

Following from this, phenomenography explains that if different learners focus on different aspects of the same object of learning, they may see it as different. Since the learners' ways of seeing the object of learning are different, they get different meanings out of it (Marton, 2015; Marton & Booth, 1997). Learning is seen as a change in learners' ways of seeing. Teaching is a systematic effort of teachers to organise the work in classrooms to bring about changes in the learners' ways of seeing from their existing ones to the more powerful ones (e.g., the correct definitions in textbooks). Learners act in accordance with the object of learning as they see it. Powerful ways of acting originate from powerful ways of seeing. Phenomenography admits that there exist more powerful ways of seeing.

Under this tradition of phenomenography, the notion of the pedagogy of learning was proposed. 'The pedagogy of learning means taking learning as the point of departure and exploring the conditions that might be conducive to bringing that learning about' (Marton et al., 2004, p. 35). If a teacher and her learners differ in their ways of seeing, the learners may see the object of learning not in the same way as that of the teacher. Thus, to understand what learners really see, teachers must get hold of the different learners' ways of seeing. Accordingly, research adopting phenomenography aims to find out the different ways learners see the object of learning (Bowden & Walsh, 2000; Lam, 2019a; Marton, 1981a, 1981b, 1986, 1988, 2015; Marton & Booth, 1997). With these learners' and the powerful ways of seeing in mind, teachers can have a higher chance to bring about the learning of learners. Thus, the results of the learners' ways of seeing are important professional knowledge for teachers to teach the object of learning.

Phenomenography aims at uncovering the original nature of learners' ways of seeing. When teachers or researchers identify learners' ways of seeing, they must try their best to 'bracket out' their own prior understandings before collecting and inspecting the data of the learners (Ashworth & Lucas, 1998). The categories of the learners' ways of seeing emerge inductively from the data rather than that the

teachers or researchers fit the data into pre-determined categories. In other words, the categories are the results rather than a tool for evaluating the performance of the learners. Of importance here is the qualitative differences in the learners' ways of seeing, which refer to how the learners' ways of seeing differ from each other in quality. In contrast, the extent of the occurrence of each of the categories of the learners' ways of seeing (i.e., the quantity) is not the concern of phenomenography.

3 LEARNERS' WAYS OF SEEING CHINESE

Applying this notion of the pedagogy of learning in the context of learning and teaching Chinese entails the identification of the ways children see Chinese during their learning of the language. We believe children's ways of seeing are reflected in the errors the children make while they learn to use the language. When they make errors, the erroneous outputs they produce manifest their ways of seeing Chinese.

Our use of the concept of error is consistent with that of Corder (1981), who made a distinction between error and mistake. Mistakes are a lapse in performance typically due to inattention or tiredness, while errors result from the learners' lack of competence in the language. In other words, errors reveal the learners' transitional competence, that is, what remains for them to learn towards becoming a competent language user, which the teachers need to teach them. In contrast, learners are often immediately aware of the mistakes they make and can correct the mistakes by themselves.

There is a paucity of previous studies on learners' errors in writing Chinese characters in the literature. Some of these studies aimed at determining the ability levels of the learners across age groups or the difficulty levels of various types of characters. To do this, these studies required the learners to write the same set of characters; for example, by administering a test to them, and then identified the different categories of errors in what they produced (Lam, 2015; Shen & Bear, 2000; 侯炳有, 1979; 蘇淑婷, 2004; 許淑娟, 1995). Table 1 shows the categories

of errors found in the writings of Hong Kong Primary 3 students in dictation (Lam, 2015).

Table 1. Seven categories of errors found in Lam (2015)

Category	Description	Whole character level	Constituent component level
Correct	The student correctly wrote the dictated character	禾	撒
No response error	The student wrote nothing		
Irrelevant response error	The student wrote a character that is completely irrelevant to the dictated character	水	微
Similar sound error	The student wrote a character that shares the same or has similar sound with the dictated character	和 河	殺 傘
Adjacent meaning error	The student wrote a character that shares the same or has adjacent meaning with the dictated character	苗 穀	下 放
Spatially misplaced error	The student wrote the dictated character in reverse or in which the components were spatially misplaced	禾	搨
Incorrect component error	The student wrote the dictated character with at least one of the components missing, incorrectly produced, or produced in extra	宋	撒 撒 搨
Incorrect stroke error	The student wrote the dictated character with at least one of the strokes missing, incorrectly produced, or produced in extra	禾 禾 禾	撒 撒 撒

Other studies examined naturally occurred errors of learners. These studies collected authentic data in the classrooms such as the compositions of learners. In such situations, the learners were free to write whatever characters they wanted to express their meanings (陳瑞端 , 1996; 林佩恩 , 1998; 劉興漢 , 1987; 潘建忠 , 1999). One additional category of errors was commonly identified in these studies,

which concerned Chinese words (e.g., ‘bath’) having both a written form (e.g., 洗澡) and a spoken form (e.g., 沖涼). The former is used in writing (or more accurately in literary situations); while the latter is used in speech (or colloquial situations). The learners mixed up the two forms and erroneously used the spoken forms in their written compositions.

