

**EXPLORING THE ASSOCIATION MEMORY METHOD
TO MAKE CHINESE LEARNABLE FOR BEGINNING
LEARNERS IN AUSTRALIAN SCHOOLS: A NOVICE
MANDARIN TEACHER'S COLLABORATIVE
ACTION RESEARCH**

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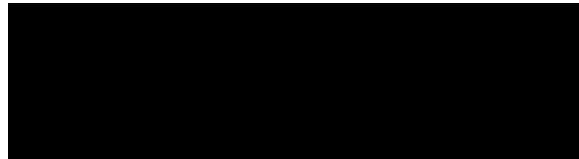
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Statement of Authentication

This thesis is submitted in fulfilment of the requirements of a Master of Education (Honours) degree at Western Sydney University, School of Education. The work presented in this thesis is, to the best of my knowledge, original except as acknowledged in the text. I hereby declare that I have not previously submitted this material, either in whole or part, for a degree at this or any other institution.

Signature:

A solid black rectangular box redacting the signature of the author.

(Ling LI)

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Acronyms and Abbreviations

AEF	Asian Education Foundation
A Level	General Certificate of Education Advanced Level
AMM	Association Memory Method
CAR	Collaborative Action Research
CIs	Confucius Institutes
DEC	Department of Education and Communities
ERP	Event-Related Potential (a psychological term)
GCSE	General Certificate of Secondary Education
HE	Higher Education
HEFCE	Higher Education Funding Council for England
HREC	Human Research Ethics Committee
L1	First Language
L2	Second Language
NALSAS	National Asian Languages and Studies in Australian Schools
NALSSP	National Asian Languages and Studies in Schools Program
NSW	New South Wales
ROSETE	Research Oriented School/Industry Engaged Teacher-Researcher Education
SERAP	State Education Research Applications Process
TL	Target Language
TPR	Total Physical Response
UWS	University of Western Sydney
VTR	Volunteer Teacher-Researcher
WWCC	Working With Children Check

Abstract

Improving learning efficiency of Chinese and making Chinese learning easier have been two of the most difficult issues in front of every Chinese language teacher around the world in years. In this case, the research aimed at applying association memory methods into Chinese teaching, which is to associate students' prior knowledge with Chinese phonetic, semantic and cultural parts to increase their impression on newly learnt Chinese knowledge and maximize their learning efficiency. In this collaborative action research, the teacher-researcher observed students' performance at two participant schools during her teaching period and wrote reflection journal every week to record students' behavior as well as her professional teaching skills. In the meantime, she interviewed the classroom teacher in each school and received their feedback about association memory methods to verify her research. Based on her four terms' study, association memory methods have been proved as a valid teaching method in Chinese language teaching through the analysis of the data and effectively improves students' learning efficiency during teaching process, which also can be implemented into other language teaching fields.

CHAPTER 1

INTRODUCTION

This chapter will first present the definitions of “Chinese” and “Mandarin” as they are used in this thesis, followed by a presentation of the background of the study which has included the current status of Chinese learning and teaching in Australia, the government’s language policy and the significance of the ROSETE program of which the teacher-researcher was a member. Chapter 1 will then proceed to state the research enquiry in terms of the main research question and its subsidiary questions. The chapter concludes with an outline of the organization and structure of the thesis.

1.0 Definitions of ‘Chinese’ and ‘Mandarin’

Mandarin is the modern, standard, oral Chinese (language). Based on Li and Thompson (1989), in 1955, the government of the People’s Republic of China proclaimed “a national language embodying the pronunciation of the Beijing dialect, the grammar of the northern Mandarin, and the vocabulary of modern vernacular literature” (p. 1). This national language was called “pǔtōnghuà”, which literally meant “common language”. While in the early fifties, “Taiwan also adopted the policy of promoting a uniform language based on the Beijing dialect”, which was referred to as guóyǔ—“national language” (Li and Thompson, 1989, p. 1). In this thesis, Mandarin refers to both “pǔtōnghuà” and “guóyǔ”. However, Chinese language, literally “hànyǔ”, refers to both spoken and written language that Han Chinese use.

1.1 The background of the study

1.1.1 The role of Mandarin

Widely known for being the world's most populous country, the People's Republic of China is taking on the role of the economic powerhouse of the world, shortening the world recession and bringing the recovery faster, due to its stable financial system and continuing economic growth" (Zhao & Huang, 2010, p.127).

With the rise of China since the Open Door policy of the 1980s and the increasing number of people wanting to know more about this country, China is not only known by its attractive traditional culture, but now also its great influence upon global popular culture. "Beyond business, many employment opportunities in education, the diplomatic corps and the tourism industry arise from knowing more than one language" (Higgins & Sheldon, 2001, p.109). It is also hard to ignore that in the decade previous to 2004, the number of foreign students in China "has tripled to 110,000 from 36,000..." (Zhao & Huang, 2010, p.127).

As Singh and Han (2014) cited:

Chinese is now understood to be a newly emergent local/global language of considerable importance (Ding & Saunders, 2006).

The increasing relevance and popularity of Chinese worldwide means that "in expanding its boundary, Chinese has also got its national and cultural identity blurred, becoming more and more inclusive and hybridized like English". Even English is no longer owned by the English and has taken on multiple forms, including China English (Singh & Han, 2014, p. 405).

Higgins and Sheldon (2001) contend that Chinese is now as important as Spanish in England, and recommend that the "British education system ... look more closely at its provision for teaching the Chinese language" (p.109).

On the other side, the Chinese people and its government have reached an understanding which has been expressed as "China needs foreign languages, the world needs Chinese" (Gil, 2008, p. 116). The Beijing-based Office of the Chinese

Language Council International—known as Hanban— was established in 1987. Hanban has been initiating policies, and sponsoring activities related to Chinese language studies, cultural exhibitions, and exchanges. To provide specific help and support in each country, the Confucius Institutes (CIs) have been inaugurated across the globe (Zhao and Huang, 2010, p.129).

1.1.2 Australia learning Chinese

In Australia, Chinese is taught in all States and Territories in a total of 319 schools. According to the Asian Education Foundation (AEF, 2010), in 2008, 92,931 students were enrolled in Chinese programs with around 5,256 enrolled at Year 12 level. Chinese across Australia is estimated to be taught in more than 380 schools (AEF, 2010, p.11). Rather than “relating to traditional Chinese cultural themes and places”, the recommended content of Chinese language education programs typically Australian would include “issues and voices [from] around the world”. In other words, it is “related to the experiences and issues of the learning and using the language” (Singh & Han, 2014, p. 406). Although the teaching of Chinese in Australia is “very small-scale compared to other languages commonly taught in schools” (Orton, 2008, p. 14), Chinese is now a key language for “Australia’s future historical-material development given that we are part of the local/global community having a shared trajectory” (Singh & Han, 2014, p. 406). Therefore, Chinese teaching/learning strategies are required to be ‘globalized’ – to teach/learn Chinese language with ‘Australian characteristics’.

However, whilst both the government and local schools have emphasised Chinese language teaching, the high drop-out rates indicate “an array of educational problems in making Chinese learnable in largely English speaking nations” (Chen, Wang, and Cai, cited in Singh and Han, 2014, p. 404). The statistics that “94% of those who begin Chinese at school quit before Year 10; and beginners at university drop out at rates close to 75%” (Orton, 2008, p. 8) is far away from the government’s aspirational target which has recommendations for “at least 20% of learners to study an Asian language through to the end of Year 12” (Singh and Han, 2014, p. 407). Furthermore, Orton (2008, p.5) reports that “at Year 12, nationally, a scant 3% of learners take Chinese, 94% of whom are first language speakers of Chinese”. That is

to say, non-background speaking learners seldom choose Chinese language study in Years 11 and 12.

Unqualified teachers, inappropriate curriculum and teaching materials, disregard of students, teacher and school diversity, and inaccessibility of language used in policies and curricula, have been suggested as causes of this severe problem (AEF, 2010).

1.1.2.1 The ‘teacher factor’

In addition to the difficulty of the Chinese language itself which may cause the learners lack of success in developing proficiency, the greatest barrier to further implementation of Chinese language teaching has been suggested to be that of teacher knowledge; not only about Asia itself, but also about the existence of appropriate resource material, and about how to plan for second language teaching to ‘fit in’ to what teachers see as an already crowded curriculum (AEF, 2010). In terms of this “teacher factor”, Chinese native-speaker teachers have not been able to “develop the professional stance and capabilities for making Chinese learnable for learners in schools where English is the primary medium of instruction and the prevailing language of societal communication” (Singh and Han, 2014, p. 404). They are usually rejected by local schools “due to poor self-presentation socially and linguistically, and [due] to doubts about their ability to relate well to Australian children and manage a local classroom” (Orton, 2008, p. 21). Moreover, intercultural difficulties also account for and exacerbate this problem. Native-speaker teachers do not seem to know “how to relate to Australian school learners, colleagues and parents. The teachers, themselves, recount the same problems” (Orton, 2008, p. 21) and may need a lengthy term of teaching before they could adapt to the expectations of Western pedagogy.

1.1.2.2 Inappropriate curriculum and teaching resources

Apart from the above, insufficient and inappropriate curriculum and teaching materials also contribute to this problem. Orton (2008, p.14) mentions that “textbooks, listening materials and national curricula for primary and secondary Chinese were developed in the early 1990s...” with no national curriculum being developed by 2008 when Orton’s book was published. Similarly, the *NSW*

Response: Draft Australian Curriculum: Languages for Chinese and Italian Foundation to Year 10 (Board of Studies, 2013) has criticised “a lack of frameworks to guide and inform the development of ‘language-specific’ curricula” (p. 3). Furthermore, the curriculum content descriptors and the outcomes standards which have been formulated by the Australian government, have appeared to disconnect with teaching practice. Consequently, teachers need to fill these gaps by producing and designing lessons with materials and activities that cover many different study levels, which undoubtedly increase their workload and therefore may reduce the effect of Chinese learning in classrooms.

The NSW Response (Board of Studies, 2013), has further indicated that the curriculum does not successfully connect with students, teachers and school diversity and has been short when proposing “standards that are challenging yet realistic” (p.5). “Requirements placed on individual teachers, languages departments and systems in the delivery of the curriculum, and managing the language needs of very diverse learning groups” should all be taken into consideration.

1.1.2.3 Inaccessibility of language used

Accessibility of language used is another problem. The verbose and complex draft curriculum was criticized as using academic terminology, which “made access to the documents difficult, especially for teachers whose first language may not be English” (Singh & Han, 2014, p7).

The social context of Australia as an English speaking country could be raised as an issue here. Although Australia is a country of immigrants and “multilingual learners who collectively speak more than 150 different languages, however, ... most Australian schools use English as their instructional language” (Berg cited in Singh & Han, 2014, p. 405). “Students only learn the language in an environment at school, in their family, and in the community, that is less than optimum” (AEF, 2010, p.11). Moreover, it could be argued that there is a considerable sociolinguistic pressure throughout society for the exclusive use of English.

1.1.3 Australia’s language policy and the ROSETE Program

According to the Asia Education Foundation (2012), the Australian Government launched the National Asian Languages and Studies in Australian Schools (NALSAS) program from 1995 to 2002. One of the stated objectives of the program was to “improve participation and proficiency levels in language learning in four targeted Asian languages — Japanese, Modern Standard Chinese, Indonesian and Korean, and to support the studies of Asia across the curriculum” (AEF, 2012. p. 4).

However, during those years, some teachers and students did not appear to realize why studies of Asia should be given greater priority and did not see the relevance to them. To “increase opportunities for school students to become familiar with the languages and cultures of Australia’s key regional neighbours, namely China, Indonesia, Japan and Korea” (AEF, 2012, p. 5), new funding was introduced by the Federal Government with the introduction of the National Asian Languages and Studies in Schools Program (NALSSP) with funding of \$62.4 million over 2008 to 2011.

Five ‘general issues’ were identified regarding language education in Australia from this program. These included:

- shortage of qualified language teachers,
- insufficient time allocation,
- discontinuity of study languages,
- decline in student numbers due to a lack of confidence to compete against native speakers in students’ perceptions.
- lower value for language learning in schools, with parents and the community

From this perspective, the new Australian Curriculum (NALSSP) has placed ‘Asia and Australia’s engagement with Asia’ as a cross-curriculum priority. This has focused not only “on the ‘top-down’ drivers such as curriculum, but also classroom and community level drivers” (AEF, 2012, p. 7).

Therefore, many state and territory departments of education began to make policy statements supporting the learning of Asian languages. Within this context, a program in the Western Sydney Region of the NSW Department of Education and Communities (DEC) called Research Oriented School/Industry Engaged Teacher-Researcher Education (ROSETE) was established by a team at the Western Sydney University. ROSETE is a dedicated Chinese language teacher education program aimed at “researching the problem of developing a teacher education curriculum framework, to make Chinese learnable for learners whose primary language of instruction and communication is English” (Singh and Han, 2014, p. 406).

1.1.3.1 The ROSETE program

The ROSETE program, a longitudinal program (2008-2017), was established through an Australian/Chinese partnership between the New South Wales Department of Education and Communities, the Ningbo Municipal Education Bureau (China), and the University of Western Sydney. Over eighteen months, ROSETE has a cohort of ten (or less) students from Ningbo China who enroll in a Masters Degree at the University of Western Sydney while also being available as native speaker volunteer teachers in the region’s schools. As one project in the NALSSP, the ROSETE program has aimed to “increase opportunities for school students to become familiar with the language and culture of one of Australia’s key regional neighbors” – China (Singh and Han, 2014, p. 422). The research also provided opportunities for students to become more accepting of diversity, more respectful of migrants or people from other countries and more aware of their place in the international community. Chinese K-10 Syllabus even mentioned that:

The ability to communicate in Chinese contributes significantly to the sociocultural and economic understanding between Australia and Chinese-speaking countries and enables students to gain insights into the contributions that have been made by Chinese-speaking communities to Australian, and indeed, to global society (Board of Studies, 2003, p.8).

The teacher-researcher is one volunteer within the ROSETE group, and implemented Association Memory Method in Chinese teaching in Australian schools. Across the

eighteen months of this teaching assignment, the teacher-researcher endeavored to improve the pedagogy of Mandarin teaching. All the ROSETE students are researching in the area of making Chinese learnable for beginning learners in Australian schools.

1.1.3.2 Impact of ROSETE-Significance to partners

The intention of the ROSETE program has been to make a significant and positive impact on:

- the quality of Chinese teaching in Sydney's Western Region primary and secondary schools with positive impacts on the students, teachers and schools who participate;
- the research training of the VTRs through a teacher education program conducted at the University of Western Sydney that includes a series of workshops, tutorials, and seminars aimed at improving the VTRs theoretical knowledge, teaching skills in western English speaking schools and knowledge of how to conduct their research in schools (through action research and other methodologies);
- the professional development of the VTRs from China through their study and teaching practice to provide employment opportunities: The research graduates who have "generic skills and innovation capabilities would be productive in a wide range of employment contexts, including business" (Singh and Han, 2014, p. 411).

1.2 Research questions

The above description of the context and background for this study, the teaching assignment commitment to the schools in WSR and the teacher-researcher's interest in Chinese language teaching have all provided the framework from within which the research question was generated.

1.2.1 Refining the questions-the teacher-researcher's background

The development of the research questions relevant to this study has partly resulted from the researcher's own educational experience. The teacher-researcher in this research was assigned to be a beginning Mandarin teacher who undertook teaching practice at Western Sydney schools, whilst at the same time conducting research based on this teaching experience. The teacher-researcher was a member of the ROSETE program 2014-2015.

The teacher-researcher graduated from a traditional Chinese university and received all primary and secondary education in China. This experience was through an education system based on textbooks with programmed exercises and where ultimate examination scores were the measure of success for both students and teachers.

As a Linguistics Major in a Chinese university, the teacher-researcher has learned basic linguistic knowledge and applied these to other relevant disciplines, such as psychology, computer science and mathematics. From all the subjects, applied linguistics and cognitive psychology has provided most interest to the teacher-researcher i.e. how the brain works and how thought interacts with language. This interest has triggered the main teaching method used during this project.

Previously, whilst still in China during second semester in university, the teacher-researcher began to tutor foreign college students to learn Chinese. During this informal teaching experience, the teacher-researcher noticed that the students were impressed with the content of lessons which related to their previous knowledge or their personal information. This finding aroused the teacher-researcher's interest even further and prompted the development of the Associated Memory Method, which has been trialled in this research.

In July, 2014, the teacher-researcher was selected as a volunteer to teach Mandarin in Western Sydney schools. During the first two months of this teaching assignment, the teacher-researcher observed Mandarin lessons given by local teachers. The teacher-researcher observed that although the effect of the students' engagement was quite good, the memory effect was comparatively bad. Again the teacher-researcher could see the relevance of the Associated Memory Method, as a possible key to help students enhance their memory and learning of Mandarin.

When the teacher-researcher reflected on these observations in Australian schools it was noted that the lessons delivered by the local Mandarin teachers were focused on vocabulary and students' engagement. The planned content lacked any internal connection. Each part of the content in the lesson plans was just the knowledge itself without linking to other knowledge. This triggered the teacher-researcher to think about the idea of using the Association Memory Method. That is, to design the lesson plans considering associating students' prior knowledge with the new knowledge to enhance their memory effect.

1.2.2 Stating the research questions

The research questions have been generated from the purpose of the study, and consist of one major research question with two contributory questions.

The main research question of this study is:

How can the Association Memory Method be developed to improve beginning learners' Chinese literacy in Australian schools through a beginning teacher-researcher's action research?

The contributory research questions are:

1. How can the Association Memory Method be employed to make Chinese language learnable for Australian school students, when teaching pronunciation?
2. How can the Association Memory Method be employed to make Chinese language learnable for Australian school students, when teaching Chinese characters?
3. How can the Association Memory Method be employed to make Chinese language learnable for Australian school students through using geographical, historical and social knowledge?

The research questions have been generated from a consideration of how to improve Australian students' Chinese language learning efficiency, as well as the teacher-researcher's capabilities in designing lesson plans and conducting the teaching. This research has focused on the development of a teacher-researcher's knowledge,

particularly pedagogical knowledge in the development of the Association Memory Method (AMM). It has also considered the teacher-researcher's knowledge of the students' learning capacity of the Mandarin language and the application of the language into real life situations.

1.3 Thesis outline

The preceded focus and arguments to be developed in the thesis will include in the following seven chapters.

Chapter 1 introduces the background of this research from both an Australian context and the angle of the teacher-researcher. The research questions have been defined and significances of this study have been explained.

Chapter 2 has reviewed the literature on the Association Memory Method (AMM) and the application of this approach in second/foreign language teaching.

Chapter 3 has presented the methodology and methods of this study. It has illustrated the application of qualitative action research, outlined the research design, the data collection (interviews and self-reflective journals) and analysis approaches. Ethical issues in the conduct of this study, generalizability and triangulation have also been discussed in this chapter.

Chapters 4 to 6 have presented the evidence from the research and conclusions have been drawn as the application of AMM was undertaken in schools. Chapter 4 has addressed the AMM implementation in relation to Phonetic Association, Chapter 5 has presented the research related to AMM and Semantic Association, whilst Chapter 6 has focused on Cultural Association and the use of AMM.

Chapter 7 has summarized the major research findings and discussed aspects of the research project including: key contributions and possibilities of AMM, the self-development of the teacher researcher; the study limitations, and the future implications and recommendations for continued research into AMM in the future as a potential strategy to make Chinese learnable.

CHAPTER 2

LITERATURE REVIEW

2.0 Introduction

In Chapter 2, the theoretical and empirical contexts of this research have been provided. Three areas of research have been brought together to explain the proposed research. Research and theories related to association memory in the psychological field, research and theories related to cross-linguistic similarities in the field of applied linguistics, and studies and situations related to teaching or learning Chinese as a foreign or second language have been presented in Chapter 2.

2.1 Association memory theory and research

This section has provided a discussion of the theories and empirical studies identified in the literature, related to learning and association memory.

2.1.1 The definition of association memory

Association memory has been described as a memory system that stores mappings of specific representations to inputs, outputs, and other representations (Richard and Schmidt, 2000, p.38). Association has been described as the strategy for recollection of ideas and concepts, whereby the reminder is sparked from the existing memory. Knowledge can be said to be interrelated, therefore in thinking, association is a basic form of thinking, and is a way to remember. Association can be said to be a psychological process of merging information by and/or with a stimulus which can prompt the human brain into processing new information and recalling the 'old' (Richard and Schmidt, 2000). In general, ideas and concepts that appear to be close

to each other, opposite, or prone to be similar, will be the easiest for the brain to generate association. A major function of memory is to establish connections with relevant experience, the more active association in thinking, the more firmly the ideas and concepts are embedded. Since second language learning (L2) focuses on the relationship between language, culture and learning, which are inevitably connected to and building on people's existing knowledge, association memory method has been used in L2 learning and teaching (Zhang, 2006, p.37). When an item of information is similar to another, already in the memory, association can be triggered and recall can be supported. From this perspective, memory and association can be seen to be intertwined tightly and work together (Zhang, 2006).

Association memory method (AMM) is a method of connecting things through association aimed at enhancing the memory. There are three major kinds of association memory method: similarity or contrast, imagery, and subordination (Purdy, Markham, Schwartz, & Gordon, 2001).

Similarity or contrast association memory method is generated based on past memories that are triggered through apparent similarities or differences in terms of the nature or origin of the original information, being associated with the new ideas to be remembered. For example when students have already learnt the Chinese character “青”, it should be easier for them to learn how to read and master “情、清、请、晴、睛”. These characters have similar pronunciation and shape, and share the same finals and some radicals. In this regard, their association can be picked up by the brain. As the association is triggered by similarity, these new characters can be organized by the brain into the existing knowledge bank so the number of new batches of information that need to be encoded can be significantly reduced. In this way, these new characters could be learnt through the similarity memory method.

Imagery association memory method links materials needed for memory with some specific visual information, such as numbers, letters, characters, or geometry). It is conducive to stimulate interest, mobilize the passion of learning and help to enhance memory (Purdy, et. al., 2001). For example, with reference to the map of China, it would be a useful strategy to encourage students to imagine what the shape of the map reminds them of. The implication can be drawn that if the students can connect

their previous knowledge to the new information and generate a meaningful answer (e.g. a rooster), they may be able to identify or draw the map of China more easily.

Giving additional visual imagery to complement learning may assist AMM. For example, when teaching the character “马” (horse), the teacher might show them a visual imagery (see as Figure 2-1: Left):



Figure 2-1: Left-horse; Right-Chinese character

This visual imagery presented to the children, might not only include the traditional Chinese character version of “马” (horse) (see as Figure 2-1: Right), but might also include the Chinese ink and wash painting which portrays a galloping horse. The top horizontal line in Figure 2-1 right, could be interpreted as the high head of the horse, four dots at the bottom could be seen to symbolize the four legs, the cross breaks hook could be imagined as the horse’s body shape and its flowing tail and the middle section – the horse’s neck and mane. With the help of these two visual images, students might find it easier to remember each part of the Chinese character “马”.

Subordination association memory method assists memory by enhancing knowledge by acknowledging cause and effect, subordination, and/or juxtaposition. This memory method has the potential to guide thinking and understanding by drawing on the existing relationships between knowledge components in the brain. In this way it is likely that a clear direction of thinking akin to following rules can be established by the brain (Purdy, Markham, Schwartz, & Gordon, 2001).

When learning ‘transportation’ in Chinese, for example. “汽车, 自行车, 火车, 公交车”, all have the base word “车”. In this situation, “车” is the root of all the words “汽车, 自行车, 火车, 公交车”. Recognizing this relationship across these words exemplifies an organization and linking that may assist the brain to encode these words and may more easily assign them to memory. To summarize, subordination AMM may serve as a method to apply cognitive psychology into teaching and learning, which may enhance memory effectiveness through elaborative encoding and relationships identification.

2.1.1.1 The relationship between memory and learning

In psychological and biological terms, learning has been linked to memory as having a dependent relationship (Andrew, 2006). Learning, has been defined as primarily a process “by which the behaviour of organisms changes as a result of their experience with the environment” (Purdy, Markham, Schwartz, & Gordon, 2001, p.8). Due to cumulative experience, an organism’s behaviour as a result of learning, may increase over time.

Memory has been defined as “the persistence of this behavior change over time” (Andrew, 2006, p. 42). For most living organisms, learning and memory integration can be seen to be integral to the organism’s survival. Purdy, Markham, Schwartz, & Gordon (2001, p. 3) contend that “...learning and memory occur in a wide variety of situations and can have a wide variety of effects”. When we learn, we may often associate events that are separate in time. Such associations could not be formed unless a representation of one event could be retained until the other occurred. If organisms have no memory of events, each event would be viewed in isolation, and relationships between events would not be recognizable. From this explanation, it can be proposed that there is no learning without memory, and no memory without learning. Therefore, learning and memory are relative and inseparable.

2.1.1.2 Short-term and long-term memory

Memory processes may include the operations people perform on stimulus inputs to convert them into usable memories, as well as the operations people go through to

search memories out, and retrieve them when needed (Purdy, Markham, Schwartz, & Gordon, 2001, p.233).

As two important storage forms of memory, both short-term and long-term memory has been the focus of research. In technical terms, short-term memory (work memory) provide a temporary place for sensory memory to put information that may or may not be important down the road (Andrew, 2006, p. 45). In contrast, long-term memory (permanent memory) is able to retain information over extended periods of time (Andrew, 2006, p. 47). Short-term memory has been referred to as a working memory system that holds information briefly so that it can be used or processed. If similar information is continually presented to a person or other animal, and successful retrieval occurs over time, the memory could most likely be stored in the long-term memory (Purdy, Markham, Schwartz, & Gordon, 2001, p.264). During the transformation from short-term memory to long-term memory, elaborating (semantic or meaningful process) play an important role.

In Craik and Lockhart's (1972) Level-of-Processing Model, it posits that "the retention of written materials in long-term memory depends not on how long information is rehearsed but rather on the depth at which it is processed" (cited in Shen, 2004, p. 168). In this view, any experience can be encoded "shallowly" or "deeply". The first uses rote and repetitive rehearsal strategies and would result in shallow processing in one's memory. The other uses meaningful rehearsal strategies and therefore results in a deeper processing in memory. With regard to deeper processing, evidence has been cited that more elaborate processing results in better memory as it provides additional cues for recall (Shen, 2004, pp. 168-169).

2.1.1.3 The elements of elaborative processing—distinctiveness, effort and generative

It also shows that elaborative rehearsal involving the encoding of a memory would be recalled even after long retention intervals (Purdy, Markham, Schwartz, & Gordon, 2001, p.268). Elaborative processing means that new information being encoded into one's memory can be related to other already-learned information. Relating information to existing information can lead to better memory performance (Purdy, Markham, Schwartz, & Gordon, 2001, p.275). It involves making

information more meaningful by means of visual imagery, by relating new material to known information, and by arranging information into a meaningful structure (Shen, 2004, p. 169.)

Three theories/elements have been proposed to explain elaborative processing. The first, distinctiveness purports that oddball items are frequently highly memorable. Semantic or meaningful processing usually leads to better retention because it increases the distinctiveness of the memory code that is formed (Purdy, Markham, Schwartz, & Gordon, 2001, p.272). When we read a book, the meaning found on one page is seldom the same as the meaning found on another page, however each adds to the story being told. Accordingly, each meaning code is reasonably distinct from the others yet over the entire book, the meaning and story may be committed to memory. This is further explained by Purdy et al. (2001) that when reading a book, the reader would not process the individual letters and words to be committed to memory, unless the reader came across a new word. Most readers would tend to code the overall meaning of a sentence, paragraph or page into their memory. Purdy et al. (2001, p. 272) purport that encoding based on meaning will have greater influence on long-term memory.

The second explanation for information being processed into long-term memory has been linked to the effort one makes when processing the information (Purdy, Markham, Schwartz, & Gordon, 2001, p.273). Researchers have proposed that effort and memory are closely linked, and elaborative processing may lead to stronger memory encoding because it involves concentrated and involved effort. The more capacity we use or the more effort we devote to processing a particular input, the better we will retain that input over time. According to this view, semantic processing usually produces better retention, because it involves a greater amount of effort than does processing in terms of physical features (Purdy, Markham, Schwartz, & Gordon, 2001, p.273).

The third element of elaborative processing has been referred to as the generative effect whereby the memory for items that a person has generated themselves has been compared to memory for items provided to the subject by a researcher [or teacher] (Purdy, Markham, Schwartz, & Gordon, 2001, p.274). In this type of clinical, psychological research, manipulations of the items to be memorized can be

controlled, and therefore claims have been made as to the long-term memory effect of self-generated codes for memorization. Although in this research and thesis, and in educational settings in general, this type of research does not occur, it is plausible to note that having students generate their own coding for information, may assist in long-term memory.

To sum up, elaborative processing has been proposed by Purdy, Markham, Schwartz, & Gordon. (2001) to assist long-term memorization by semantic encoding, greater effort being expended and subjects [students] being able to generate their own associations to prior knowledge. Consequently, learning efficiency may be able to be enhanced by combining elaborative processing.

2.1.1.4 Summary

Based on the work of Purdy et al. (2001) and others, elaborative processing has been purported to assist long-term memory. Key ideas from this literature could be applied into the teaching and learning of Chinese language to support beginning learners.

To support the students' elaborative processing to assist long-term memory, the following information could be assimilated into teaching practice:

- Present the students with information that is organized in order that it could be processed by them into long-term memory. Organization means grouping to-be-learned information into conceptual categories. New materials are more likely to be learned when they fit in with the existing organization. If there is organization already in the to-be-learned information, this may reduce the number of blocks of information that have to be encoded, and may allow more rapid assimilation into existing memory representations (Purdy, Markham, Schwartz, & Gordon, 2001, p.281),
- Use imagery to enhance associations. Imagery not only serves as an additional retrieval cue, but also makes students learn from the dual code theory that we are naturally equipped to retain visual information more easily than verbal information (Byrnes, 2008, p.66). The method of loci is one application of imagery. It links a familiar routine with a series of items that people are trying to learn/memorize, which involves elaborative encoding of

the material. Memorization is claimed to be enhanced by attaching pieces of information to points along an imaginary journal, or connecting to a series of visual images. Remembering speeches is one such use of the method of loci (Byrnes, 2008, p.66).

2.1.2 Empirical studies in the field

This section reports on the literature identified in the field under the two themes of ‘Elaborative processing’ and ‘Memorization’. These studies have direct relevance to the Association Memory Method that has provided the basis for this thesis.

In many of the studies reviewed, elaborative processing (semantic, verbal and images) has been researched and findings have indicated it to be an effective approach in facilitating successful language learning (Zimmer & Engelkamp, 1957; Stein & Bransford, 1979; Shen, 2004; Chamot, 2005); though in the research of Shaughnessy et.al. (1986), there were no statistically significant differences between these semantic and non-semantic elaborations.

Other studies from around the world have argued for the effectiveness of Association Memory Method, as one successful application of elaborative processing (Oxford & Scarella, 1994; Groot & Hell, 2005; Chen & Zhang, 2001; He, 2003; Zhang, 2006; Hu, 2010; Ye, 2013; Wang, 2013). Findings from these studies purport that AMM:

- contributes to English vocabulary learning among high school and college students in both short-term and long-term memory through generating associations with new words,
- helps students form a more comprehensive view of memorizing vocabulary, and
- motivates student interest at the same time.

Liu (2010) also affirmed the effectiveness of AMM’s application in teaching Chinese as a second language (L2 teaching). However, few studies have been undertaken that have explored AMM as an empirical study with primary school students. The implication for this research has been to address this gap in the literature by applying these processes into the teaching of Mandarin pronunciation, character and Chinese

culture with primary school students (years 5 and 6) in an attempt to explore the efficiency of AMM.

These studies will now be presented in more detail.

2.1.2.1 Elaborative processing

Several empirical studies (Shen, 2004; Zimmer and Engelkamp, 1999 and Chamot, 2005) have been identified in the literature where research has been conducted to explore how elaborative processing, has impacted on learning.

Shaughnessy et.al., (1986) investigated the *distinctiveness of encoding and learning words* among college students, and examined how different strategies of elaboration can affect retention. The results indicated that there were no statistically significant differences between these semantic and non-semantic elaboration strategies in either immediate recall or recall after one month (cited in Shen, 2004, p. 169).

Stein and Bransford (1979) compared the *effectiveness of learner-generated elaboration and instructor-provided elaboration*. This study suggested that the controlling factor affecting retention was that the elaboration modifies the material to be recalled with precision, and not who generates the elaboration. Willoughby et al. (cited in Shen, 2010, p. 170) compared the *effectiveness of retention between verbal and imagery elaborations* among college students. The results indicated that verbal elaboration was better than imagery elaboration when the learners had a rich knowledge base. But when students had limited prior knowledge that could be associated with new materials, imagery elaboration facilitated memorization.

Level-of-processing effects in subject-performed tasks were examined by Zimmer and Engelkamp (cited in Shen, 2004). In this study, they compared two pairs of elaborate encoding conditions: semantic-based verbal encoding vs. non-semantic-based verbal encoding; and verbal encoding alone vs. verbal encoding supplemented with subject self-performed encoding (after learning a list of action phrases the subjects were asked to act out these words). The results showed that for two types of verbal encoding conditions (semantic and non-semantic), retention was significantly increased for the semantic-based verbal encoding task whether or not self-performing encoding was included (Zimmer and Engelkamp, cited in Shen, 2004, p. 170).

Elaborative processing also has been explored in Chinese characters learning. Shen (2004) evaluated how different encoding conditions in learning Chinese characters affected retention and recall in sixteen non-native college students from a second-year Chinese class. In this study, the participants were asked to learn the new characters over three learning sessions through rote memorization, student self-generated elaboration, and instructor-guided elaboration. The findings demonstrated that rote-memorization and student self-generated elaborations resulted in longer-term recollection of the words, whereas instructor-guided elaborations were lost from the college students' memories over a very short time (48 hours).

Oxford and Scarella (1994, p. 239) argue that adult learners should learn vocabulary through usage and in context. Word association as a teaching method in vocabulary instruction made "associations between the new word and any words already in the learner's memory, adults were capable of generating their own associations with new words. Teachers should supplement these activities by teaching students strategies which help them to learn vocabulary independently". Similarly, Chamot (2005, p. 121) in his research related to language learning strategies indicated that association as a deep processing strategy "had been found more effective in vocabulary retention than rote repetition strategy".

2.1.2.2 Memorization

Groot and Hell (2005) compared association learning with other mnemonics and recommended that the word association method could be widely applied and the picture association method would be particularly useful for teaching children to develop systems of improving and assisting memory.

Chen and Zhang (2001) researched English vocabulary memorization strategies with Chinese children. The research showed that although association memory method was used less by the children for overall memorization, they were able to use these strategies on the sounds and shapes of the word.

He (2003) conducted a study to explore how association affects memorization on vocabulary acquisition in college students. The researcher testified that the association method contributed to memorizing words efficiently in both the short-term and the long-term memories of the participants.

Zhang (2006) demonstrated through a study on the effectiveness of the association memorizing method on vocabulary learning. Based on her experiment with 74 college students, she pointed out that the association memorizing method was effective because words could be more easily acquired and hence there were applications for learning and teaching practice.

Hu (2010) discovered that the association memory strategy had an obvious effect in improving the efficiency of English vocabulary teaching of Chinese high school students, by associating sounds and images, especially for the words that are difficult to learn for various reasons.

Ye (2013) focused on studying the training of vocabulary association learning strategy with primary school students in China, during English classes. This study revealed that “the application of vocabulary association memory strategy can help students form a more comprehensive view of memorizing vocabulary and motivate student interest in English learning. The strategy also improved the competence of English vocabulary learning for most students” (Ye, 2013, p. 45).

Wang’s (2013) study explored the effects of the mechanical and association methods in memorizing English vocabulary in a senior high school in China. The findings from this study informed the recommendation that language teachers need to consider adopting a range of different teaching strategies to improve students’ memory efficiency.

Other researchers have discussed the application of association memory methods in teaching Chinese as a second language (L2 teaching). Liu (2010) found that the association method could accelerate students’ short-term memory and enhance accumulation of long-term memory by associating existing relationships between words. Liu (2010) employed association memory method in his study by incorporating images, forms and paradigmatic relations throughout the lessons under study.

Although the concept of Association Memory Method has been mentioned in various studies, the teacher-researcher was unable to identify literature specifically relating AMM to teaching young children, Chinese as a second language.

2.2 Cross-linguistic similarity theories and foreign language learning

This section reviews the theories of cross-linguistic similarity and foreign language learning.

2.2.1 Cross-linguistic similarity

Language learning is a continuous process of making connections between learners' prior knowledge and new sources of language and cultural input, while deepening, extending and elaborating each learner's framework of knowing, understanding, valuing their own and other languages and cultures, and applying that knowledge in interactions across languages and cultures. (Scarino and Liddicoat, 2009, p.79)

Learning anything new will be more efficient if it can be related to the already existing knowledge and skills (Vidgren, 2011, p151). The learning process involves comparing and contrasting the new information with any similar previously learnt information. In linguistics circles, "searching for similarities between languages and using these similarities in order to facilitate language learning" could be used as the basis, a natural method, for teachers to plan successful language learning lessons (Vidgren, 2011, p151). Similarity, contrast and zero relation are three types of cross-linguistic similarity relations. According to Vidgren' definition,

A similarity relation exists when there is formal or functional similarity between the target language (TL) and first language (L1) or some other language the learner knows. In a contrast relation, there is an underlying similarity between the languages, but to the learner the item or pattern in the TL seems to differ from the corresponding item or pattern in L1. In a zero relation, the differences between the languages are so substantial that the learner perceives the languages as completely different despite the language universals they may share. (2011, p151)

The three different types of cross-linguistic similarity relations affect learning efficiency, especially with reference to similarity relation. In Ringbom's (2007) book, he explored cross-linguistic similarities using one group of Finnish-speakers and one group of Swedish-speakers, learning English. The results showed that Swedish-speakers whose mother tongue is more similar to English have an evident advantage learning English. However, when the target language (English) proficiency grows, "the differences between learners diminish and eventually disappears" (Vidgren, 2011, p152). This would seem to have implications for language learning, that through cumulative experiences and learning, students will become more efficient learners and hence improve at a more rapid rate. For children learning Chinese, a language with less cross-linguistic similarities, consistently on-going language learning lessons would be beneficial to aid long-term memorization of the language elements.