On the basis of the categories of errors identified in the above studies, the researchers or teacher educators made recommendations for teaching practices. For example, teachers were recommended to explicitly contrast in front of learners in classrooms the written and spoken forms of Chinese words in response to the learners’ confusion about the two forms (潘建忠, 1999; 詹伯慧, 1995). However, it must be borne in mind that the use of contrast was suggested based on the results from the examination of written compositions. Such suggestion might not be applicable to those situations where errors were identified not in the writings of learners (e.g., in speech).

Indeed, learners’ ways of seeing Chinese are not only manifested in their writing errors but also in the errors they make in speaking. However, in the literature, there are fewer studies investigating errors in speaking than in writing. Moreover, in Hong Kong, the majority of the people (of 88.9%) speak Cantonese (Census and Statistics Department, 2017), which is a variety of Chinese different from Putonghua. In the literature, studies on Cantonese are even scarcer. Furthermore, although there are a few studies on children’s errors in articulating the sounds of Cantonese syllables (e.g., 保良局, 2006), to the best of our knowledge, the errors in the spoken words children choose to use in speaking remain unexplored.

4 OUR PROJECT

Our project sought transformative change through simultaneous process of research and professional development of teachers. In terms of research, we set out to answer the specific research question of: What are the different categories of

errors in the spoken words children use in everyday speech? Data were collected by recruiting in-service teachers to observe the errors the children made during their conversations in the daily routines in the kindergartens. Concerning the professional development of teachers, we took children's learning to speak as the point of departure and explored with the in-service teachers in our professional development programmes how they could respond to children if the children made each of the different categories of errors in speech.

Participant. In Hong Kong, kindergartens provide services to children from 3 to 6 years old (i.e., K1 to K3). Some kindergartens also expand their services to operate child care centres for children under 3. The teachers participating in this project were from mainstream kindergartens, where the children were mostly from working-class families. Of Chinese ethnicity, the children spoke Cantonese at home. The medium of instruction in the kindergartens was also Cantonese.

Generally speaking, children develop their spoken Cantonese during the kindergarten years. Their developments proceed as follows: Children at age 2-3 usually can express their wishes with limited words and short sentences. Though the pronunciation of children at age 3-4 is still not clear, people (including strangers) can understand their words pretty well. Children aged 4-5 can talk about experience in everyday life with complex and much longer sentences. At age 5-6, children can communicate with family members or peers without difficulty (The Curriculum Development Council, 2017).

Procedure. Our project consisted of iterative cycles in three steps.

Step 1: We began with collecting a large pool of children's errors by recruiting in-service teachers to make observations of these errors in their kindergartens for us. 22 teachers were successfully recruited. After the data collection, we analysed the pool of the children's errors by inductively letting an initial set of categories of errors emerge from the data.

Step 2: Next, the categories of the children's errors were presented to the participants in our professional development programmes, who were also in-

service kindergarten teachers. Our purpose was to facilitate the teachers to reflect upon how to respond to the children if the children made each of these different categories of errors.

Step 3: We then engaged the teachers in our professional development programmes to observe the errors of the children in their own kindergartens. Their observations were then added to our pool of the children's errors. Each year, we put aside our previous conclusion of the categories of errors and analysed the whole pool of errors all over again. As our categories of errors were continuously revised, our understanding of the children's ways of seeing became clearer and more consistent.

Steps 2 and 3 were repeated for three years with a total of 6 classes of 232 teachers involved. Eventually, we collected 788 children's errors in the pool, which were inductively analysed into 5 categories of errors.

Instrument. Before the teachers collected observational data in their kindergartens, they were briefed about the motive of this project and the value of collecting children's errors. Errors were not determined by how frequent the errors occurred but by the nature of the errors in quality, which was explained in the following instruction given to the teachers in both Steps 1 and 3 above.