2.2.2 Event-related potential

In an Event-Related Potential (ERP) study, Xue (2013) and colleagues focussed on Chinese native speakers, learning a second language. This study aimed to explore the synaptic grammaticalisation process to discover whether similarity, different or unique features of language learning would affect the syntactic learning process. Based on Xue and colleagues' theory, grammaticalisation is "the instantiation of rule-based knowledge into the learner's real-time language processing system" (McLaughlin etc. cited in Xue et al, 2013, p258).

This research study was conducted with 19 Chinese students studying for an English major at Beijing International Studies University of China. The students had an average 14 year history of English learning and had engaged in more than two years' English immersion classes. In this research, participants pressed two buttons (one with left hand and the other with right hand) to decide whether sentences presented on computer screens were correct and acceptable. Within the sentences presented to the students half were well formed while the other half were not. Each sentence was presented word by word with a short interval between them until the word was revealed (Xue et al, 2013, p258). This research team drew the following conclusions:

By manipulating the L1–L2 similarity, we found stronger behavioral and neural responses were elicited in violations of L2 syntactic contrasts that were expressed in the L1 than those that mismatch between the L1 and L2. L1–L2 similarity plays an important role in the speed of L2 grammaticalization (Xue et al, 2013, p. 262).

This neuro-cognitive theory (Xue et al., 2013) has implications for this research project. The teacher-researcher compared the similarity between English and Chinese at the level of the children in the classes assigned for the teaching assignment. The findings have been presented in Chapter Four.

2.2.3 Language transfer in bilingual education/immersion method

Early methods of language teaching tended to be based on a direct translation method along with “the development of listening, comprehension and speaking ability” (Cummins and Hornberger, 2008, p. 66). Correcting pronunciation and grammatical knowledge were most important in this language teaching method.

In contrast the immersion method of L2 teaching has been proposed (Cummins and Hornberger, 2008). In this approach, (Cook cited in Cummins and Hornberger, 2008, p. 66) contends immersion methods “portray the ideal classroom as having as little of the L1 as possible, essentially by omitting reference to it”

Howatt’s “monolingual principle” (1984), also advocates little L1 use in L2 learning. “Instruction should be carried out, as far as possible, exclusively in the target language without recourse to students’ first language (L1)” (Howatt (1984) cited in Cummins and Hornberger, 2008, p. 65).

However, Cummins and Hornberger summarized their findings of successful L2 teaching and learning as requiring three major conditions: “(a) engaging prior understandings, (b) integrating factual knowledge with conceptual frameworks, and (c) taking active control over the learning process through meta-cognitive strategies” (2008, p.67).

Cummins and Hornberger (2008, p68) define prior knowledge as:

refers not just to information or skills previously acquired in a transmission-oriented instructional sequence but also to the totality of the experiences that have shaped the learner's identity and cognitive functioning .

From this perspective, prior knowledge and first language are inseparable. Students' prior knowledge is encoded in their L1 whereby they express their cognition and knowledge through their L1. Donovan and Bransford, 2005, (cited in Cummins and Hornberger, 2008, p. 67) point out that "new understandings are constructed on a foundation of existing understandings and experiences." This principle implies that when students are learning a second language (either in second/foreign language instruction or in bilingual/immersion programs) instruction should explicitly attempt to activate students' prior knowledge and build relevant background knowledge as necessary. (Cummins and Hornberger, 2008, p. 68). This may be very difficult for young children if an immersion method was chosen. Other studies have explored the difference between L2 learning through immersion programs and L2 taught to students using their L1 as the teaching vehicle.

Verhoeven (1991, cited in Cummins and Hornberger, 2008) conducted an empirical study which found that Turkish-background students' literacy results in L2 improved by strong emphasis on instruction in L1. Similarly, "an example from a research study conducted in the greater Toronto area illustrated the instructional possibilities that emerge when bilingual students, L1 and prior knowledge are acknowledged as important resources for learning" (Cummins & Hornberger, 2008, p. 70).

In the classroom teaching and learning contexts, the movement between L1 and L2 has been acknowledged as an important strategy for speaking and writing in the L2. Cummins & Hornberger, (2008, p. 70) provide the following example from the Toronto research project where one of the participants, a girl from Pakistan used her L1 to express her ideas and experiences when participating in classroom discussions and when writing and publishing a story as a book and on the worldwide web. Throughout this process, it was reported that the participant with L1 Pakistani, switched between English and her home language in order to engage her previous knowledge when translating L1 into L2 (Cummins and Hornberger, 2008, p.70). Moreover, students who engaged in creating dual language identity texts provided

their reflection using their L1 in the classroom to help them with reading and writing in English from both the role of prior knowledge and cross-lingual transfer in L2 learning (Cummins and Hornberger, 2008).

Researchers have observed for many years that many students in bilingual and second language immersion programs spontaneously focus on similarities and differences in their two languages (Cummins & Hornberger, 2008, p. 72).

Due to the uncritical acceptance of monolingual instructional assumptions by many policy-makers, practitioners and researchers, teaching for transfer has not been pursued in the vast majority of bilingual/immersion programs, nor in the teaching of the dominant language to newcomer students (Cummins & Hornberger, 2008, p72). As a consequence, systematically encouraging and supporting learners in focusing on language and relating their L1 knowledge to L2 will be the major teaching method in this research.

2.3 Teaching Chinese as a second/foreign language

Chinese language or Mandarin, also known as Putonghua (“the common language”), has a basis “...on the Beijing dialect and legitimated as the official language of the country. The official language, Mandarin, is learned by all Chinese at school and is credited as being the language spoken by the greatest number of people in the world—650 million is the current estimate, although written Chinese is potentially intelligible to over 1 billion people” (Zhao and Huang, 2010, p.128). Kane (2006, p.11) describes the form and sound of Mandarin:

Written Chinese looks like a random set of stokes, dots and dashes. In its handwritten form it looks like a series of undifferentiated squiggles. Spoken Chinese sounds like a rapid series of almost identical monosyllables with rising and falling intonations (cited in Zhao and Huang, 2010, p.128).

2.3.1 Teaching Chinese characters

In the Chinese language, each written character corresponds to one syllable in the spoken language. More importantly each

character/syllable unit carries its meaning; it may be a word by itself, or a meaning element (morpheme) used to constitute multi-character (multi-syllable) words. Visually, each Chinese character occupies an imaginary square space. (Tse et. al, 2006, p.376)

Thus, “the Chinese script, unlike alphabetic writing systems, lacks an obvious sound–script correspondence” (Shen, 2004, p. 168). “Chinese characters are well known for their ideographic origins” (Tse, 2006, p.376). Unlike alphabetic languages whose letters convey pronunciations, Chinese characters in ideographic languages represent meanings. Moreover, compared with number of letters and morphemes in alphabetic languages, the number of characters in Chinese is huge (Tse et. al, 2006).

“The complexity of the graphic configuration of Chinese characters is another unique characteristic” (Shen, 2004, p. 168). Most Chinese characters are composite characters made up of multiple reusable components that fit into a square space. They can be divided into two major groups: one is simple characters and the other is compound characters. In simple characters, there are picto-graphic and self-explanatory characters (which combine some picto-graphic characters with some strokes representing the meaning). In compound characters, there are semantic characters (which consist of several morphological components representing meanings) and phonetic-semantic characters (which consist of several morphological component and phonetic components representing meaning and sound separately). The components in Chinese characters are called radicals. “Ming scholar Mei Yingzuo compressed the list of radicals into 214. Although radicals were “historically derived from independent characters, in modern Chinese some of them have lost their independent status” (Shen, 2004, p. 168). In addition, though over 90% of modern Chinese characters fall in the category of morpho-phonetic compositions (Tse, 2006, p.378), only 36% still reliably represent the pronunciation of the character in modern Chinese (Shen, 2004, p. 168). The fact that “each Chinese character consists on average of some 12.7 strokes also imposes considerable strain on working memory” (Tse et. al, 2006, p.376).

Due to all the characteristics mentioned above, Chinese language, especially Chinese character learning, may constitute a barrier to some foreigner learners who may even feel Chinese is one of the most mysterious languages in the world. In order to

overcome this problem, many researchers and educators devote themselves to this field in attempts to make Chinese learnable.

Tse et.al., (2006) developed an approach based on phenomenography (a qualitative research methodology) and applied this to teaching and learning of Chinese characters for a group of children in Hong Kong. Compared with the traditional way of repeatedly copying, they introduced and used language and characters in contexts meaningful to the pupils, and drew attention to structural features, written forms and pronunciation. The recommendation from this research was that, “Characters are [more easily] learnt in relational clusters, similarities and variations among related characters in the clusters being used by teachers to highlight and emphasize crucial aspects of Chinese characters and words” (Tse, 2006, p. 375).

Kuo and Hooper (2004) tested the effects of different approaches to learning Chinese characters in a group of high school students. From the five treatment groups, they found that “participants who generated their own mnemonics demonstrated higher post-test performance than those in visual coding, verbal coding, and translation groups” (Kuo and Hooper, 2004, p. 23).

2.3.2 Teaching Chinese-some difficulties uncovered

Chinese Mandarin has been found to be difficult for many beginning learners as the Chinese characters are ideographs without individual characters that represent the component sounds of a word as in alphabetic languages.

2.3.2.1 Pinyin

In an attempt to address this, the Chinese government adopted Pinyin in 1979 to represent Chinese characters phonetically, for non-Chinese speakers (Wu and Miller, 2007, p. 583).

Pinyin represents a modern phonic transcription system that assists in learning pronunciation of characters in Putonghua (the official spoken language of China, also called Mandarin). Pinyin shares the alphabet with English, and diacritical signs are marked above the vowel of a pinyin to indicate the tone of the word. (Lee and Kalyuga, 2010, p. 11)

Wu and Miller (2007, cited in Lee and Kalyuga, 2010, p. 586) conducted a study to explore the effects of a tutoring package for the pronunciation of Chinese characters and found that “adding tutoring to Pinyin produced rapid progress in pronouncing Chinese characters” Xu, et.al., (1997) had earlier proposed a different opinion, however their research was with young children in China. They attempted to develop effective ways to reduce learner cognitive overload while using Pinyin to learn Chinese. The findings suggested that “even though pinyin enhanced independent reading and character recognition for young Chinese children (native speakers), it may not be beneficial for children with dialect background when dealing with new vocabulary items that are unfamiliar to learners in their spoken. The benefits of pinyin were demonstrated only in learning pronunciation” language (Xu et al., 1997, p. 15).

The research seemed to indicate that students’ experience using pinyin and their level of language proficiency coupled with the level of teaching support provided, were the significant factors for pinyin to be an effective instructional medium.

2.3.2.2 Tonal variance

The tonal quality of Mandarin has also been labelled as causing some difficulty for beginning learners. In tonal languages the pitch is used primarily on the syllable level to signal lexical meaning for every syllable (Zhang, 2006, p. 7). “Mandarin has five tones; a level, a rising, a falling-rising, and a falling tone, plus a neutral tone. All of these tones are loosely tied to five relative pitch levels” (Zhang, 2006, pp. 7-8). Further, teachers of Chinese when confirming correct pronunciation of the Mandarin, need to also concern themselves with stress, pause, sound change, rhythm and intonation as the Chinese words are spoken (Zhang, 2006, pp. 7-8). Most of these characteristics are different from beginning learners L1, from western English-speaking countries.

Research has been conducted to investigate how best to teach the tones in Mandarin and how this may reduce the learning burden for young children and beginning learners. Chun et.al., (2012) verified visualization of tone as helping to improve learning Chinese pronunciation. By comparing pitch contours from native speakers

and learners themselves, learners tried to master Mandarin tones and their research suggested this method reduced beginning learners' incorrect pronunciations.

Tsai (2011) found that pitch contours + Pinyin (e.g. ㄨˋ. mà) produced a significantly faster learning rate than other methods. Moreover, he recommended using visual signs to show the tone, like making gestures while speaking. The more and varied cues given to the students, the more likely they might be to find the strategy that best suits them. Lastly, Tsai (2011 p. 50) drew an analogy between the tones in Mandarin and the prior musical knowledge of students. He claimed that “learners with a musical background are likely to learn faster” (p. 50).

2.3.3 Chinese learning and teaching in different countries

According to Zhang (2006), in Asia, the governments of Korea, Singapore, Indonesia, Malaysia, Cambodia and Vietnam all encourage their citizens to learn Chinese. This is a very different situation from 30 years ago when, for example, Chinese was forbidden in Indonesia and Cambodia. In the West, Chinese is ranked as the second most important foreign language in the USA and is the most frequently used L2 in Canada and Australia. In England, the government sponsors the learning of Chinese, and in France there are more than 300 primary and secondary schools offering Chinese courses (Zhang, 2006; Yu, 2010, p. 301)

These statistics offer a perspective that developing strategies to assist Chinese to be learnable for beginning learners is a challenge of significant proportions. At present, in Britain, there are eight universities with Chinese Studies Departments where the Chinese language may be studied with approximately 100 single and joint honors graduates every year. In order to meet the UK Government's targets for more Chinese speakers in their country, particularly in a range of academic fields, there is a need for more school children to be introduced to the Chinese language. The Higher Education Funding Council for England (HEFCE) Review of Chinese Studies (1999) notes “any future expansion in Chinese language studies in HE might be hampered by their scarcity in secondary schools” (p. 11). (cited in Higgins and Sheldon, 2001, pp. 109-110)

In the USA Robert Davis (director of the Chinese-language program in Chicago's public school system) was cited to have said (Weise, 2007): “Chinese isn't the new

French — it's the new English", which indicated an increasing importance and significance in the teaching and learning of Chinese in that State. Since 1998, enrolments in Chinese language classes in institutions of higher education in the United States has increase by 20 per cent, making Chinese the sixth most frequently taught foreign language (cited in Wu and Miller, 2007).

In the Australian context, Orton (2008) has discussed the current state of Chinese language education in Australian Schools. She has stated that:

figures from the end of 2007 show that fewer than 20 per cent of Australians working in China can speak the language at all, and only 10 per cent have studied even one China-related subject. At Year 12 nationally, a scant 3 per cent of students take Chinese, more than 90 per cent of whom are Chinese. Urgent development in the breadth and quality of Chinese teaching and learning in Australian schools is needed as a matter of national strategic priority. (Orton, 2008, p. 7)

According to Orton (2008, p. 14) the number of schools teaching Chinese is small-scale compared to the number offering European languages. According to Orton and therefore as at 2008, Chinese was being taught in all States and Territories in Australia in a total of 319 schools. Adding conservatively for unavailable data, the number of students studying Chinese in Australian schools was estimated to be 84,000 (Orton, 2008, p. 14). At that time Orton (2008) provided detail as to where Chinese was taught and signified the language was offered in government primary and secondary schools, catholic and independent schools, several centers of the government's Saturday Victorian School of Languages, via the government's Distance Education service, and also in a number of weekend Ethnic Schools (Orton, 2008, p. 11).

2.3.3.1 A focus on the Australian context

To understand the context within which this research has been conducted, the teacher-researcher has noted further information about the Chinese language teaching context in Australian schools. Orton (2008) was found to have the most up-to-date statistics in this area.

Australian Chinese language syllabus documents have been developed for L2 learners in schools with some notation for community language programs for those who speak Chinese at home (Board of Studies, 2003). The primary school program has included some recommended familiarization activities such as cooking, counting to 10, and learning basic characters. The time allocation at the syllabus level for a primary Chinese program is from 30 minutes to one hour per week (Board of Studies, 2003).

As for secondary school, all secondary schools are required to “provide language programs in the first 2–3 years, with a minimum of 120 hours per year generally accepted as constituting ‘a program’” (Orton, 2008, p.20). At the end of Year 12, students would be expected to have mastered some 250 characters. At the University level, there have been no national standards or graduate attributes, accepted across all universities. Orton (2008, p. 20) as a consequence has noted that the skills of graduates across Universities varies widely in terms of their proficiency in and understanding of the L2s learnt.

In the term of textbooks, “new textbooks, listening materials and national curricula for primary and secondary Chinese were developed in the early 1990s. However, no Chinese school curriculum for use nationally has been developed since then” (Orton, 2008, p. 14). The sharing of teacher developed materials and resources has been known to be shared throughout educational regions through teacher networks (Orton, 2008, p. 14).

In some Australian schools, sister school programs with a school in China have been established. Through this program visits from the Australian school students to the sister school in China would provide up to six weeks study within China, followed by the Chinese students visiting their sister school in Australia. This program benefits both the Australian and the Chinese students. However, this opportunity may not be available to all children due to the costs involved.

Orton (2008, pp. 19-20) has posed yet another challenge for the Australian context in Chinese language learning. Whilst Chinese native speaking teachers might be most desirable to support the authentic learning of Mandarin, this notion has been shown to be not widely accepted. Native speaker teachers are usually rejected because the

schools have doubts about “their ability to relate well to Australian children and manage a local classroom, [as well as] get along well with colleagues and parents” (Orton, 2008, p.19). Chinese native speaking teachers have also criticized by L2 teachers of Chinese due to their pedagogical practices:

especially their reliance on character teaching in primary school at the expense of oral work, their inability to assist L2 learners with tone, and insistence on native-like accuracy with little regard for developing the communication strategies. However, L2 teachers are often not at the desired level in phonological aspects, grammatical correctness and extent of vocabulary and characters (Orton, 2008, p.20).

2.3.3.2 The challenges for Chinese language teachers in Australia

It has been noted that the pool of Chinese language teachers in Australia is short (Zhao and Huang, 2010, p.137). In addition teaching materials for Chinese as a foreign language and the recommendation of school-based language curriculum that requires adjustment to meet local community and school needs have also been cited as problems for the Chinese language teaching force in Australia (Zhao and Huang, 2010, p.137). The implications for teacher education have also been cited:

“...serious shortage is the lack of teacher trainers who can provide meaningful pedagogical professional development for pre-service or practicing Chinese language teachers at all levels. The Chinese teaching field must engage in professional dialogues ... to conduct research and develop pedagogy, curriculum, materials, and computer adaptive or assisted learning systems” (Wang cited in Zhao and Huang, 2010, p. 138)

Though Hanban has initiated a national volunteer scheme to meet the increasing demand for teachers around the world, the shortage of training schemes and qualified Chinese language teachers has been touted as a major factor hindering Chinese language learning (Xinhua, 2008; People’s Daily Online, 2004; Zhao and Huang, 2010, p.138).