Children make errors when they speak. During your conversations with the children in the daily routines in your kindergartens, please identify the errors in spoken words the children make. Erroneous spoken words are invented by the children, which no adults use in the language (e.g., 警狗 for 警犬 'police dog'). It is not the case that the children use a proper word in an incorrect situation, where the word itself exists in the language. Please fill in the following table to report the errors you observe and specify (i) the age of the child who makes the error, (ii) the spoken word the child intends to say, (iii) the error the child makes, and (iv) other remark, if any.

<i>Age</i>	<i>Intended spoken word</i>	<i>Error</i>	<i>Remark</i>
<i>e.g., 4</i>	警犬 ‘ <i>police dog</i> ’	警狗	

Methodologically, we have decided to collect naturally occurred errors of children reported by teachers rather than directly examining the performance of children. Although direct examination is not biased by factors associated with the teachers’ background, teacher-reported data are relatively inexpensive to collect such that a large amount of data can be obtained within a short period of time (See similar debate over the use of parent-reported data and children’s laboratory performance in the study of child language; e.g., Ring & Fenson, 2000).

To measure inter-coder reliability, a PhD student with experience in teaching Chinese was hired to base on our categories of errors to go through and categorise all the errors in the pool once again. In a large portion of 98.4% (775 out of 788) of the errors, the categories of errors she identified were in agreement with those of ours. Discrepancy was then resolved by discussion until consensus had been reached. The results are reported in the next section. A full set of data is available upon request.

5 CATEGORIES OF CHILDREN’S ERRORS IN SPOKEN WORDS

5.1 Sound imitation (A)

In the first category of errors in the children’s spoken words, the children produced a sound associated with the objects they intended to say. For example, some of them, with age ranging from 2 to 4, named a 救護車 ‘ambulance’ by mimicking its sound as a 嘒嘒車 (literally ‘bee-boo vehicle’). More examples are provided in Table 2.

Table 2. Imitation of the sounds associated with the objects

Age	Intended spoken word	Error
2-4 ^a	救護車 ‘ambulance’	唛唛車 ‘bee-boo vehicle’
3-5	電車 ‘tram’	叮叮車 ‘ding-ding vehicle’
2	汽車 ‘car’	唛唛 ‘boo-boo’
2	槍 ‘gun’	砰砰槍 ‘bang-bang gun’
3	火警鐘 ‘fire alarm’	鈴鈴鐘 ‘ling-ling bell’
3-5	八達通 ‘octopus card’	嘟嘟卡 ‘dood-dood card’
3-4	花貓 ‘cat’	花喵 ‘meow’
2-3	小狗 ‘doggie’	汪汪狗 ‘woof-woof dog’
2	蜜蜂 ‘honey bee’	嗡嗡蜂 ‘buzz-buzz bee’

^a Some of the errors were repeatedly collected from more than one teacher. The age range refers to the different ages of the children who made that same error.

In the other examples of this Category A, the children did not mimic the sounds of the objects but pronounced the sound of a character, whose meaning was closely related to the objects. For example, a 3-year-old child referred to a 蝴蝶 ‘butterfly’ as a 飛飛 (literally meaning ‘fly-fly’) probably because butterflies fly. See Table 3 for more examples.

Table 3. Pronunciation of the sounds of characters related to the objects

Age	Intended spoken word	Error
3	蝴蝶 ‘butterfly’	飛飛 ‘fly-fly’
3	昆蟲 ‘insect’	隻隻 ‘quantity of insect’
2	百力滋 ‘Pretz’	條條 ‘stick-stick’
2-3	摩天輪 ‘Ferris wheel’	轉轉轉 ‘round-round-round’

5.2 Non-existent combination of characters from words (B)

In the Category B of errors, the children named the objects they intended to say by combining characters from one or several words to form a word that however did not exist in Chinese. One example is 獅舞, which was produced by a

four-year-old for the word 舞獅 ‘lion dance’. The order of the two characters was reversed. Even though the child appropriately recalled the word that denoted the object, the order of the characters in the word was misplaced. See Table 4 for more examples.

Table 4. Non-existent combination of characters in misplaced order

Age	Intended spoken word	Error
4	舞獅 ‘lion dance’	獅舞
3	路軌 ‘railway track’	軌路
4	煙花 ‘fireworks’	花煙
2-3	對唔住 ‘sorry’	唔對住

In the other examples of this category, the children mixed up two or more words whose meanings were closely similar, or even identical, to the objects. The children chose a character from each of these words and combined the characters together to form a word. For example, a 5-year-old child mixed up the two words of 章魚 and 八爪魚 (both mean ‘octopus’, whereas the latter is more often used in the southern part of China). The child produced the combination of 章八魚 that however did not exist. More examples are available in Table 5.