Besides a lack of qualified teachers, the increasing number of learners has also resulted in demand for teaching materials, that is, well written textbooks that have responded to local school and community contexts. Many existing textbooks have been imported from China and do not suit the pedagogical conditions of schools in Australia. In other countries there has been the situation where in terms of teaching materials there has been “nothing at all pre-existing in the host language for teaching Chinese, and the teachers themselves must translate existing books from other languages, or write completely new ones from scratch” (Zhao and Huang, 2010, p.138).

To summarize, the unique characteristics of Chinese Mandarin, lack of qualified Chinese teachers, insufficient and improper textbooks, and disproportional Chinese language learning and teaching pedagogies have been discussed in this literature review as leading to the high drop-out rates in Chinese language learning in many western, English speaking countries. In an attempt to acknowledge this situation, and to become part of the debate concerning these issues, in this research, the teacher-researcher is dedicated to using the association memory method to find a way to interest students, store their newly learned knowledge into long-term memories and enhance their learning efficiency.

CHAPTER 3

LANGUAGE EDUCATION RESEARCH METHODOLOGY AND METHODS

3.0 Introduction

In this chapter, the teacher-researcher has introduced the methodology and method of this study. Chapter 3 has included concerns at both the theoretical and practical levels with respect to the topic of this study. Firstly, the characteristics of qualitative research have been discussed. This has been followed by the teacher-researcher's understanding of collaborative action research, and an explanation of why this method was chosen as the most suitable design to conduct this study. Detail about how this research was implemented in terms of data collection and analysis has been provided in the next section. The importance of research ethics and what that entailed for this research has been fully documented. Finally, some additional principles (validity, reliability and triangulation) guiding the research procedure have been discussed.

3.1 Qualitative research

Common sense and research both assist our understanding of various aspects of the world. However, research arguably “involves an explicit, systematic approach to finding things out, often through a process of testing out preconceptions” (Hancock, Ockleford & Windridge, 2007, p. 4). Quantitative and qualitative research have been described as the two most popular methodologies for conducting research. Compared with ‘quantitative methods’, where large samples of collected data become the basis for statistical analysis, the term ‘qualitative methods’ is more popular in the fields of

anthropology and sociology and attempts to understand a social setting rather than prove a hypothesis (Borg & Gal cited in Savenye & Robinson, 2005, p. 67). Cited as a naturalistic approach to understanding a situation from within, qualitative research enables the researcher and participants to have multiple conversations at various levels in order to “broaden and/or deepen our understanding of how things came to be the way they are in our social world” [rather than how much or how often it happens] (Hancock, Ockleford & Windridge, 2007, p. 4).

Due to the fact that qualitative research is often employed in ethnography, education, humanities and other social science fields, it can be used successfully to explore specific situations and contexts that are small-scale e.g. through case studies. However, mixed method approaches are sometimes developed whereby the advantages of both methodologies can be brought together and included in a project (Savenye & Robinson, 2005).

According to Savenye and Robinson (2005) qualitative research has several key characteristics.

- Firstly, rather than predict causality or manipulate the environment, qualitative research is conducted in natural settings and attempts to “yield insight into human activities and opinions from the perspectives of the participants [by] describing in detail what is happening” (p68).
- Secondly, qualitative research enables the researchers to recruit research participants who are representative of the case under study only, not necessarily representative of the general population. Though mostly the participant numbers are smaller compared with quantitative research, the detailed description of the cases under study provides deep insights and valuable understanding of complex social settings.
- Thirdly, qualitative research enables researchers to collect findings from more than one study if they are looking to generalize their conclusions and researchers need to “strive not to insert their own biases” (p. 68).
- Fourthly, qualitative research enables the researcher to continually refine the research processes, including testing and modifying those conclusions and

evolving the findings into the next round of action.

To make use of the advantages of qualitative research, this study has been applied many qualitative research methods and tools, include keeping a research journal, participant observation recordings, and semi-structured interviews.

3.2 Action research and collaborative action research (CAR)

Action research has frequently been used in educational settings when teachers and researchers have been interested in improving and adjusting their teaching practice. In this study, the teacher-researcher utilised collaborative action research as the project design, aiming to conduct a quality research project to assist in the improvement of teaching practice and hence professional development.

3.2.1 Action Research

Action research projects were being undertaken as early as the 1940s. However in the late 1980s proponents such as Carr and Kemmis (1986) lead a wave of support for action research in educational settings where self-reflections were proposed as critical data sets, the analysis of which, could improve the justice and rationality of overall teaching through a full understanding of the context (for example, including the school, students, the community and fellow school staff). Action research “empowers and emancipates the involved researchers through reflective action and by connecting theory and practice” (Carr and Kemmis, 1986, p. 162).

3.2.2 The cycles

Katsarou and Tsafos, (2013, p. 533) have reiterated the advantages of action research in educational settings and have proposed that to conduct action research there needs to be a four step process that occurs within one cycle. These are “plan, act, observe/collect data, reflect/review”. At the reflect/review stage of the first cycle, the teacher-researcher would then use these findings to plan for an improved teaching round in the second cycle. This is further discussed in relation to this project in section 3.3.3

3.2.3 Collaborative action research (CAR)

During the process of action research, collaboration in groups and the cyclical process itself, have been the subject of debate. Criticisms waged against action research generally stem from the arguments that the process itself becomes more important to some researchers than the reflective processes or that consensus in groups can be artificial resulting from power relations amongst the participants (Katsarou and Tsafos, 2013, p. 546). The counter argument is that collaborative knowledge has great strength and that connecting theoretical knowledge and teaching practice does not necessarily undervalue the worth of self-reflection. Therefore it needs to be summarized that collaborative action research involves a self-reflective, critical, and systematic approach to exploring one's own teaching, but at the same time collaborating with peer teachers can assist in further reflective thinking and professional understanding (Banegas, Pavese, Velázquez & Vélez, 2013, p. 187).

Networking amongst teachers at the same level of schooling, can provide opportunities for support to work through the many issues which are relevant to their teaching contexts. The more diverse the members of the networks, the greater the possibilities for wide support and learning (Scarino and Liddicoat, 2009, p.79).

Accordingly, in this action research, the significance of collaboration is emphasized.

3.2.3.1 Action research in this project

The aim of this study has been to implement the Association Memory Method (AMM) to explore an alternative approach to teaching Mandarin to primary school students in WRS. In order to do this, the teacher-researcher chose to undertake the study through action research, which would be the vehicle to provide the teacher-researcher with "...a method for solving everyday problems in schools so that they may improve both student learning and develop teacher's teaching" (Gay, Mills, & Airasian, 2006, p. 486). The 'everyday problems' were addressed through the teacher-researcher's self-reflections after teaching and also incorporated the classroom teachers' feedback from the end of lesson conversations and through the comments made by them during the semi-structured interviews. Peers and colleagues in the ROSETE program and the University supervisors, added to the collaborative

nature of the action research as it progressed across the four terms of teaching experience.

3.2.4 Quality criteria of Collaborative Action Research

The teacher-researcher, in deciding on implementing collaborative action research, has followed the three criteria listed below. The teacher-researcher:

1. combined academic knowledge with teaching practice. That is the teacher-researcher will endeavour to “gain deeper understanding of academic knowledge” and employ and test this knowledge critically during the research (Katsarou&Tsafos, 2013, p. 535).
2. created an atmosphere to promote professional development individually and cooperatively with the classroom teachers and other ROSETE students.
3. co-constructed new knowledge for and from the classroom through self-reflection and from the classroom teacher’s feedback and assessments and observations of students’ responses to teaching practice.

3.3 Research design

The main research question of this study is: How can association memory method be used to make Chinese learnable for primary students in Western Sydney? Therefore, the research design needed to match the intention of the implementation of the AMM to improve Mandarin teaching effectiveness.

The research applied the methodology of action research to investigate the influence of AMM on student learning effectiveness in the L2 classroom, as a way to improve pedagogy. The action research in this study included three cycles; each cycle investigated the implementation of relevant Association Memory Methods to enhance relevant language knowledge and language abilities.

3.3.1 Research sites

In this research, the researcher is a volunteer teacher-researcher (VTR) member of the ROSETE Program and as such was assigned to teach Chinese in two schools in the Western Sydney Region. The allocation of schools was arranged by the NSW

Department of Education and Training. The teacher-researcher was not responsible for the recruitment of the schools, teachers or students. The criteria for allocation of schools were that both the schools:

- have compulsory Chinese language classes for all students in their schools; and
- that the majority of students were beginning Chinese learners (i.e. able to use Chinese to conduct basic greetings and have some knowledge of isolated Chinese words).

The names of the two primary schools have been anonymized to ‘Zhongshan Public School’ and ‘Wanli Public School’. The teaching assignment at the two schools lasted eighteen months

3.3.2 Participants

School students: There were three classes that were involved in this research:

- a stage 3 class (23 students) in Zhongshan Public School, and
- a year 5 class (25 students) and a year 6 class (30 students) in Wanli Public School.

The teacher-researcher, as scheduled, taught one lesson for 30 minutes per week in Zhongshan Public School and one lesson for 45 minutes per week in Wanli Public School. All the student participants were beginning Mandarin learners. Therefore, they were assumed to have a similar level of Mandarin proficiency.

School teachers: The second group of participants was the three classroom teachers- one stage 3 teacher at Zhongshan Public School, and the two teachers at Wanli Public School (Year 5 and 6). Since the three classroom teachers stayed in the classroom, observed and assisted the teacher-researcher’s lessons, they were a good resource to be part of this collaborative action research.

The teacher-researcher as a participant: Beyond the classroom teachers, the teacher-researcher herself was also an indispensable participant of this action research. This involved ongoing observations and self-reflections on teaching practice.

3.3.3 Implementation of the three action research cycles

This research was specifically conducted through three cycles, and each cycle was completed in one term.

In each of the three cycles, the action research began with the teaching practices and then continued through the four steps ending with decisions about which practices or elements of the practice were to continue through into the next cycle and which others were to be discontinued. The process was refined by Carr & Kemmis (1986, p. 182) as one where new elements would be added, old ones might be discarded, and transformations would occur in others, across cycles and into new cycles. As the project continued the teacher-researcher sought better ways to solve the problems or refine the situation. The action research cycles can best be represented diagrammatically (Figure 3-1).

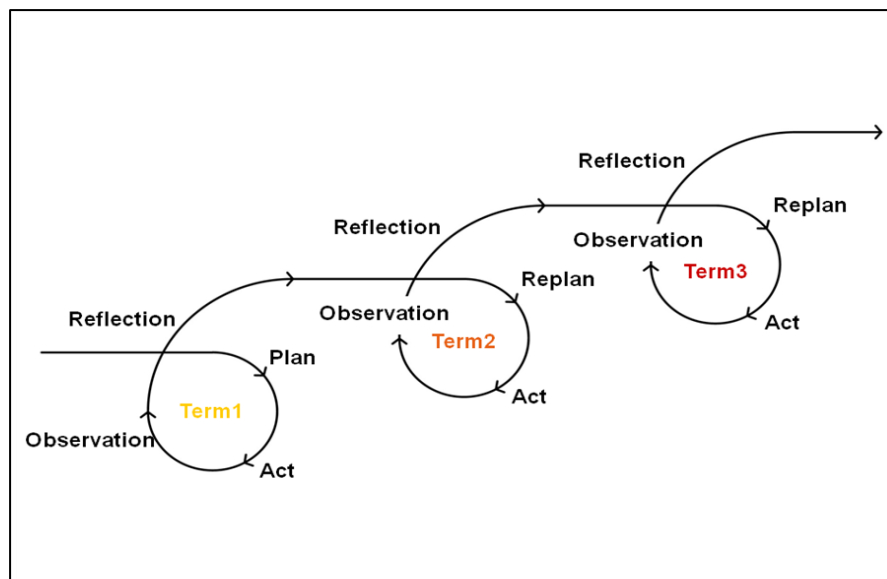


Figure 3-1: The diagram of the three cycles

Source: Carr and Kemmis, 1986, p. 182

As can be seen from Figure 3-1, the collaborative action research implemented in this research evolved over three cycles (Terms 1, 2 and 3), each of which consisted of four steps: planning, acting, observing and reflecting.

Table 3-1 below has provided a representation/summary of how the teacher-researcher adapted the guidelines for each step (Carr and Kemmis, 1986) for effective action research into the overall structure of this research project.

Table 3-1: Summary of the teacher-researcher’s adaptation of the action research guidelines

Guidelines for action research steps	The teacher-researcher’s adaptation of the guidelines
<u>(Re)planning:</u> to develop a plan of informed action to improve what is already happening and adjust some strategies on teaching	<u>Planning:</u> Before each term started, the teacher-researcher had the whole term’s lessons planned. She integrated Association Memory Methods into each lesson plan to research its effectiveness for Mandarin teaching and learning.
<u>Action:</u> to implement what is designed in (re)plan	<u>Acting:</u> When the term started, the teacher-researcher commenced the teaching with the three classes
<u>Observation:</u> to observe the effects of the informed action in the context in which it occurs and write it down narratively	<u>Observation:</u> During the teaching process, the teacher-researcher consciously observed students’ reaction and responses to her teaching. The classroom teacher sometimes assisted to complete the researcher’s observation by after class conversation.
<u>Reflection:</u> to reflect and evaluate on these effects (reflection journal and interview) as a basis for further replanning, subsequent informed action and a more critically sophisticated cycle	<u>Reflection:</u> The teacher-researcher wrote in the reflective journal after each lesson delivery. Notations were based on the observation notes, critical thinking about the lessons, evaluation of the lesson and teaching, and also included the classroom teachers’ perspective (through weekly after class conversation and an end of term interview). These have provided the bases for planning for the next cycle.

In addition, every lesson was treated as a small cycle. For each lesson the teacher-researcher conducted, she followed the process as represented in Figure 3-2 below. In this way, not only could overall improvement be made across the full term (cycle), but made even quicker having used this approach (each lesson being a small cycle), and subsequent lessons could be improved based on the reflections of the previous one. The continuity of improvement of teaching practice can be established in the short term by having viewed all lessons this way.

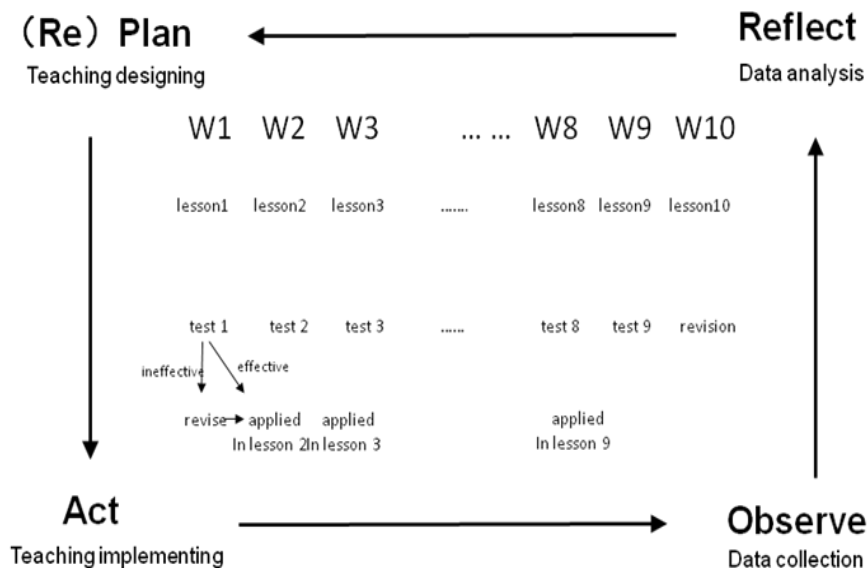


Figure 3-2: The four stages of one cycle of action research

This micro-revision of lesson plans continued throughout each term. The teacher-researcher adjusted each new lesson based on the observation and reflection journal for each previous lesson. When the whole term ended, the teacher-researcher collected rich data about the use of the Association Memory Method to better inform the next cycle. This data included the whole term's (action research cycle) observation notes, reflection journals and interviews.

3.4 Data collection

In order to obtain a rich account of the collaborative action research project, the teacher-researcher utilised multiple ways to collect data. These were:

- participant observation
- the teacher-researcher's self-reflection journals, and
- semi-structured interviews with classroom teachers.

3.4.1 Observation guidelines

Observation is a data collection method to explore “what is actually going on in a specific situation” (Simpson and Tuson, 2003, p. 9) without necessarily communicating with the research participants. Different from looking, observing needs to carefully unpack what might seem normal to find intricacies and uniqueness of the situation. Observations need to be recorded and analyzed in systematic ways.

It has been acknowledged that “observation can give direct access to social interactions” (Simpson and Tuson, 2003, 24). Recorded by the teacher-researcher, the observation data became very detailed and direct; included all aspects of the context (over time, not at each entry), i.e. students, teachers, the school, students’ behaviour, learning, interests, responses to lessons and the teaching methods.

The record of observations does not claim to provide evidence of ‘why’ some interactions or actions occur in the context under study. The teacher-researcher provided this kind of information in the reflection journal.

3.4.2 Participant observation

Apart from other observational techniques, observing by being part of the context (classroom) in this study was a technique to “go even further in attempting to understand the perceptions and actions of others by actually entering fully into their world and taking an active part in their activities and experiences” (Simpson and Tuson, 2003, p21). It typically requires “a long period of engagement with the participants in the setting, and involves a mix of data collection methods” (Savenye and Robinson, 2005, p73). While teaching and participating in the classrooms, the teacher-researcher gained the trust of the participants through familiarity. The reliability and frankness of the observation notes was enhanced as the teacher-researcher was a participant observer. The quandary for the teacher-researcher was: how to fully engage in the classroom context but also how to be detached enough to critically think about the feelings, emotions and subjectivity of the moments under observation.

Given that this study was designed as collaborative action research, it was extremely demanding for the teacher-researcher to be in the class, teaching and observing the

students' responses. There was the risk that the teacher-researcher would miss observing some occurrences whose importance may not be noted at the time, as attention may be drawn elsewhere at that moment. To reduce the likelihood of this happening, the teacher-researcher employed two strategies while conducting the observations. Firstly, the prepared observation checklist (Appendix 1) would probe the teacher-researcher's memory to focus on the events of the day that may have closely related to the AMM teaching and learning and/or also provided evidence to answer the research questions. Secondly, the teacher-researcher sought the classroom teachers' support. Given the classroom teachers were sitting in the teacher-researcher's Mandarin class during the lessons, after class conversations with the classroom teacher provided a back-up to the observations of the day.

3.4.3 Recording the observations

Generally, there are three ways to record observation data. They are systematic recording (using fixed schedules), descriptive recording (using descriptive and narrative records), and technological recording (using cameras, video or audio recordings) (Simpson and Tuson, 2003, p. 35).

Systematic recording relies on a schedule of prompts or questions and often with associated space on a form, where notations answering the prompts can be entered. The observation schedules can be used during the research episode or can be completed after the event.