Table 5. Non-existent combination of characters from several words

Age	Intended spoken word	Error
5	章魚+八爪魚 ‘octopus’	章八魚
5	田雞+青蛙 ‘frog’	田蛙
4	水餃 ‘dumpling’ + 雲吞 ‘wonton’	水吞
4	口+嘴巴 ‘mouth’	口巴
4	快樂+開心 ‘happy’	快心
4	洗澡+沖涼 ‘bath’	洗涼
3-5	插隊+打尖 ‘jump the queue’	插尖

In the other examples, the children added at the end of the words an extra character that indicated the meaning categories of the objects. For example, instead of 香蕉 ‘banana’, a child of age 3 named it as 香蕉果 (literally ‘banana fruit’). There was no such word in Chinese. See Table 6.

Table 6. Addition of characters indicating meaning categories

Age	Intended spoken word	Error
3	香蕉 ‘banana’	香蕉果 ‘banana fruit’
3	士多啤梨 ‘strawberry’	士多啤梨果 ‘strawberry fruit’
4	多士 ‘toast’	多士包 ‘toast bread’
3	西蘭花 ‘broccoli’	西蘭花菜 ‘broccoli vegetable’
3	獵犬 ‘hunting dog’	獵犬狗 ‘hunting-dog dog’
4	海豚 ‘dolphin’	海豚魚 ‘dolphin fish’
3	巴士 ‘bus’	巴士車 ‘bus vehicle’
3	的士 ‘taxi’	的士車 ‘taxi vehicle’

5.3 Inappropriate use of the spoken forms of words (C)

The Category C of errors involves an inappropriate use of the spoken forms of words. As discussed earlier, these words (e.g., ‘coat’) have both a written form (e.g., 衣) and a spoken form (e.g., 衫), which are used in writing and speaking respectively. This is true when these words are used on their own. However, when these words are united with other words to form a compound word (e.g., 雨衣 ‘rain coat’, where 雨 means ‘rain’), the written forms of the words (e.g., 衣) remain being used in speaking. In other words, the written forms are ‘fossilised’ in the compound words. In this category of errors, the children had used the spoken forms, instead of the written forms, of some of the words in the compound words (e.g., 雨衫. No such word existed in Chinese). More examples are listed out in Table 7.

Table 7. Inappropriate use of the spoken forms of words

Age	Intended spoken word	Error
3-5	雨衣 ‘rain coat’	雨衫
3-4	泳衣 ‘swimming suit’	泳衫
2-4	洗衣機 ‘washing machine’	洗衫機
3-5	羽毛球 ‘badminton’	羽毛波
3-4	皮球 ‘leather ball’	皮波
2	星球 ‘planet’	星波
3-4	足球 ‘football’	腳球
4-5	寒冷 ‘cold’	寒凍
3-5	導盲犬 ‘guide dog’	導盲狗
3-5	舌頭 ‘tongue’	脷頭
3	兄弟 ‘brothers’	哥弟
3-4	小便 ‘urine’	細便

5.4 Use of characters with inaccurate meanings (D)

In the Category D of errors, the meanings of some of the characters in the spoken words the children used were inaccurate or imprecise to describe the objects. For example, some children, with ages ranging from 2 to 4, called 二月 ‘February’ as 兩月 (literally ‘two months’). Although the meanings of both characters 二 and 兩 relate to ‘twoness’, ‘February’ can only be referred to as 二月 but not 兩月. More examples are available in Table 8.

Table 8. Use of characters with imprecise meanings

Age	Intended spoken word	Error
2-4	二月 ‘February’	兩月 ‘two months’
2-4	二號 ‘number two’	兩號 ‘two numbers’
3-5	兩蚊 ‘two dollars’	二蚊 ‘dollar number two’
3	長頸鹿 ‘giraffe’	長頸狗 ‘long-neck dog’
3-5	手錶 ‘wrist watch’	手鐘 ‘wrist clock’

[接上表]