Descriptive and narrative recordings of observations have no preconceived content. These observations are those that, for some reason, strike a chord with the researcher either by their interest, being out of the usual, or what might be observed as natural incidences in the classroom, and/or those events with some element that adds a new dimension to the notes previously taken (Simpson and Tuson, 2003, p. 53).

Technological systems of recording consist of photographs, video footage and audio recordings (Simpson & Tuson, 2003, p. 56). Whilst these methods result in creative and actual 'moments in time', they can be intrusive and may not necessarily yield a true account of what is actually happening in any context. For example, children may pose for photographs and speak differently into a recorder or role play for video. This is not to say that these methods of observation should not be used. Their use needs to

be carefully thought through, to match the situation and the data needed to be collected.

Considering the strengths and weaknesses of all these recording methods, this study adopted systematic and narrative recording as the observation techniques. That is, the teacher-researcher used the observation checklist to prompt a recollection of the daily events, and the descriptive, narrative method to retrospectively write records and diary type entries of teaching behavior and students' responses to the lessons. This does not mean that every occurrence was, or should be, recorded sequentially. Instead, the observation notes related to, or contributed to, the answers to the research questions.

3.4.4 Interview

Interviewing is one of the most popular methods for data collection in qualitative research. The advantage is that it “allows participants to provide rich, contextual descriptions of events” (Michelle, 2001, p. 233).

In qualitative research an interview can be a conversation without any structure and where the participants raise the issues and questions, i.e. what is important to them. In opposition, researchers might hold a fully structured interview where the aim is to have data only related to the researcher's interests and questions. As described by Hancock, Ockleford and Windridge, (2007, p. 16) “interviewing can, at one extreme, be structured, with questions prepared and presented to each interviewee in an identical way using a strict predetermined order”. Thirdly a semi-structured interview can be conducted with participants whereby some questions or issues are raised to guide or begin the interview but there is scope for the interview to follow the responses made by the interviewees (Savenye and Robinson, 2005). Qualitative researchers usually employ “semi-structured” interviews which involves a number of open ended questions based on the topic areas that the researcher wants to cover. The open ended nature of the questions posed defines the topic under investigation but provides opportunities for both interviewer and interviewee to discuss some topics in more detail (Hancock, Ockleford and Windridge, 2007, p. 16).

Interviews can also be conducted individually, as focus groups, over the telephone or skype. The location, timing and time of day should all be considered by the researcher (Savenye and Robinson, 2005, p. 78).

3.4.4.1 Semi-structured interview

In this research, two of the classroom teachers who were present with the teacher-researcher during all the teaching and research that occurred in the classroom, were invited to participate in a half hour semi-structured interview at the end of each term for three terms. The third class did not have a consistent teacher across the three terms and therefore there was not a teacher who had been with the teacher-researcher sufficiently over time to provide the detail needed in an interview. The two interviewee classroom teachers had witnessed the teacher-researcher's teaching procedure and the students' responses in class and therefore the question schedule (Appendix 2) aimed to prompt a conversation related to the teacher-researcher's Association Memory Method's implementation and success in Chinese teaching and learning; the students' responses to the AMM; an evaluation of the content of the lessons, and suggestions for improvements in the teacher-researcher's next cycle of teaching.

3.4.4.2 Some strategies of interview conduct

Some strategies were adopted to conduct the interviews. These were:

Listen and record carefully. With interviews, as well as most types of qualitative methods, listen carefully to the participants and record what they say, rather than interpreting what they say. Be quiet, patient, and calm when asking questions, allowing respondents to speak. Keep them at ease and let them lead the conversation (Bernard, 1988).

1. *Ask probing questions.* Add to the depth and meaning of the interview by asking respondents to clarify or explain what they have said.
2. *Maintain integrity of the interview data* Keep data in the respondent's own words, making rich descriptions that includes many quotes. (Bogdan and Biklen, 1992).

3. *Confidentiality*. Keep interview data securely stored (in the teacher-researcher's office on a password protected computer). When using the interview data in any report or piece of writing, be mindful when using quotes from individuals in small, known samples that these snippets do not allow the participants to be identified (Morse, 1994).
4. *Consider debriefing with participants*. It has become common practice among qualitative researchers to share interview results with participants to verify accuracy and probe for more information (Bogdan and Biklen, 1992; Savenye and Robinson, 2005, pp. 79-80)

3.4.5 Self-reflection journals

As an important component of action research, the teacher-researcher will keep a reflection journal, where entries will be written relating to teaching practice. These entries have provided the main source of data in this project. Researchers generally consider “reflective practice as a method of inquiry that makes sense of complex or perplexing problems” (Tompkins, 2009, p. 223). Any notable incident during teaching or a lesson as a whole can afford reflection by the teacher and can cover specific or overall instances across curriculum planning, classroom instruction, student motivation and responses

John Dewey, as the inspiration for the notion of reflective practice, put forward that “active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it and the further conclusions to which it tends constitutes reflective thought” (Tompkins, 2009, pp. 223-224). He also argued that “reflective thinking provides a basis for any informed undertaking and should be a goal of education” (Tompkins, 2009, p. 224).

As a pivotal component of the action research process, reflection assists the analysis of the practical problems during the teaching process and is the basis from which continual improvements over time can be made (Schmuck cited in Tompkins, 2009, p. 224). This was enhanced in this project by including the feedback from the classroom teachers as part of the self-reflections entered into the journal.

Tompkins (2009, p. 225) likens the reflection journal to a teacher having their own textbook which has recorded all aspects of their evolving improvement in teaching.

The reflection journals in this research have been based on the teacher-researcher's lesson plans, involved judgment and evaluation on the implementation of those lesson plans along with thoughtful entries concerning teaching methods and strategies, interactions with students, students' responses and notes on how to improve. While keeping a reflective teaching journal, the teacher-researcher used a parallel format where one line described the event with the other recorded the reflection. The reflections themselves developed from a descriptive account of the event, to a comparative reflection where multiple perspectives could be generated to understand the event, and finally to a critical reflection where judgement and self-criticism provide a basis for self-improvement (Tompkins, 2009, p. 227).

3.5 Data coding, reduction and analysis

In this study, the data generated and collected from the interviews, self-reflection journals and participant observations were all processed thoroughly and systematically through open coding and thematic analysis.

3.5.1 Coding and thematic analysis

Initially the data from the three sources were coded according to the content they related to. The codes were basically the themes that could be identified by the accumulating pieces of data. The themes were then collected. According to Braun and Clarke, (2008, p. 82) a theme "captures something important about the data in relation to the research question, and represents some level of patterned response or meaning within the data set".

Analysing the themes was then the method for identifying, analysing and reporting patterns within data. In contrast to other analysis methods, thematic analysis does not involve any pre-conceived theoretical framework. The themes emerge from the data through careful analysis due to the recurring incidences in the data relating to the same theme.

3.5.1.1 Inductive thematic analysis

The method outlined above has been referred to as “inductive thematic analysis” (Patton, 1990). Inductive analysis responds to the data and does not attempt to fit the data into any pre-existing coding structure. In contrast theoretical thematic analysis would be analyzed in terms of the researcher’s interests or theories to be tested and the data would be searched for examples that would confirm or discount the theory (Braun and Clarke, 2008, p. 83).

3.5.1.2 Latent Themes Analysis

A thematic analysis can incorporate both a semantic and a latent approach. With a semantic approach, the themes are identified in a general way by identifying the surface meanings of the data – what was said or written. However, a thematic analysis at the latent level:

goes beyond the semantic content of the data, and starts to identify or examine the underlying ideas, assumptions, and conceptualizations. The semantic approach would seek to describe the form and meaning, while the latent approach would seek to identify the features that gave it that particular form and meaning (Braun and Clarke, 2008, p. 84).

In this research, both the semantic and the latent analysis of the themes have been incorporated.

3.5.1.3 Thematic analysis strategies

Braun and Clark (2008) suggest two strategies when undertaking the thematic analysis of the research data:

- start the analysis at early stages in the research, and
- process data analysis recursively.

As this study was designed as an action research project, the teacher-researcher began “to notice, and look for, patterns of meaning and issues of potential interest in the data” (Braun and Clarke, 2008, p. 86) once the research began.

Observations and reflections have been part of the action research steps and cycles through this research project and have contributed to the ongoing data analysis. Continuing to look at and analyse the data recursively also links to the action research method. Reflection, forward planning and action all involve recursive analysis of the collected data.

3.6 Ethics

Conducting research with human participants, especially children, involves cautious and careful procedures to safeguard everyone involved. In order to conduct this research in primary schools, the teacher-researcher had to gain several levels of ethics approvals prior to commencement.

3.6.1 University level processes

Initially the teacher-researcher undertook an interview with a panel of professors at the University of Western Sydney whereby a presentation was made outlining all the procedures that would be undertaken to conduct this research. The panel of academics confirmed that the teacher-researcher's project would be ethically sound.

Further approval then needed to be gained from the University's Human Research Ethics Committee (HREC). In this application a very detailed description of the project and the procedures of the research had to be submitted for approval. The HREC were satisfied that this research would be ethically conducted and the teacher-researcher was granted approval to commence the study and was allocated an HREC ID#H10298 (Appendix 3).

3.6.2 NSW Office of the Guardian of Children

Another level of approval needed prior to commencing the research was to make an application to the Office of the Guardian of Children NSW to have approval to work with children. This form of approval was to have clearance in the form of a criminal check as the NSW Government will not allow people to enter schools and have contact with children if they have a history of crime, or if there are any outstanding court orders against them. The teacher-researcher was passed the Working With Children Check (WWCC) and was awarded approval number: APP0978650 (Appendix 4)

3.6.3 NSW Department of Education and Training

A second level of ethics approvals from the NSW state government was to apply to the Department of Education and Training to provide specific details about the project and the role of the participants, impact on the class and teachers and possible benefits of the project. A very lengthy application was made and approval was granted with an ID#20150622 (See also Appendix 4).

3.6.4 Consent Processes

An important ethical procedure for this project has been to ensure all the participants give informed consent to participate. All ethics committees and panels need proof that the research will not cause any stress to the participants, that they know what the project is about, the details of their participation and have been informed that they can withdraw at any time. This involves providing all participants with an Information Sheet outlining all the aspects of the project and then asking for a signed Consent Form which then becomes the teacher-researcher's responsibility to store safely as proof the participants have not been forced to participate.

3.6.4.1 Information Sheet and Consent Form – Parents and Caregivers

As part of the ethical processes each group of participants must be provided with an Information Sheet and Consent Form that is written with the characteristics of the group in mind. In this research, the consent for the children to participate (as they were under 18 years of age) needed to come from their parents or carers.

Both the Information Sheet (Appendix 5) and Consent Form (Appendix 6) were sent home with the children and were given out by the classroom teachers. All parents consented to give their child permission to participate in the classroom Chinese lessons as the research formed part of their normal day at school.

3.6.4.2 Information Sheet and Consent Form - Teachers

The second group to be provided with an Information Sheet (Appendix 7) and Consent Form (Appendix 8) were the classroom teachers. All three classroom teachers provided their informed consent and assisted with the lessons taught by the teacher-researcher and provided valuable feedback as part of their participation.

3.6.4.3 Interview Schedule

As part of the data collection in this project, the teacher-researcher conducted a semi-structured interview with the three teachers at the two schools. As part of the ethical procedure the teachers were provided with a copy of the interview questions prior to the interview (Appendix 2). In this way the teachers had time to think about their responses so they were prepared to be honest and open. The teacher-researcher made every effort to encourage the interviewees to speak freely.

3.6.4.4 Points on ethical conduct

The teacher-researcher conducted this research following the guidelines set out in the HREC and SERAP applications. Other useful pointers from the literature also guided the teacher-researcher to conduct an ethically sound project to safeguard the interests of the students, teachers, schools, NSW DET and UWS. The strategies adopted have been discussed below.

The first strategy was to provide a coping strategy for the participants. One way was to reassure the participants about “integrity and sound intentions and the confidentiality of the data” and the teacher-researcher adopted “a stance of non-intervention” (Simpson and Tuson, 2003, p. 62). The second strategy was to reduce the level of threat. “It may be much easier for the researcher to get settled into the observing and interviewing situation than for the participants to feel comfortable in the process” (Simpson and Tuson, 2003, p. 62). The teacher-researcher was therefore responsible to make the participants feel relaxed throughout the data collection phases. Ideally, the teacher-researcher needed to try to reiterate the agreement about confidentiality. It is much better to “establish the principle of confidentiality at the beginning and ensure that it is mentioned frequently enough to be securely established as your study proceeds” (Simpson and Tuson, 2003, p. 63).

All the data collection processes were carried out in the schools:

1. To minimise the impact of participant observations, the researcher did not use a digital recorder.
2. An observation check list was prepared and filled out after each lesson (Appendix 1).

3. The interviews with teachers were held at a time and location that suited them and their views were anonymised.
4. Data were stored securely. The paper files were stored in a locked filing cabinet in the teacher-researcher's office and the electronic files have been saved onto the teacher-researcher's computer that is password protected. All data related to this project will be stored this way for five years after which it will be deleted or shredded.

3.7 Additional research principles

In addition to the above mentioned research procedures and practices as defined by the chosen methodology and methods, the teacher-researcher also considered the validity, reliability, triangulation and generalizability of the findings of this research.

3.7.1 Validity

Validity of the research is concerned that the findings are justifiable, the data collected and analysed through honest and sound methods, biases and discrepant data have been addressed (Simpson& Tuson, 2003, p. 66). To increase the validity of the data and the findings, the teacher- researcher applied some strategies in the study.

- Firstly, data were collected from different sources including the classroom teachers, school students and the teacher-researcher's own reflection journals. This strategy addresses any bias that may be created by having only a single data source.
- Secondly, during the data analysis the teacher-researcher collected and paid attention to discrepant data, and alternative explanations for findings (Simpson and Tuson, 2003, p. 67).
- Thirdly, the teacher-researcher provided the interviewees, the two classroom teachers, with a copy of the interview data in order that they could verify their comments as representing their intentions and opinions.

3.7.2 Reliability

Reliability refers to objectivity and dependability of the findings that have been generated after the data analysis. That is to say, would another researcher or data analyst come up with the same findings from the same data. Reliability in qualitative research becomes more difficult to claim than in quantitative research as there is subjectivity when data is collected and analyzed according to qualitative methods. However reliability can be addressed if data are analyzed by two or more colleagues and the number of times an observation or other piece of data is coded the same way is recorded. Figure 3-3 below states the formulae. If the percentage is higher than 80% (i.e. both researchers are in agreement 80% of the time), then the findings can be said to be reliable (Simpson & Tuson, 1995).

$$\text{percentage agreement} = \frac{\text{number of agreed observations}}{\text{total number of observations}} \times 100$$

Figure 3-3: Formula to calculate agreement when analyzing data

In this project an attempt at addressing reliability of data analysis was attempted through the ROSETE program itself. The feedback from the University supervisors and group discussions with colleagues in the ROSETE workshops ensured data were analysed rigorously as the teacher-researcher noted the perspectives of others on the data set. During the data processing phase, the teacher-researcher discussed with the supervisors and other three researchers (twice a week at the workshop) to look at the data coding, categorising, data explanation and analysis. If four or more than four out of five people agreed with the ways of coding, categorizing and analyzing data, the teacher-researcher would continue using it; otherwise, the she would come up with another method instead.

3.7.3 Triangulation

Triangulation is the strategy of “acquiring data on the same feature of interest from a variety of sources or perspectives, using different research methods” (Maxwell cited

in Simpson and Tuson, 2003, p. 65). By using triangulation, the research will be more reliable and the data base will be more firm.

Meijie et. al., (2002, p. 146) propose five types of triangulation in qualitative research. In this study, the teacher-researcher focused on triangulation of the data collection methods. Data were collected from three groups of participants including the teacher-researcher, students from three classes, and the classroom teachers of these three classes. Data collection continued throughout the implementation of the three cycles of this action research, and included the three data courses: teacher-researcher's self-reflection journal, records of classroom observations and interviews with the classroom teachers.

In these ways, sources from these three sets of participants, and from three different data collection points, connected and touched on all necessary aspects of the events occurring in the classroom. This laid a solid foundation for the validity and reliability of this research and presented a clear picture of how the teacher-researcher conducted this research.

CHAPTER 4

PHONETIC ASSOCIATION

4.0 Introduction

Chapter 4 is the first of the three chapters that have provided the evidence to address the research questions. This chapter has explored the first contributory research question:

How can the Association Memory Method be employed to make Chinese language learnable for Australian school students, when teaching pronunciation?

The application of the Association Memory Approach across three different phonetic system levels (tones, syllables and words) when teaching Chinese phonetically has provided the structure of this chapter. The teacher-researcher planned lessons that associated students' background knowledge, and their knowledge learnt through their previous Chinese lessons, in an attempt to help the students better memorize Mandarin pronunciation. The teacher-researcher worked as a senior class (Years 5 and 6) Mandarin teacher in two primary schools in the WRS teaching one lesson, each week, in each school. The data analyzed in this chapter comes from the teacher-researcher's reflection journals, her lesson plans and interviews with two classroom teachers.

4.1 Phonetic association in tones

Chinese is a tonal language in which “lexical tone represents phonological information at a suprasegmental (or syllabic) level and its role is as critical as segmental (consonant and vowel) features in determining a word's meaning” (Zhang

et. al., 2012, p. 875). Therefore, correct tonal pronunciation is essential in Chinese oral reading and daily communication. In this section (4.1) the Association Memory Method has been examined from three different angles to assist students' mastery of Chinese pronunciation. These were:

1. associating tones with hand gesture,
2. associating the same tone in different syllables (each Chinese character contains one syllable), and
3. tones comparison with same syllables.

4.1.1 Associating tones with hand gestures

The teacher-researcher associated tones with hand gestures as an interesting method to help students distinguish the subtleties of tones in Mandarin. The following is an example:

I asked the students to name a measure word they had learnt last week. One boy told me it was 'gē' rather than the correct pronunciation 'gè'. I realized that he had mixed 'gè' (measure word) with 'gēgē' (old brother). So I corrected the tone by telling the whole class "different tones have different meanings". I explained: 'gēgē' which is a first tone means older brother, while 'gè' in the fourth tone is a measure word, which is used between a numeral word and a noun/pronoun. After I wrote the *pinyin* of both words on the board, I raised up my hand, turned over my body and asked them to follow my hand gesture drawing the tone in the air. Every time when I said 'gè', I used my hand to draw a line from top left corner to bottom right corner in the air. Although the students chuckled all the time, every time they practiced this method of hand gesture, their pronunciation was closer to the correct one. After a few more times to practice, there was no confusing pronunciation amongst the oral practice from the whole class. (From the teacher-researcher's reflection journals, week 4, Term 2, 2015)

From the excerpt above, the teacher-researcher corrected students' pronunciation by associating the tone with a hand gesture. As a part of kinaesthetic learning, hand gesture links "physical activity to comprehensible input and deepens the learning in an environment that is relaxed and nonthreatening" (Tomlinson and Masuhara, 2009, p. 647). By using the hand gesture to demonstrate the shape of the fourth tone "ˋ", students learnt the pronunciation of "gè" in a new way which they had never used before, rather than being required to practice the pronunciation only by rote. So they 'chuckled' during the learning process as this novel approach amused them. Furthermore, this body movement provided students a relaxed environment which was more in line with their nature (who like moving) and appealed to their interest so they were able to master the pronunciation gradually through consistent imitation from their teacher.