3-4	短褲 'shorts'	短袖褲 'short-sleeve trousers'
4	短袖衫 'short-sleeve shirt'	短衫 'short shirt'
4	花盆 'flower pot'	花碗 'flower bowl'
3-4	寫字 'write characters'	畫字 'draw characters'
3-4	蛋殼 'egg shell'	蛋皮 'egg skin'
4	檸檬核 'lemon seeds'	檸檬骨 'lemon bones'
4	洗米 'wash rice'	洗飯 'wash cooked rice'
3	煮飯 'cook rice'	煮米 'cook uncooked rice'
3	飲水 'drink water'	吃水 'eat water'
4	米粉 'rice noodles'	米麵 'rice wheat noodles'
5	意大利粉 ^a 'spaghetti'	意大利麵 'Italian wheat noodles'
4	螺絲粉 'gemelli'	螺絲麵 'screw noodles'

^a In Hong Kong, people refer to 'spaghetti' as 意大利粉 rather than 意大利麵.

In the other examples, the children used spoken words that had some characters with over-general meanings. For example, a 3-year-old called a 麻鷹 'a kind of eagle' as a 大雀 (literally 'big sparrow', where 雀 means 'sparrow'). The child referred to a specific kind of bird over-generally as merely a bird. Table 9 provides more examples.

Table 9. Use of characters with over general meanings

Age	Intended spoken word	Error
3	麻鷹 'a kind of eagle'	大雀 'big sparrow'
3-4	鯨魚 'whale'	大魚 'big fish'
3	龍蝦 'lobster'	大蝦 'big shrimp'
3-4	頭髮 'hair'	頭毛 'head hair'
3	狗毛 'dog hair'	狗頭髮 'dog head hair'
3	流汗 'sweat'	流水 'running water'
3	果汁 'juice'	果水 'fruit water'
4	豆漿 'soy milk'	豆水 'bean water'
2-4	落雨 'rain'	落水 'falling water'

[接上表]

2-4	水鞋 ‘rain boots’	落雨鞋 ‘falling water boots’
3-4	眼眉 ‘eyebrow’	眼毛 ‘eye hair’
3-5	鳥巢 ‘bird nest’	鳥屋 ‘bird house’
3	魚缸 ‘aquarium’	魚屋 ‘fish house’

5.5 Creative exploitation of characters with relevant meanings (E)

In the last Category E of errors, although the children produced spoken words that did not exist, they creatively exploited the use of those characters with relevant meanings. For example, the children, ranging in age from 3 to 5, referred to 星期日 ‘Sunday’ as 星期七 (literally ‘Weekday Seven’). In Chinese, ‘Monday’, ‘Tuesday’, and up to ‘Saturday’ are called literally ‘Weekday One’, ‘Weekday Two’, and so on to ‘Weekday Six’. By inference, the children called ‘Sunday’ as ‘Weekday Seven’. More examples are available in Table 10.

Table 10. Exploitation of characters with intuitive meanings

Age	Intended spoken word	Error
3-5	星期日 ‘Sunday’	星期七 ‘Weekday Seven’
3-4	晴天 ‘sunny day’	太陽天 ‘sun day’
3-4	陰天 ‘cloudy day’	雲天 ‘cloud day’
3-4	晚上 ‘evening’	黑天 ‘black day’
3	母親節 ‘Mother Day’	媽咪節 ‘mum festival’
3-4	消防員 ‘fireman’	救火人 ‘extinguishing-fire man’
4	清道夫 ‘cleaner’	掃街人 ‘sweeping-street man’
4	舞蹈家 ‘dancer’	跳舞家 ‘dancing man’
3	歌手 ‘singer’	唱歌人 ‘singing-songs man’
4	售貨員 ‘salesperson’	賣貨人 ‘selling-goods man’
4	洗澡 ‘bath’	洗身 ‘wash body’
2	熊貓 ‘panda’	黑白貓 ‘black-white cat’
5	公雞 ‘cock’	父雞 ‘father chicken’
4-5	乳牛 ‘milk cow’	奶牛 ‘milk cow’ ^a

[接上表]

3	糖水 'syrup'	甜水 'sweet water'
3	背心 'sleeveless shirt'	無袖衫 'shirt with no sleeve'
3	碼頭 'pier'	船站 'ship station'
4	機場 'airport'	飛機站 'airplane station'
3	跑車 'sports car'	快車 'fast car'

^a Although both 乳 and 奶 mean 'milk' in Chinese, 'milk cow' can only be called 乳牛.

In the other examples of this category, the children made use of characters in the words that more accurately described the objects than the characters used in the convention. For example, a four-year-old named a 青瓜 'cucumber' (青 'cyan'; in Hong Kong, 青瓜 means 黃瓜.) as a 綠瓜 (綠 'green'). The use of the character 綠 was accurate since cucumbers are indeed green in colour. In comparison, the 青 'cyan', as used in the conventional name, was not the colour of cucumbers. Table 11 has more examples.

Table 11. Exploitation of characters with more accurate meanings

Age	Intended spoken word	Error
4	青瓜 'cucumber' (青 'cyan')	綠瓜 (綠 'green')
3-4	青椒 'green pepper' (青 'cyan')	綠椒 (綠 'green')
4	青蘿蔔 'green radish' (青 'cyan')	綠蘿蔔 (綠 'green')
4	貓頭鷹 'owl' (鷹 'eagle')	貓頭鳥 (鳥 'bird')
2	收銀機 'cash register' (銀 'silver')	收錢機 (錢 'money')
4-5	收銀員 'cashier' (銀 'silver')	收錢人 (錢 'money')
4	地下鐵 'Mass Transit Railway' (鐵 'iron')	地下車 (車 'vehicle')
3	馬路 'road' (馬 'horse')	車路 (車 'vehicle')
3	電線 'electric wire' (線 'thread')	電繩 (繩 'cord')
3-4	收音機 'radio' (收音 'collecting sound')	唱歌機 (唱歌 'sing songs')
3	錄音機 'sound recorder' (音 'music')	錄聲機 (聲 'sound')
3-4	水警 'marine police' (水 'water')	海警 (海 'marine')

6 DISCUSSION PROVOKED BY THE CATEGORIES OF ERRORS

As mentioned earlier, the purpose of this project is two-fold. In addition to researching the children's errors in spoken words, we would also like to use the results of our research to foster professional development of teachers. Towards the latter end, we presented the categories of the children's errors to the in-service kindergarten teachers in our professional development programmes to invite discussion from them.

We previously mentioned that errors were seen in this project as the children's lack of competence in the language. Accordingly, after presenting the categories of errors, we probed the teachers to discuss (i) what the children did not understand as they made each of the categories of errors and (ii) how the teachers could in turn teach the children to correct the errors.

In what follows, we will report our experience in conducting the professional development programmes to demonstrate the kinds of discussion that were brought up among the teachers, which led them to reflect upon their understanding of the written and spoken forms of words, usage of specific characters, and scientific knowledge about the classification of animals.

6.1 The written and spoken forms of words

Regarding the Category C of errors (i.e., inappropriate use of the spoken forms of words; e.g., 雨衫 for 雨衣 'rain coat'), the teachers were asked what the children did not know when they made this category of errors and what the teachers should teach them in return.

Teacher said, 'they don't understand...when we speak, we use 衫; when we write, we use 衣 'coat'. We need to teach them this rule.'

(Class 5, 39 teachers)

In addition to the above, this 'rule' on the usage of the written and spoken forms of words had been repeatedly mentioned by different teachers in our

professional development programmes over the years. Indeed, often covered in textbooks, this ‘rule’ is commonly taught in schools. But closer examination into the nature of the errors revealed that lack of understanding of the ‘rule’ was not the problem the children actually encountered when they made these errors. The repetitive mention of this ‘rule’ indicated that the teachers did not recognise the actual problem.

In our project, the children’s errors were collected in the daily conversations in the kindergartens. It was the situation of speaking when the children actually followed the ‘rule’ to make the error of 兩衫. What was unknown to the children was the reality of language usage that even in speech the written form is sometimes also used. In other words, it is possible for people to use both the written and spoken forms in everyday conversations, depending on the specific words concerned such as 衫 ‘coat’, 恤衫 ‘skirt’, 雨衣 ‘rain coat’, and 洗衣機 ‘washing machine’.

At any rate, during the teachers’ discussion, this category of errors had provoked the teachers to examine: When we speak, do we use only the spoken forms? Is it possible to use the written forms as well in speech? At the beginning, the teachers started with the ‘rule’ they were familiar with. Such a simplistic way of seeing viewed that the written and spoken forms were used in mutually separated situations. As the discussion led by the lecturer went on, the teachers came to realise that the use of the two forms might be intertwined in speaking. This more powerful way of seeing was more congruent with the reality of Chinese usage. Above all, if we viewed the learning of the teachers as a change in their ways of seeing, in the same way as that of the children, the discussion generated by this category of errors revealed a range of possible ways of seeing the written and spoken forms of words, including from the simplistic to the more powerful ones, which had the potential to foster changes in the teachers’ ways of seeing.