Similarly, the teacher-researcher used this method when teaching the word "yáng":

The second character is 'yáng' which represents both goat and sheep. When I first showed the pinyin to the students, I let them read it by themselves instead of telling them the right pronunciation. To my surprise, almost all the kids said 'young'. Noticing that they were able to associate the sound in English I was quite happy. But I still pointed out, 'although it sounds similar to the word 'young', did you see the tone on the *pinyin*? Since we have a raising tone here, this word is called ...' At the same time, I raised up my hand from left bottom corner to top right corner. After hearing my instruction and seeing my gesture, students started to follow my gesture automatically and called out again. This time almost three quarters of the students approximated the right pronunciation. (From the teacher-researcher's reflection journals, week 2, Term 4, 2015)

In this excerpt, the teacher-researcher corrected students' pronunciation through using hand gestures as a teaching point. After the students got the similar pronunciation (young) of 'yáng' through their own Association Memory Method, the teacher-researcher pointed out the difference between the two words, that of a special raising tone in Chinese pinyin, and demonstrated the hand gesture at the same time.

This visualized gesture stimulated the students' brain directly which initiated the searching for the pronunciation of the corresponding tone “’”. The behaviour that the students followed the teacher's hand gesture “automatically” indicated the strong association between hand gesture and Chinese pinyin tones in the students' pronunciation learning. Therefore, even without the teacher's help, the majority of the students mastered the correct tone by themselves. It can be concluded that using the hand gestures to teach tones was very effective in this instance and could be continually used as an AMM with other fourth tone words.

4.1.2 Associating same tones in different syllables with verbal cues and hand gestures

A second strategy within the AMM was introduced by the teacher-researcher when the same tone was identified in different syllables. Once identified the AMM was designed to help students facilitate mastering the pronunciation of new characters or words (combination of multiple characters). The first example below has reported how the teacher-researcher helped students associate the neutral tone they learnt from previous lessons into the new pronunciations:

After I told the students ‘*shénme*’, I started to teach them word ‘*ma*’ – a spoken question mark – which also has a neutral tone like ‘*me*’ in word ‘*shénme*’. So I asked the students why there was no tone on that syllable and who wanted to have a go to say it? Since I have talked about ‘neutral tone’ before, they told me that they should say the word softly and lightly. When I asked two girls and one boy to read it, they all said it softly and gently. (From the teacher-researcher's reflection journals, week 7, Term 2, 2015)

Unlike the other four normal tones in the Chinese *pinyin* system, neutral tone “has a weak stress or is unstressed, [and] it loses its contrastive and relative pitch” (Zhang, 2006, p. xxi) and usually serves as “suffixes or grammatical particles” (Li and Thompson, 1989, p. 9). Therefore, the first time the teacher-researcher taught students about neutral tone in the pronunciation of “*me*”, the students mastered it by saying it “softly and lightly”. The students then began to associate “softly and lightly” with the neutral tone. The AAM was linking to the auditory cue.

Subsequently the teacher-researcher introduced a new pronunciation “*ma*” which also had a neutral tone. Since the students already had the concept of neutral tone in their mind, when the teacher-researcher asked them the tone of “*ma*” they could easily recall the skill they learned in “*me*” and they pronounced “*ma*” “softly and gently”. This piece of evidence revealed that linking this kind of ‘tone’ association with a verbal cue in teaching is effective. Further evidence showed that the students took initiative to associate the third tone ‘ \checkmark ’ shared by different characters:

In this lesson, I taught them two animals in the Chinese zodiac – *hǔ* (tiger) and *shǔ* (rat). I first taught them rat and focused on the third tone ‘ \checkmark ’ by using hand gesture again and again. After students got the right pronunciation, I showed them a picture of tiger and the Chinese *pinyin* of it on the screen and started to teach them the second word. I didn’t say the word directly, instead, I asked them: did you see the tone on the *pinyin*? Can you have a go to say the word by yourself? Immediately, some students blurted out ‘*hǔ*’ with the correct tone. The third tone is the hardest tone to pronounce and usually I had to correct their pronunciation several times. But this time they said it properly the first time. I was quite surprised but really happy about that. (From the teacher-researcher’s reflection journals, week 3, Term 4, 2015)

In this excerpt, the students demonstrated the effectiveness of AMM as the tone they had learnt in the word “*shǔ*” was correctly applied to the word “*hǔ*” (which has the same tone). The teacher-researcher firstly taught students the pronunciation of the word “*shǔ*” and especially emphasized correcting their tones by “using hand gesture again and again”. This revealed the difficulty of pronouncing the third tone for foreign Chinese learners. However, when the teacher-researcher started to teach the second word “*hǔ*” which has same tone, the students’ success was quite surprising. Some were able to pronounce “*hǔ*” correctly on their first attempt without assistance. This demonstrated that the students had mastered the way of pronouncing the third tone through teacher-researcher’s hand gesture assistance and replicated it in a new word. This provided students with an opportunity to use their learnt knowledge (third tone) in a new context.

4.1.3 Associating different tones in a same syllable

In this section, the teacher-researcher used AMM to associate some learnt words that share the same syllable but have different tones. This was to help students distinguish these words that can be confusing. The following example has been taken from the reflection journal:

After I taught students the word “*hào* (oral Mandarin: which day)”, I asked them the pronunciation of which character is like this one. Three students raised their hands, and one told me it was “*hǎo* (好)”. Another student realized a further association and said “*nǐ hǎo*”. I circled out the different tones and asked them to pay attention to the tones: the new word is the fourth tone while the old one is the third tone, and the meaning of *hǎo* is good, while the other has the meaning of the day within the date. (From the teacher-researcher’s reflection journals, week 4, Term 1, 2015).

In the excerpt, the teacher-researcher compared the word “*hào*” with “*hǎo*” by pointing out the different tones. Chinese is a tonal language where different tones with the same pronunciation may lead to different meanings. After the teacher-researcher taught the students the word “*hào*”, they were asked to nominate a word that sounded similar to “*hào*”. The students suggested the word “*hǎo*” through an association with the word “*nǐ hǎo*”. At this point it was essential for the teacher-researcher to point out the different tones, and fully explain the different meanings as a consequence of how the tones were pronounced. This helped the students to distinguish them. In this way, the teacher-researcher proactively helped the students avoid making errors where words looked and sounded similar.

A unique phenomenon of the Chinese phonology system is that the tone of one word might be changed due to the pronunciation of the words around it. This kind of tone, sandhi phenomenon (语流音变) is quite common in Chinese. Therefore, the teacher-researcher included this as one of the AMM strategies:

Since the students knew the negative way of saying ‘no’ in Chinese, that is: ‘*búshì*’ (不是), I asked them to write the *pinyin* of the word

by themselves. While I was walking around and looking at the students' writing, I saw every student was writing 'bùshì'. Noticing the wrong tones, I realized that I had previously told them 'bùxǐhuān' (不喜欢) which means 'don't like'. However, in this case, the fourth tone of 'bù' had been changed to the second tone 'bú'. So I asked them to look to the blackboard, and wrote 'bù' and 'búshì'. I explained: usually we say the word 'bù' with the fourth tone, like 'bùxǐhuān'. However, in this instance, 'bù' is connected with 'shì'. Both of the words are fourth tones. If we still say both of them in the fourth tone, it takes us considerable effort; so we change the tone of 'bù' from the fourth tone to second tone 'bú', which is easier. (From the teacher-researcher's reflection journals, week 9, Term 2, 2015)

From the excerpt above, the teacher-researcher emphasized the tone sandhi phenomenon of the word “不” ('bú' and 'bù') when it liaised with a neighboring sound. This occurred after the realisation that the students had not previously been taught this language point. Tone sandhi, a common phenomenon in spoken Mandarin, refers to “tonal alternations conditioned by adjacent tones or by the prosodic or morphosyntactic position in which the tone occurs” (Zhang, 2007, p. 259). In addition to the Chinese language (which includes Mandarin and other Chinese dialects), other languages such as English, French, Italian and India also have sandhi phenomena in phonology. These alternations of sounds increase phonetic learning difficulty for learners during the early stages. Therefore, after realising this important phonetic phenomenon needed to be taught, the teacher-researcher wrote the two different pronunciations on the board and explained the reason of changing the tone of 'bù' to 'bú'. This explanation helped students understand the tone sandhi phenomenon of the word 'bù' and concluded with the rules of using 'bù' or 'bú' in different situations. However, this excerpt also indicated that the teacher-researcher as a beginner teacher did not consider the learning content comprehensively enough when she designed the lesson plan. She did not cover all the language points that eventually became part of the lesson. This reflection would help in subsequent lesson planning.

4.2 Phonetic association in syllables

Cross-linguistic similarity has been noted to affect beginning learners significantly in their early stages of learning. This is generally because “... limited competence in the TL means a great reliance on cross-linguistic relations while only a few intra-lingual similarities can be perceived” (Ringbom, 2007, p. 92). Phonetic similarity as a part of cross-linguistic similarity can be visualized, and searched for, by beginning learners in their classroom language learning and daily life. It can also build a bridge for beginning learners to get closer to the correct pronunciations. Three aspects of phonetic association have been discussed in this section. These are:

- phonetic similarity between Chinese and English phonology,
- negative transfer phenomena in phonology, and
- association with the pronunciation that students are familiar with.

4.2.1 Phonetic similarity between Chinese and English

Three cross-linguistic similarity relationships, (similarity, contrast, and zero), have been raised by Ringbom (2007). Although he contends there is “...zero, or near-zero relationship between Chinese to English” from the perspective of the language level, phonetic similarities can still be found between two. In this section, cross-linguistic similarities and relationships on a phonetic level have been discussed. The following example has provided as evidence:

When I taught the students ‘zhè’ (this), I had no idea about how to help them correct their wrong pronunciation. What I did was to pronounce the correct one as many times as possible and tell them to curl their tongue during pronunciation. However, neither of these methods worked. After seeing this, the classroom teacher added: ‘think about, ‘zh’ has a really strong sound, which sounds like the English J’. After her suggestion, the students pronounced ‘zhè’ more closely to the standard sound. Just at that time I realized that my explanation was too abstract. Even for the children who could understand, it was still hard to follow and simulate. The example

given by the classroom teacher was quite useful. Having a specific example which had a similar pronunciation (cross-linguistic similarity), the students were more able to get the idea and learnt to pronounce that word more correctly (From the teacher-researcher's reflection journals, week 7, Term 2, 2015).

In this excerpt, the classroom teacher helped the teacher-researcher teach the students the pronunciation of 'zh' in Chinese *pinyin* through associating a similar sound 'j' [dʒ] in English. In English, there is not an exact consonant that sounds exactly like [zh] in Chinese. However, the consonant 'j' [dʒ] could stand as a contrast position. While [zh] is a palato-alveolar retroflex and voiceless consonant, [dʒ] is palato-alveolar affricate and voiced (Hong Kong Institute, n.d., online) Although [dʒ] cannot replace [zh], students were more likely to find out how to pronounce [zh] on the basis of pronouncing [dʒ]. However, the teacher-researcher had not previously realised this connection between the two consonants and had tried to correct the students' pronunciation of 'zhè' again and again and by telling them the theory of the pronunciation [zh]. Once the classroom teacher alerted the students to the cross-linguistic similarity, they associated the pronunciation of [dʒ] and successfully pronounced [zh]. The teacher-researcher as a beginner teacher lacked the experience of teaching students a sound which although unique in Chinese was able to be linked using AMM.

Phonetic similarity can more readily be associated by students with examples from two languages. The following excerpt has provided evidence that once the students had experienced AMM through phonetic similarity, the students began to apply this strategy themselves:

The next word I taught the students was 'hē' (drink). So I wrote the *pinyin* on the board and let the kids say the word by themselves. Since they have learnt Chinese for one and a half years, most of them could say the word correctly by themselves. Suddenly, one student raised his hand and asked me: does it sound like 'her'? 'Yeah!' I nodded my head and said to the whole class, 'Can we give XX a round of applause? He can relate 'hē' with an English word that we are really familiar with. However, we have to notice

it that the word ‘her’ has a stress on the vowel while the sound of Chinese word ‘*hē*’ is lighter (From the teacher-researcher’s reflection journals, week 4, Term 4, 2015).

From the excerpt above, the student took the initiative to use AMM and associate a similar sound in English to the learning of the new character. Although many linguists regarded Chinese and English as two different languages from different language families, the student’s association between the pronunciation of “*hē*” and “her” indicated that phonetic similarity does exist between two languages. Moreover, through Association Memory Method, one student at least was able to use the pronunciation of “her” in his mother language as a scaffolding point to pronounce “*hē*” accurately. This finding of phonetic similarity not only increased the student’s engagement in learning Chinese but also furthered his future learning autonomy. After praising the student, the teacher-researcher emphasized the differences between “*hē*” and “her” more discreetly. This avoided students regarding the pronunciation of “her” as “*hē*” which could have caused a slight negative transfer of examples from the mother language in beginning Chinese learners.

4.2.2 Negative transfer phenomena in phonology

Language transfer across L1 to L2 has been noted as a common phenomenon in second language learning. While positive transfer (similarities between two languages) enhances students’ learning efficiency, negative transfer impedes students’ improvement. In this section, negative transfer phenomena in phonology has been explored:

The last word I taught the students was ‘*shé*’ (蛇) which means snake. As soon as the students saw the *pinyin* of ‘*shé*’ on the screen, they called out ‘she’. So I have to stop them saying ‘she’ first and then pointed to the raising tone on the *pinyin* by saying: “although the letters in ‘*shé*’ are same with ‘she’ in English, did you see a raising tone in ‘*shé*’? Is this the word ‘she’?” The students shook their heads and became silent. Next I taught them the pronunciation. Even though not all the students could pronounce it accurately,

none of them said ‘she’ any more (From the teacher-researcher’s reflection journals, week 8, Term 2, 2015).

Whilst the teacher-researcher had encouraged the students to look for linguistic similarities, it was urgent to address the phenomenon of negative transfer from the L1 across to the L2 as the above excerpt has demonstrated. When the students saw the *pinyin* of ‘*shé*’, they instinctively neglected the raising tone on top of the syllable and regarded it as an English word – she. This negative transfer from the mother language increased the difficulty of learning the Chinese pronunciation “*shé*”. Odlin (1993, p.13) was also concerned that “(pronunciation) is the most difficult aspect of a second language to master and the influence of native language phonetics and phonology will be more pervasive than that of other language subsystems”. Therefore, when the teacher-researcher noticed this phenomenon, it was essential to immediately declare that the syllable “*shé*” was *pinyin* rather than an English word by pointing out the raising tone and as such needed to be pronounced correctly as “*shé*”. In this case, although the association between ‘*shé*’ and “she” occurred naturally by the students, it impacted L2 learning negatively. Proper guidance from the teacher-researcher helped students to look very carefully at the written text to ensure they did not draw associations that are negative.

The absence of some phonemes (like [j], [q], [x]) in English is another reason that leads to the likelihood of negative transfer from L1 and L2 for students as the lesson reflection below has indicated:

In the last lesson I taught the students how to say chocolate in Chinese. I thought it would be really easy to say ‘*qiǎokèlì*’ so I reviewed and taught the students just once when we came across this word. This was because when I learnt ‘*qiǎokèlì*’ I thought the Chinese pronunciation was similar to the English word and it was easy to remember. However, this was not the case at all for the Australian students. In this lesson, when we reviewed the words, students still mistakenly pronounced ‘*qiǎo*’ by ‘*qua*’ [kwa] as they had done the week before. So I had to spend some time on correcting their pronunciation again. (From the teacher-researcher’s reflection journals, week 5, Term 4, 2015)

From the excerpt above, the students mistakenly pronounced “qiǎo” according to the English spelling, i.e. they attempted their own AMM. When the teacher-researcher taught the students ‘qiǎokèlì’ in a previous lesson, there was the presumption that it was easy for students. From the teacher-researcher’s perspective there was a phonetic similarity between ‘qiǎokèlì’ and chocolate. However, the consonant “q” [tɕh] does not exist in English phonology. When students saw the phoneme “q” and were not sure about the pronunciation of it in Chinese, it is natural to associate the pronunciation of “q” [k] in English. As a consequence, the students forgot the correct pronunciation of “q” from the previous review lesson and replaced “qiao” with “qua” [kwa] which was the obvious English sound. Although negative transfer from mother language caused the wrong pronunciation, the incident was exacerbated by the teacher-researcher who had previously overlooked the pronunciation of “q” [tɕh] when she first taught students the pronunciation of “qiǎokèlì”.

4.2.3 Associating the pronunciation that students are familiar with

In this section the teacher-researcher has provided some evidence supporting the students’ AMM when pronunciation of a new word can be associated with the exact pronunciation of the word but with a totally different meaning. The following excerpt has revealed how the children associated the surname of a Chinese volunteer teacher with the new word pig and revealed how this AMM of pronunciation allowed them to easily memorize the new word.

One of the new vocabulary words today was pig – ‘zhū’, because we had a new volunteer teacher in our class and her surname was ‘zhū’ as well, so when we talked about the word pig, I asked the students whether they were familiar with the sound ‘zhū’. Almost at the same time they looked towards Miss Zhu and started to chuckle. Some students called out loudly “It is the same as the surname of Miss Zhu”. I nodded my head and emphasized that the pronunciation of pig in Chinese was as same as the pronunciation of the surname of Miss Zhu. However, Zhu as a surname means the color red in ancient Chinese. But thanks to the same pronunciation of Miss Zhu’s surname, students quickly learnt how to say the

word ‘pig’ by always giggling and looking at Miss Zhu. (From the teacher-researcher’s reflection journals, week 10, Term 3, 2015)

In this excerpt, the teacher-researcher associated the surname of a new volunteer teacher with the name of pig in Chinese through phonetic similarity. When the teacher-researcher taught the students the pronunciation of pig in Chinese, the students were asked to search their memory for a similar sound they had learnt previously. Since the new volunteer teacher was in the classroom whose surname had the same pronunciation as pig in Chinese, the students immediately located the answer. Moreover, because they did not know the meaning of “zhu” as a surname, they incorrectly connected it with pig and considered that Miss Zhu actually meant “Miss Pig”. Therefore, they “looked towards Miss Zhu and started to chuckle”. Although the teacher-researcher explained the meaning of two different words which had same pronunciation, the association between the surname of the new volunteer teacher and pig impressed students very much. As a result, students “quickly” learnt the pronunciation of pig and had a distinctive experience in being taught this new word. Associating the word/thing students are familiar with, not only created a friendly classroom atmosphere, but also engaged the students into Chinese learning, which ultimately facilitated the students’ learning success.

Students sometimes learn new words in daily life through their own association. The following has outlined an interesting example:

When I showed the students pictures of tea, some kids already called out ‘*chá*’. I was quite surprised and asked them how they knew that. One student told me they usually went to a beverage shop and the name of that shop was call ‘chatime’. Immediately, a lot of students said: yeah! I know that shop! Then two other students (Filipinos) called out: in our country, we also call tea ‘*chá*’. So I invited them to say the word ‘*chá*’ first, and the rest of the students quickly imitated them and were able to use the correct pronunciation (From the teacher-researcher’s reflection journals, week 3, Term 4, 2015).

In this excerpt, students learnt the pronunciation of “*chá*” by themselves through associating it with the name of a familiar shop and its pronunciation in their mother language. Tea is a popular drink in China and many other countries. A Taiwanese teahouse chain is named “chatime”, the name coined by combining the word for tea “*chá*” in Chinese and the English word “time”. Since students had visited this chain store quite frequently, they remembered the name of the teahouse and knew that “*chá*” meant tea. Therefore, when the teacher-researcher showed them the picture of tea, they were able to call out “*chá*”. On the other hand, the drinking of tea throughout Southeast Asia has spread from China since 500 A.D. and people in those countries also adapted the Chinese word for tea “cha” (From 百度百科). Therefore, the two Filipino students were already familiar with the word “cha” from their mother tongue. When the teacher-researcher mentioned the pronunciation of tea in Chinese, they could immediately associate it with their own language. Due to two types of association that were triggered in this character teaching, most of students already knew the pronunciation of “*chá*”. The pronunciation of “*chá*” from two Filipino students set a model to the other students which helped them master the correct pronunciation quickly.

4.3 Phonetic association at the word level

Phonetic association at the word level has been discussed in this section. Associating phonetically similar words has two opposing outcomes: facilitation or impediment. The following excerpt is a positive example of associating phonetically similar words:

I taught the students how to say grandparents in Chinese today. When I taught the students ‘*yéye*’ (grandpa), I told them that the pronunciation of ‘yeah’ is similar to ‘*yé*’. However, in Chinese, we had to add the raising tone of the syllable, so the word is called ‘*yéye*’. After my explanation, students followed my pronunciation and quickly mastered it. But for ‘*nǎinai*’ (grandma), I did not give them any similar sound. Consequently, the students pronounced ‘*nǎinai*’ quite strangely and I had to correct their pronunciation several times before they were able to approximate the correct

pronunciation. (From the teacher-researcher's reflection journals, week 5, Term 3, 2015).

From the excerpt above, the teacher-researcher used phonetic similarity to help students remember the Chinese word for grandpa, by associating the similar sound “yeah” and emphasizing the tone of “yéye”. However there was no similar association available for grandma, “nǎinai”. As evidence of the success of AMM, it turned out that students quickly mastered the pronunciation of “yéye” while it took quite a few attempts for the teacher-researcher to correct their pronunciation of “nǎinai”. AMM which provided phonetic association at the word level was noted to be a useful strategy to use in future Chinese language teaching.

Although the majority of phonetic similarities facilitated the students' learning, there were incidences when an incorrect or negative influence occurred. The following provides an example:

When I reviewed the names of animals (‘xióngmāo’ - panda, ‘dàishǔ’- kangaroo, and ‘kǎolā’- koala), students could recall the animals without my hints. However, to my surprise, they didn't pronounce ‘kǎolā’ accurately. Some students confused it with koala in English and said ‘koala’ directly when I asked them how to say koala in Chinese. Noticing this, I wrote ‘kǎolā’ on the screen and emphasized that in *pinyin* ‘kǎolā’ the first letter ‘a’ is in front of ‘o’ and ‘a’ and ‘o’ together make a vowel called ‘ao’ [ɑ̃] in Chinese. I always thought that the phonetic similarity between ‘kǎolā’ and ‘koala’ would assist the students' mastery of this word and did not presume this similarity would have a negative impact on students' study. However, it turned out that if the teacher did not distinguish the similar words for students at the beginning, they were immediately confused, giving the incorrect Chinese pronunciation (From the teacher-researcher's reflection journals, week 9, Term 3, 2015).

In this excerpt, the teacher-researcher noticed that some students mixed up the sound of ‘kǎolā’ and koala as they incorrectly looked at the word due to its similarity to the

English spelling. It was essential that this mistake be corrected. As a loanword, “kǎolā” has phonetic similarity with koala in English. Moreover, the morphology of “kǎolā” is also similar to koala – except for the tones. The only difference is the letter ‘a’ and ‘o’ are changed in their position in the two words (ao and oa). This morphology similarity increased the difficulty of distinguishing between the two words for these students. An additional confusion was likely to have occurred as in English an ‘ao’ sequence (as in chaos) is relatively rare. Therefore, students might automatically consider that the letter ‘o’ should be in front of ‘a’ and perceive the word as ‘koǎlā’, due to the transfer from their L1. Furthermore, this was compounded as the teacher-researcher overlooked the possibility of a negative impact caused by the similarities and did not compare the differences between the pronunciation and morphology of the two comparable words. This indicated that similarities between two words do not always have a positive influence on language learning.

4.4 Discussion

In this chapter, different Association Memory Methods have been applied in the teacher-researcher’s Chinese classroom lessons. These included the teaching of tones, syllables and words. Sometimes the teacher-researcher used more than one AMM in teaching, aiming to maximize the students’ learning successes.

In 4.1, three Association Memory Methods were applied in the teaching of Chinese tones. In 4.2 and 4.3, cross-linguistic similarity in phonology was used in teaching pronunciation. Associating phonetic similarity in inter-linguistic and intra-linguistic levels can significantly affect beginning learners’ pronunciation. Using the Chinese *pinyin* system to bridge students’ L1 (English) and L2 (Chinese) greatly assisted their learning autonomy. In most of the cases in this study, similar sounds between the two languages and/or within Chinese language was used as a reminder, activated the students’ memory of new words and engaged them in learning. Ringbon and Jarvis (2011) shared a similar view that “perceiving and making use of cross-linguistic similarities to prior knowledge is important in the learner’s striving to facilitate the learning task” (p. 106). They further mentioned that the overall transfer ability for a foreign language learner depends on “how much cross-linguistic similarity the learner can generally perceive between items and systems in the two languages,

beginning from a common alphabet, phonemes in common and similar phonotactics ...that exist across both languages” (Ringbon and Jarvis, 2011, p. 112). One of the participant classroom teachers affirmed this method in an interview:

I think it does help (students) because it gives them some familiar things to hang their knowledge on. Children need to have something, some kind of pre-learning in order to learn anything and always through their prior understanding. You tried to make connection between two words through their pronunciation. That gave them some pre-learning. They heard the sound, used the way they did that before, then they just use it in a different way. I do think it (phonetic similarity) helps them make connections (Term 3, Sarah, interview).

The classroom teacher’s perspective indicated that using phonetic similarity supported the students’ learning styles: they “always (learn) through their prior understanding”. Moreover, since phonetic similarity connects their familiar sound as pre-learning, students reduced their learning difficulty through “using (familiar sounds) in a different way”.

However, since the phonemes in Chinese and English only overlap partially, subtle differences between two comparable words did cause some negative transfer from the students’ L1. Three different situations that created negative transfers have been identified in this chapter:

1. Unique tones. While tones in each syllable in Chinese are used to distinguish the meaning of words, tones in English sentences are to represent the speakers’ attitudes. Therefore, beginning learners whose mother language is English have little awareness to add tone on each syllable or to add the same tone on each syllable when they speak Chinese.
2. The same phonetic signs (e.g. [ch], [sh], [q], [j]) in the two languages may represent different phonemes and may be pronounced very differently. This often caused confusion for the beginner Chinese learners. Most of these phonetic signs in Chinese have a special pronunciation, not part of the English language, and even those with counterparts in English often created

problems in pronunciation as the counterparts were totally different.

3. Loanwords. Chinese loanwords from English can be pronounced only partly similar. Although the majority of Chinese loanwords from English theoretically can help the beginning Chinese learner with an English background, the reality is, due to the partial similarity in the two languages' pronunciation systems, the effectiveness through the phonetic association method can create a negative influence in some instances.

When the teacher-researcher interviewed another teacher participant, Lisa, about phonetic association in teaching, the feedback provided was as follows:

Umm... It can also lead to confusion. You should be very careful with the things [words] that sound similar. Cause I've been teaching 'qiú' for ball, and we also taught them numbers. So they get 'qiú' and 'jiǔ' (number nine) mixed up. So they cross over. They don't know the key differences between them. So you have to be very specific and very clear if you want to use it... Unfortunately, they are a bit lazy with listening. I found kids at the moment they don't have strong listening skills. So because of that, they don't care about those differences between the words. So you have to be very careful about that one. To be very specific about that and make sure they understand the meaning of them (the differences of each) (Term 3, Lisa, interview)

Data from Lisa revealed there are problems using phonetic similarity in teaching. [q] and [j] as two of special phonemes in the Chinese phonetic system are very hard to pronounce for native English speaking learners. As beginning Chinese learners, in this research, the students did not have strong listening skills. Since the only difference between 'qiú' and 'jiǔ' is the two consonants q and j, which do not exist in the students' mother language and they "don't know the key differences" between them. This required the Chinese teachers to be more careful about the same or similar part *iu* of the two words. They can then focus on the different components.

Consequently, phonetic similarity is a double-edged sword and should be considered carefully in phonetic teaching. When teachers teach Chinese pronunciation through

associating phonetic similarity, there was a need to make sure that the students were able to distinguish between the two sounds by comparing both their similarities as well as their differences.

4.5 Conclusion

This chapter has presented an analysis of evidence indicating how AMM related to phonetic association and has been used to scaffold the Chinese lessons for beginning learners. The analysis of this evidence showed that students' previous phonetic knowledge (their native language – L1. English) can be applied when learning Chinese pronunciation and to improve their learning efficiency. The evaluations from the classroom teachers also indicated that phonetic association can be useful and feasible in Chinese language teaching.

CHAPTER 5

SEMANTIC ASSOCIATION

5.0 Introduction

This chapter has provided an overview of the AMM as it has been applied to making Chinese learnable for students in WSR, by semantic association, that is, the meaning of the words in the vocabulary taught. It has addressed the second contributory research question:

How can the Association Memory Method be employed to make Chinese language learnable for Australian school students, when teaching Chinese characters?

Therefore, this chapter has discussed the application of AMA in Chinese semantic teaching. The data analyzed has been collected from the teacher-researcher's reflection journals, lesson plans and interviews with classroom teachers. Orthography, radical and linking the meaning of a word or its pragmatic function were found to be the three strategies applied in the AMA to help the teacher-researcher endeavour to make Chinese learnable for the students in the WRS classrooms.

5.1 Semantics through characters-background

“Chinese is a morphosyllabic writing system in which each character reflects a syllable as well as a unit of meaning or morpheme” (Shu cited in Li et. al., 2008). As the basic unit of Chinese writing system, characters have three levels of orthographic structure: the stroke (*bihua*), component (*bujian*) and character structure (*zhengzi*).

Overall, each character consists of between 1 and over 20 different strokes, with the average number of strokes being 9 for the simplified characters used in mainland China (Chan cited in Li et. al., 2008). Unlike some components (phonetic or semantic radicals), the stroke does not convey information concerning the meaning of a character, but the change of a stroke on quantity or position does change the meaning and pronunciation of the character (e.g. 田 (field), 日 (sun / day), 旦 (dawn)) (Chan cited in Li et. al., 2008). In addition to strokes, the changes of inter-structure and position of components within characters also form different characters and hence different meanings (e.g. 呆(dull), 杏(apricot), 困(sleepy)) (Shu, 2003).

According to 国家语言文字工作委员会 (State Language Affairs Commission, 1988, cited in Yan et. al., online.) the number of commonly used characters in modern Chinese is 7000, even the number of most frequently used characters in modern Chinese is 3500. This vast number of characters further increases the difficulty for Chinese language learners.

5.2 Learning characters through radicals

The Chinese language has long been regarded as one of the most difficult languages in the world to learn, mostly due to its complicated “graphic characters”. However, except for single characters, compound characters are able to be broken down into several components, each component consisting of several strokes. Interestingly, the components sometimes convey the semantic or phonetic information which assists Chinese language learners to recognise, memorise and understand the words.

Radical or *pianpang* in Chinese *pinyin* is the smallest orthographic units that have phonetic or semantic functions in a character (Xu, Chang, etc., 2014). Although a radical does not specify the precise meaning of a character, the interpretation of the radical provides cues to identify the meaning of the whole character. Research shows that approximately 97% of Chinese characters are semantic–phonetic characters (形声字) with a main semantic and a phonetic radical (DeFrancis, cited in Xu, et. al. 2014). Commonly-used Chinese characters are comprised with about 200 semantic radicals (Xu, et. al. 2014).

In the next section, the teacher-researcher has documented how AMM was incorporated into teaching Chinese characters by planning the Chinese lessons to focus on associating semantic radicals across various lessons.

5.2.1 Associating the meaning of the characters with the semantic radicals

Associating the meaning of the characters with the semantic radicals was used by the teacher-researcher in her review class. The following is an example:

In the last lesson in term 2 I taught the students how to say and write ‘he’ (他) and ‘she’ (她) in Chinese by comparing the different semantic radicals on the left side. So at the beginning of this lesson, I assessed the students’ retention of the words ‘he’ and ‘she’ by asking them to say the words and carefully note and recognize the characters. Although both ‘he’ and ‘she’ in Chinese are called ‘tā’, when I asked the students to look at the characters, they identified the corresponding character for ‘he’ and ‘she’ immediately. So I further asked them why one is ‘he’ (他) and the other is ‘she’ (她). One boy told me because of the radical, word ‘he’ (他) is with ‘亻’ while ‘she’ (她) is with ‘女’ – which means female (From the teacher-researcher’s reflection journals, week 1, Term 3, 2015).

From the excerpt above, it can be seen that the teacher-researcher used Chinese radicals to associate this lesson with the students’ previous learning (AMM). The teacher-researcher had taught the students the characters ‘他’ (he) and ‘她’ (she) in previous lessons and tested the students in the lesson she reflected on. Both of the characters have the same pronunciation and the same component on the right side of the character. It is the left part of the character that contains the different radicals, which then convey the different semantic meanings. The radical ‘亻’ means person or man and radical ‘女’ means female. By comparing words in pairs, the students captured the shared and distinctive components (pronunciation ‘tā’ and right side component ‘也’) in each character and associate radical (女) with the meaning of the character (她) through semantic processing, since “she” indicates a female. The word choice of “immediately” in the teacher-researcher’s reflection entry revealed the

students' prompt reaction when they saw the two characters. This indicated the efficiency in associating the meaning of characters to their semantic radicals.

Similarly, when the teacher-researcher taught the character 笔, again, radical association was implemented:

When I taught the students the character '笔', I showed them a picture with two pieces of bamboo leaves and another picture with animal's hair. The bamboo leaves looked like radical '竹' while the animals' hair looked like radical '毛' beneath. I told the students, 'in ancient China, pens were made of bamboo and hair'. Although students were attracted by my explanation, they felt really confused because they had no idea about ancient Chinese pens. So some started to discuss with their partners and some looked at me waiting for my answer. Seeing this, the classroom teacher also smiled to me. At that time, one student raised her hand and said softly: is that the writing brush? Well done! I praised her. I showed them a picture of a writing brush and explained that ancient Chinese people used a writing brush instead of the pen we use today. In the picture the part we usually hold is made of bamboo while the tip of the brush is made of animal's hair. So this is why the character '笔' consists of radical '竹' and word '毛'. After my explanation, all the students understood and most of them drew a writing brush like the one on the screen and noted each part in English next to the character '笔'. This surprised me because usually they are asked to take notes while in this instance they took the initiative themselves. (From the teacher-researcher's reflection journals, week 5, Term 2, 2015)

From the excerpt above, it was noted that the teacher-researcher used semantic radicals to associate students' learning. Firstly the full character was separated "笔" into two radicals ("竹" which means bamboo and "毛" which means animals' hair) and the students were shown the picture of some real bamboo and animals' hair that looked like each radical. The explanation followed whereby the teacher-researcher

shared with the students that in ancient China, pens were made of these two materials. The “smiling” from classroom teacher also indicated that the teacher had attracted the students’ interest. After showing the picture of the writing brush, students could associate the tip of the writing brush that was made of animals’ hair with the radical “毛” and the handle of the writing brush that was made of bamboo with the radical “竹”. The position of both radicals also assisted with this association of story, radical and pictures. That is, the position of radical “竹” which is on top of radical “毛” was also consistent with the position of the two materials when people used the writing brush. This AMM strategy then confirmed the position of two radicals as well. Through this teaching episode, the students not only knew how to write the character, but also understood the element of Chinese culture behind it. Therefore, they were willing to ‘draw a writing brush’ next to the character and ‘they took the initiative themselves’. These actions all indicated the students’ efficient learning and affirmed the effectiveness of AMM in this instance of Chinese language learning.

The classroom teacher at the end of that term mentioned “I think it (radical association) works. I think it is a positive method. I do it a lot with children.” (Term 2, Lisa, interview)

Another piece of evidence that supported the success of AMM was noted by the teacher-researcher in Week 4 of Term 4:

After I reviewed the words that we have learnt last week¹, I taught them the character for ‘tea’. I didn’t show them the whole character at first, but explained the character while I was writing the character 茶 (tea). I firstly wrote the radical 艹 which is on the top of the character, and told them the radical meant grass or leaves. This was followed by the middle part 人 and the explanation that it meant people. In the end, I did the bottom part 木 and explained it meant wood or tree. After I explained all the parts in the character, I told them, ‘if we want to get the tea leaves, you need to use your hand and pick the leaves from the tea trees’. At the same time, I

¹ Please see Chapter 4.2.3, where the original lesson Week 3, Term 4 has been outlined, and in which the students were taught the word for ‘tea’, ‘chá’ through the pinyin

pointed to each part of the character from top to bottom. ‘wow!’ ‘That’s awesome!’ some kids called out. Other students quickly write down the character after listening to my story that explained the character. (From the teacher-researcher’s reflection journals, week 4, Term 4, 2015)

From this excerpt, the teacher-researcher helped students associate the meaning of the character with the semantic radicals making up the character. In a step by step approach firstly the character was separated into three parts – each part referred to one semantic radical. The radicals were then connected with the meaning of the character 茶 (tea) by saying “if we want to get the tea leaves (茶), you need to use your hand (手) and pick (采) the leaves from the tea trees”. Through associating the character 茶 with its meaning (tea) and the explanation of how the tea is picked, the students not only understood the meaning of the character 茶, but also knew the orthography in the character. “That’s awesome!”, “Wow!” and “quickly wrote it down” all provide evidence of the students’ interest and understanding of this explanation. This excerpt also indicated the effectiveness of applying AMM when teaching Chinese characters.

This section (5.1.1) has included evidence that the teacher-researcher applied AMM into teaching Chinese characters and achieved successful outcomes. Two methods were used to associate the meaning of the character with the semantic radicals within it:

1. Compare the characters in pairs or in groups, and point out the shared radicals and other distinctive semantic radicals which provide cues to specify the characters; or
2. Separate the characters into different radicals (or components), associate the semantic radicals with the meaning of the character which may include the knowledge students already have.