6.2 Usage of specific characters

The presentation of the Category D of errors (i.e., use of characters with inaccurate meanings; e.g. 兩月 rather than 二月 ‘February’) had also provoked the teachers to discuss in what circumstances the characters 二 ‘number two’ and 兩 ‘two’ were used.

Lecturer said, ‘When should we use the characters 二 and 兩?’

Teacher A, ‘兩 refers to quantity, for example, 兩個人 “two persons”. 二 is a number, the 二 “two” in 一, 二, 三 “one, two, three”.’

Teacher B, ‘Yeah, 兩, 兩本書 “two books”. 二, 二號 “number two”.’

Teacher C, ‘but, hang on, what’s about 二人三足 “three-legged race”?’

Lecturer, ‘person number two has three legs? Haha!’

(Class 6, 44 teachers)

As can be seen from the above, the teachers worked together to explore the different circumstances in which the characters 二 and 兩 might be used in the daily conversations. As a matter of fact, the reality of language usage is quite complicated. For example, apart from 二人三足, whether each of the words 十二 ‘twelve’, 十兩 ‘unacceptable’, 二十 ‘twenty’, 兩十 ‘unacceptable’, 二百 ‘two hundred’, 兩百 ‘two hundred’, 二千 ‘two thousand’, and 兩千 ‘two thousand’ is acceptable or not appears to be rather haphazard.

Furthermore, in the other examples of this category reported earlier, the hair on a person’s head is called 頭髮 ‘hair’ rather than 頭毛. However, the hair on the head of a dog is called 狗毛 ‘dog hair’ rather than 狗頭髮. The use of 頭髮 and 毛 is exactly in opposite in the two cases of person and dog. Because of such complication in the reality of language usage, the teachers could not arrive at a simple ‘rule’ for universally explaining the usage of these specific characters. Yet definitely they together went into a deeper discussion towards more powerful ways of seeing.

6.3 Scientific knowledge about the classification of animals

The discussion generated by the categories of errors helped the teachers to reflect upon not only their understanding of the Chinese language but also their scientific knowledge about the classification of animals. For example, in response to the examples of the Categories B, D, and E of errors (i.e., non-existent combination of characters from words, use of characters with inaccurate meanings, and creative exploitation of characters with relevant meanings respectively), the teachers brought up the following questions in the discussion.

‘What is the difference between 田雞 and 青蛙 “frog”?’ (Class 2, 35 teachers)

‘Is 長頸鹿 “giraffe” really a 鹿 “deer”? Definitely not a 狗 “dog”?’ (Class 2, 35 teachers)

‘Isn’t 鯨魚 “whale” a kind of 魚 “fish”, is it? I remember it is a 哺乳類 “mammal”?’ (Class 6, 44 teachers)

‘Is 貓頭鷹 “owl” indeed a 鷹 “eagle”? 鳥 “bird” is certainly right.’ (Class 1, 37 teachers)

Out of the discussion, the teachers realised that scientific knowledge about the classification of animals was imperative for them to teach the children to correct the errors. For example, regarding the error of 長頸狗 (狗 ‘dog’) for 長頸鹿 ‘giraffe’, the teachers had to explain to the children that 長頸鹿 was not a kind of 狗 ‘dog’ and clarify the differences between a deer and a dog. The provision of such explanation and clarification entailed scientific knowledge about the two kinds of animals. In the past, the teachers might pick up the names of the animals in usage or conversations, without questioning whether the literal meanings of the names agreed with the scientific classification of animals or not. The discussion gave the teachers a chance to reflect upon their understanding of the classification of animals.

7 GENERAL DISCUSSION

7.1 Positive value of children's errors

Teachers teaching children Chinese have the responsibility to ensure the correctness of what they teach. Traditionally, emphasis is placed on the correct usage of the language. Errors made by children should be avoided and corrected as quickly as possible. Rather, in this project, we would like to shift the attention to the more positive value of children's errors and the benefits they can bring.

Although we use the term 'error' in this paper, our usage of the term merely refers to the fact that the errors do not conform to the present convention in Chinese. Some of the collected errors, especially those in the Category E, are indeed more intuitive and accurate than the conventional names. For example, a child produced 收錢人 for 收銀員 'cashier'. A cashier no doubt collects 錢 'money' but not 銀 'silver'. The child's use of 錢 was more reasonable than that of 銀. Silver was used as currency in ancient times, but this is no longer the case now. As another example, the error of 洗身, literally meaning 'wash body', for 洗澡 'bath' was not only reasonable but is also used in actual practice in the Weitou variety of Chinese (圍頭話) in Hong Kong. Thus, the errors were instructive and should not be viewed negatively.

Moreover, as we argue throughout this paper, teachers' understanding of the categories of errors is helpful for improving their teaching of Chinese. Teachers need to carefully attend to and deliberately clarify these errors with the children during their teaching. We believe teaching is to bring about changes in children's ways of seeing, taking them from their existing ways of seeing to the more powerful ones. If teachers do not understand the children's existing ways of seeing as manifested by their errors, it will be difficult, if not impossible, for the teachers to make changes in the children's ways of seeing since the children may only be able to see from their own ways of seeing. This is reminiscent of the communication breakdown between the teacher and the child about 大鵝 'big goose' illustrated at the beginning of this paper.

7.2 Qualitative differences in learning Chinese

The purpose of traditional research on error analysis of language learners was to shed light on the psychological processes involved in the learners' mind (e.g., Corder, 1981; Richards, 1974). Rather, this project adopted the notion of the pedagogy of learning to investigate the qualitatively different ways of seeing of the children during their learning to explore what the teachers needed to know for them to teach the children to use spoken words appropriately.

Our project was also different from those studies with an interest in the quantitative differences in children's learning. These studies set out to evaluate the performance of children; for example, how many characters they could correctly produce (e.g., 王瓊珠等, 2008). In contrast, we were interested in the qualitative differences in the nature of the different categories of the children's errors. As revealed in the thought-provoking discussion generated by the categories of errors among the teachers, such qualitative differences in learning were helpful for improving the teaching of teachers.

It is our belief that effective teaching of teachers is more than to repeatedly demonstrate the correct use of spoken words. When children make errors during their learning, teachers have the responsibility to help the children to correct the errors. The different categories of errors require the teachers to use different ways of teaching the children accordingly. For example, when children mimic the sound of an object and make errors in the Category A (e.g., 呖呖車 'bee-boo vehicle'), teachers can simply demonstrate to the children the proper name of the object (e.g., 救護車 'ambulance'). But when children inappropriately use the spoken form of a word as in the Category C (e.g., 兩衫), teachers have to provide a clear explanation that although the spoken form of the word is used on its own, the written form may also be used in speech (e.g., 雨衣 'rain coat'). In short, teachers have to use a variety of different teaching practices, depending upon the category of the errors the children make. That is why we stress the importance of researching the qualitative differences in children's learning.

8 CONCLUSION

In this paper, we would like to argue that the qualitatively different categories of errors observed during the children's learning to speak was the major contribution of our project to the professional knowledge of teachers in teaching Chinese. Likewise, in our previous projects titled the Dragonwise Projects (Lam, 2019b; Lam et al., 2004), we examined the errors children made while they were learning to write Chinese characters and, on the basis of these errors, designed a series of online instructional learning objects for children to learn the important structural features in the written forms of characters. Understanding these features should help the children to learn other characters in the future. Along this line of thought, future work of this project may include the investigation of children's errors that occur during their learning of other aspects of Chinese such as sentence pattern. More generally, we would like to call for more attention to be given to the qualitative differences in learning and the potential of the notion of the pedagogy of learning in improving the teaching of teachers in professional development programmes.

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「學習教學」：觀察幼兒口頭詞彙錯誤以促進教師的專業成長

林浩昌

摘要

有效的教學要求教師與學生有共同的理解，如果學生理解事物的方式與教師的不同，教師難以明白學生的想法，遑論把教學內容教給他們。本計劃採用「學習教學」的理念，研究幼兒質的不同理解方式，促進幼稚園教師的專業成長。計劃推行三年，共 254 位在職幼稚園教師參與，他們觀察幼兒在日常說話中口頭詞彙的錯誤。計劃收集到口頭錯誤 788 個，歸納為 5 個類別：運用象聲詞、混淆詞語中的字、誤用詞語口語、選取字義不準確、發揮用字創意。在教師專業發展課程中，導師把 5 類別的口頭錯誤展示給教師，引起熱烈討論。教師探討甚麼知識有助糾正幼兒錯誤，反思自己對中文與科學知識的理解。總括而言，本文提倡幼兒錯誤的研究，發展「學習教學」對改善教師中文教學的潛力。

關鍵詞：「學習教學」 口頭詞彙 師資培育 現象圖析學 錯誤分析

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