Both the classroom teacher and the students in the lessons supported this method of learning Chinese characters. The classroom teacher affirmed the method positively by saying “I think it (radical association) works” and “I do it a lot”. Students

accepted this method and showed an interest in learning the characters through association and the explanations provided to them. Therefore, associating the meaning of the character with semantic radicals in the character may be an effective method which can be applied to Chinese teaching.

5.2.2 Associating different characters through the same shared radicals

The teacher-researcher practiced character teaching in her Chinese class through deconstructing and reconstructing a character by associating the decomposed radicals within it. Further, she also extended her teaching through associating shared radicals between different characters. This can be found in the following teaching reflections:

In the previous lesson, I taught the students several words to do with stationery items and furniture (e.g. pen, book, rubber, ruler, chair and table). They had no difficulty when I explained the meaning of the word and asked them to tell me in Chinese. However, when I said ‘can you tell me three words which include the radical for wood’, the whole class became silent in a second. I realized that I might not have explained my question clearly enough and maybe they had never come across this kind of question and therefore didn’t know how to answer. So I wrote wood radical ‘木’ on the white board, and asked them again: Can you find any word which includes this radical? Then four students raised their hands and one told me ‘椅子’ – chair. After that, more hands up. One boy told me ‘橡皮’ (rubber). However, no one mentioned the word ‘桌子’ (table) in which the wood radical has a different position from the other two. When I asked what the last one was, the class became quiet again. After a while, only one boy raised his hand and said: is that ‘桌子’? Although he was right, he was not sure about it (From the teacher-researcher’s reflection journals, week7, Term 2, 2015).

The excerpt above indicated that the teacher-researcher tried to associate different characters through the same shared radical. However, her question was not clear due to low scaffolding – suggesting the “wood radical” without first demonstrating it in

Chinese. This confused the students as can be seen through their “silence”. Having realised the scaffolding problem, the teacher-researcher demonstrated the written character for wood “木” on the board. The students started to search for the radical “木” in their memory and began to decompose the characters “椅” and “橡”, different characters sharing the same radical on the left. However, when the radical “木” was moved to the bottom of a character such as in “桌”, it added a small barrier for their learning. By associating different characters through the same shared radical, the teacher-researcher helped students cluster “椅”, “橡” and “桌” together into the category “radical wood ‘木’” and strengthened their memory of these characters.

The effectiveness of teaching characters through associating radicals has been acknowledged by one of the classroom teacher participants in this study. In the interview with her, the teacher-researcher mentioned the teaching process above and the classroom teacher replied in a positive way by saying:

It’s good. It’s good. Consistently referring back to what they already learnt is a great way to add. As you said before, to start with what they know, and move into new work, especially with radicals, you have to keep going back all the time. Cause they don’t retain them easily. It (Chinese language) is something very different for them. So doing that helps them to remember the radical. That’s good (Term 2, Lisa, interview).

The classroom teacher described the method of teaching new characters by associating the radicals students previously learned, as “referring back to what they already learnt is a great way to add”. This connected with a well-known Chinese concept ‘温故而知新’, which means ‘gain new insights’ (知新) through reviewing the old materials (温故). This concept originated from a famous book written by Confucius -- The Analects of Confucius. “温故” kept students referring back to and consolidating knowledge they had learnt before, so that they could “知新” through associating the information with their previous knowledge.

Similarly, another piece of supporting evidence is outlined below:

I wrote the radical for water (氵) on the board, and asked the students ‘what’s this radical?’ Several students put their hands up immediately and told me it was the water radical. Although they only met this radical in Australia (澳大利亚) in week 9 in term 2. I mentioned the three dots in the radical looked like water drops so the radical meant water. Moreover, I also associated the radical with the character by saying Australia is a country surrounded by water, so the students remembered the radical quite well. So they recognized the radical at once. After they recognised the radical, I further asked ‘why would the water radical be part of the characters ‘you yong’ (游泳)?’ Since it was not a hard question, half of the class raised their hands and one child told me “because people swim in the water”. (From the teacher-researcher’s reflection journals, week 2, Term 3, 2015)

From this excerpt, it was clear that the students associated the same shared radical from different characters. In the character “澳” and the word “游泳”, the same radical “氵” is shared and the radical is on the left side of the three characters. In a previous lesson, the students remembered the meaning of the radical (water) by the shape of the radical (three water drops) and the association with the meaning of the word – Australia. In this way, they converted rote memory into association memory which connected their basic knowledge: since Australia is a country surrounded by water, it is understandable that the character “澳” included a radical which meant water (氵). Therefore, when they encountered the radical “氵” again, students were able to recognize the radical and associated the radical with the meaning of the new word “游泳” – “people swim in the water”. This excerpt indicated students were able to generate their own associations once they had become familiar with this process – that is, to look for the associations themselves.

The following excerpt also has provided evidence that students are able to recognise new words by generating associations with the same shared radicals across characters and by associating with other previous knowledge:

In the new lesson, I gave the students two characters and told them they were both family member titles, and hoped they could have a guess at the meaning of these two words - (爷爷) grandpa, and (奶奶) grandma. Previously the students had learnt parents “爸爸” (dad), “妈妈” (mum), and siblings “gēgē” (older brother), “jiějiě” (younger sister), “didi” (younger brother), “mèimèi” (younger sister). I had also taught them the radical ‘父’ and ‘女’ when they learnt “爸爸” and “妈妈”. So it was relatively easy for them to guess the meaning of the two new words. As expected, one student raised her hand and told me one (爷爷) is grandpa and the other one (奶奶) means grandma very quickly. When I asked her the reason, she pointed to the radicals in each word and told me, “the radical “父” meant father, since we have learnt dad in Chinese, that one should be grandfather. The other one has radical “女” which meant female and we had learnt mum, sisters, so that could be grandmother”. In this case, I could see the students were able to tell the meaning of the new words because they had associated with their previous knowledge of radicals. (From the teacher-researcher’s reflection journals, week 5, Term 3, 2015)

According to this excerpt, the students worked out the meaning of two new words according to the radical cues and used logical reasoning. In the previous lesson, the teacher-researcher had taught them the words “爸爸” and “妈妈” and explained the meaning of the radicals (“父” and “女”) on left side in each word. Therefore, association had been built between radicals and characters. The radical “父” means father which has the same meaning as “爸爸” and the radical “女” means female which indicates mum is a female. When the students met with the new words “爷爷” and “奶奶”, the radicals (“父” and “女”) on left side in each word had been recognized immediately. The semantic association of the radicals were used by the students as cues to work out the meaning of the new words. This was further supported for them by their association with other family words such as the characters for ‘parents’ and ‘siblings’. With several layers of association to draw on,

the students were able to suggest the two new words were grandpa “爷爷” and grandma“奶奶”.

Similarly, the teacher-researcher taught the students another two new words that related to radical “足” through this same method:

When I taught the students the phrase ‘踢足球’ (play soccer), I taught them the character ‘足’ (foot) first. Next, the character ‘踢’, which meant to kick/play was introduced. I underlined the radical ‘足’ and asked the students whether they were familiar with this radical. At first, the students gave no reply. After a while, several students raised their hands and told me the radical ‘足’ looked like the character ‘足’. So I also underlined the character ‘足’, and circled out the different parts in the radical and character and said: “although the radical is slightly different from the character, they convey the same meaning which means foot. Why do you think we have the foot radical in the word 踢?” This time, students replied: “you kick the ball with your foot” ... The next word to introduce was ‘跑’. As soon as I wrote down the character and explained the meaning to the students, two boys called out: “it also has the foot radical, because we use our feet to run. (From the teacher-researcher’s reflection journals, week 2, Term 3, 2015)

In this excerpt, the teacher-researcher presented three characters with the same shared radical in groups. The teacher-researcher first taught the students the character ‘足’. Based on character ‘足’, the next step was to compare the radical ‘足’ with the character ‘足’. This assisted the students to scaffold the learning of the new characters with the ‘足’ radical. By presenting the character “跑” after the character “踢”, it was observed by the students that both characters shared the same radical which then contributed to their understanding of the general concept of ‘foot’ in these characters. The same shape position of the radical ‘足’ in both characters (“跑” and “踢”) and the meaning of character “跑” (that is related to foot ‘足’) drew students’ attention and provoked their thinking so that they could recognize the

radical ‘足’ in the character “跑” more easily. Apart from this, by asking the relationship between the radical ‘足’ and the character ‘踢’, the students were stimulated to think about connections between the radical and the whole character. It was very pleasing to observe that the students then even generated their own association about ‘足’. Xu et. al., (2014, p783) have noted that character ‘跑’ elaborations facilitated acquisition.

The classroom teacher also confirmed that associating the same shared radical from different characters was beneficial to students’ learning:

I think it works really well. The kids are familiar with radicals, cause we talked about them along the way... And even with the normal classes that I’ve done in the past this year by using radicals they retained their learning quite a lot. Because we connect to an idea – it can be a very simple structure of the character, and then we connect to the idea that attaches to (the character)... I think that is a good way to teach... Because they were able to connect the idea when they saw it again... I think it is a positive method. (Term 3, Lisa, interview)

In the interview, the expression “it is a positive method” directly affirmed the AMM while the expression “even with the normal classes that I’ve done” indirectly reflected the approval for this method from the classroom teacher. She also mentioned that this method connected with the “simple structure of the character” and can be a very useful way to teach the children. This confirmed the aim and the effect of associating the same shared radical from different characters. From the interview with the classroom teacher, it was confirmed that she realized the importance of association and had positively applied it into her daily teaching.

To sum up, in this section, the teacher-researcher also applied AMM into Chinese character teaching by associating the same shared radical across different characters. By categorizing characters according to their same shared radicals, the teacher-researcher helped the students build up a ‘radical - characters’ affiliation network in their minds and to strengthen these associations.

The excerpts above have provided evidence of the affirmative attitudes from both students and the classroom teacher to this AMM strategy. Students started to generate associations by themselves and the classroom teacher applied this teaching method into her other normal classes. Accordingly, associating the same shared character with different characters may be a helpful method which could be applied into other teachers' lesson plans and teaching practice.

5.3 Learning characters through associating character orthography

In this section the teacher-researcher has provided the evidence of an exploration of using another AMM strategy to support beginning learners to have success with the Chinese language. The evidence has been provided to take account of associating character orthography for the students in the classes in WRS.

For most Chinese language learners, Chinese characters are more like paintings rather than words. The notion to “draw” instead of “write” characters is widespread but often causes confusion as this may not indicate the importance of where to start the first stroke and how to proceed in the correct order of strokes. To “draw” rather than “write” Chinese characters reflects an incomprehension and misunderstanding.

Chinese characters can be divided into:

- single characters (a character consists of strokes which are direct units and cannot be split, like “火(fire)”) and
- compound characters (a character consists of two or more than two components, like “秋(autumn)”).

Although the number of single characters in the List of Commonly Used Characters in Modern Chinese is 235, the number of single characters in the HSK (Mandarin level test) Word List (Level One) is 134, which means single characters would be more frequently used in basic Chinese (Liu, 2012).

Therefore, in this section, the teacher-researcher aimed to apply association of Chinese characters (especially in single character formats) with their orthography to build up a connection between unfamiliar character structure and the meaning behind each character. The following excerpt has provided an example of a lesson where the

teacher-researcher used an online Chinese character teaching video to help students associate the meaning of characters with their orthography:

In this lesson, I taught the students four Chinese animals – ox, goat, horse, and snake. After I taught the students how to say ox in Chinese (niú), I showed them a video about how to write the character 牛. In the video, it showed the development of the character 牛 from ancient days to nowadays and emphasized that the character represented the head of the ox and its two horns (the top two strokes in the character). After the video had finished, I asked the students to suggest which part of the ox, the character represented? All the students told me it meant the head of the ox. When I wrote the top two strokes, some kids whispered: that is the horns of the ox. Apparently, the students already remembered the relationship between the character and the animal. So they called out their answers loudly. (From the teacher-researcher’s reflection journals, week 2, Term 4, 2015)

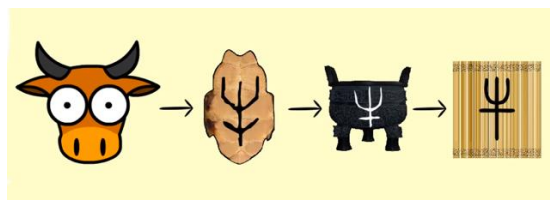


Figure 5-1: Screenshot from online video “story of Chinese character 牛”

During the lesson described above, the teacher-researcher used a visual assistant to help students associate the Chinese character 牛 with the real ox. According to the video, the students understood the connection between the character 牛 and the real ox – the character represented the head of ox. Since the students had seen the development of the character 牛 in the video which illustrated how the “drawing” curves in the character changed to the strokes, they were no longer confused about

the differences between the first two strokes in the character, which represented the ox horn, and the real curved ox horn. Therefore, when the teacher-researcher asked them what the character represented, students could respond with the correct answer, very quickly. The word “loudly” showed they were very confident about their answer. The “whisper” between some students reflected that they had even remembered the detailed relationship between the character and the animal. These active responses all demonstrated the effectiveness of AMM in this lesson.

As well as videos or animations, visual pictures are another resource which can be applied when teaching Chinese characters:

In today’s lesson, I first checked students’ retention about the word 吃 which meant to eat. In the last lesson I showed them the character first, and then gave them an image of a boy with an open mouth eating his ice-cream. I explained to the students that the ice-cream stick looked like the box on the left of the character, the boy’s nose and his closed eyes looked like the curve and horizontal line on the top right part of the character, while the opened mouth of the boy looked like the last stroke in the character. The children could identify the character as part of the picture: ‘That looks the same! I can see the character in the picture!’ The students were amazed about how the red parts in the picture were actually the character and they wrote down the character immediately. This week when I showed them the character 吃, I pointed to the left part first and tried to help the students remember the character by saying: *this looks like ...* At the same time, one student interrupted me and said: the right side looked like a big mouth that wants to eat the ice-cream. The character was 吃. It was exactly what the picture that I showed them in the last lesson, depicted. I showed the whole class the picture again and praised the boy who had a really good memory about that. (From the teacher-researcher’s reflection journals, week 7, Term 4, 2015)

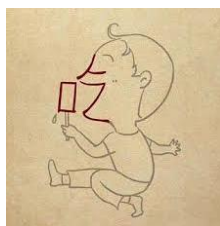


Figure 5-2: Picture from google image

In this excerpt, the teacher-researcher used the orthography of the character 吃 to help students remember it. Within the picture located (Figure 5-2), the creator applied the character 吃 into the picture which depicted a boy eating an ice-cream on a stick. The radical 口 on the left side of character was drawn like the ice-cream, while the right component of character was drawn like the boy's nose, closed eye and an open mouth.

The action that the boy is doing in the picture is eating, which associates the meaning with the Chinese character 吃. In this way, the teacher-researcher associated the orthography of character 吃 with the meaning of character through a vivid picture. In the review lesson, a student “interrupted” the teacher-researcher and told her what the character represented in the image that she showed the whole class. This is evidence of the effectiveness of AMM for this particular student. As soon as the student received the association cue from the teacher-researcher, he could tell the teacher the meaning of the character 吃 and recalled the story about the boy eating the ice-cream. “At the same time” also embodied the student’s strong association between the image and character 吃, so when the teacher just mentioned it, he could immediately respond.

Prompting the students’ own associations between the characters and their orthography was an effective way to help students learn and memorise Chinese characters. Another teaching episode to this end has been outlined below:

When I taught students the character ‘龙’(dragon), I first showed them the picture of a dragon and discussed the features of it. The students all found its long body shape, big round eyes, sharp claws and scales to be interesting. Next I wrote the character on the board

and explained that the left curve (丿) of the character 龍 is the long body of the dragon. “So what does the dot that on the top right part of the character look like?” I asked. Immediately, a boy said: the dot is dragon’s big eye. Just after the boy finished his words, another girl said: “the hook (乚) (which was the last stroke), looks like the dragon’s claw. Some other students nodded their heads saying “it is a dragon!” and they quickly write down the character in their books. (From the teacher-researcher’s reflection journals, week 10, Term 3, 2015)

According to this excerpt, the teacher-researcher helped the students generate their own association between the character and its orthography to learn and memorize the character 龍. Firstly some distinctive physical features of a dragon were discussed with the students so that they stored this information in their short-term memories. When teaching the students the character 龍 the teacher-researcher gave them an example whereby the stroke (丿), “the left curve (丿) of the character 龍, could be recognized as the long body of the dragon”. Next the students were asked to suggest what another stroke (丶) might be in relation to the dragon’s body. Through the teacher-researcher’s example and the features that had been discussed previously, the students suggested that the radical (丶) could be the dragon’s eye. “Immediately” indicated the association between the dot (丶) and dragon’s eye was strong so that the boy was able to respond quickly. The other girl who associated the stroke (乚) with the dragon’s claw without teacher-researcher’s guidance indicated that some students had started to generate their own association between the strokes and the features of dragon spontaneously. This was evidence of some independent thinking on the part of some students. The self-generated ideas from the students were very pleasing and provided evidence of the students’ positive learning. The other students who nodded their heads and agreed with the association made by the boy and the girl revealed the association provided by their classmates had impacted positively on their own learning.

During the interview, the classroom teacher also gave positive feedback about learning characters through associating character orthography:

I think they (the students) are quite interested about it, and I think it helped them to remember the character. Because they had the visual picture about what you were talking about, not just writing the character on the board, they could actually see where it (the character) comes from. They could see the meaning of the character. I think it works really well with English speaking kids. If they understand the meaning somewhat, they can put a picture to it. This seemed to connect to their memory and so they hold onto this idea in their memory much longer. (Term 3, Lisa, interview)

The one you showed them the other day was very simple. It was very straight forward about the character. So that kept the lesson easier for these kids' level (stage3). Obviously, with high school level students you would use more complicated ones. But that was good, very good. (Term 3, Lisa, interview)

From the excerpt above, the classroom teacher affirmed this AMM lesson by saying “they (students) are quite interested in it”, “it helped them to remember it” and “that was good, very good”.

By watching animations or viewing pictures instead of copying the characters mechanically during Chinese character learning lessons, the students were more easily able to “see what it (the character) came from” and connected the meaning of the character with its orthography. The classroom teacher expressed her opinion that this method connected to the students' memory and that the students could “hold onto this idea in their memory much longer”. This opinion revealed learning Chinese characters through associating character orthography has a positive impact on students' memory and learning.

Moreover, the classroom teacher's feedback confirmed that the “straight forward” pictures which provided an associated meaning for the character under study “kept the lesson easier for these kids' level (stage 3)”. This reflected the applicability of learning characters through associating character's orthography for stage 3 students from the classroom teachers' perspective, when appropriate resources had been selected. By comparing with high school students, who would need to be challenged

with more complicated materials, according to the classroom teacher, this more simplified resource for these students supported a successful learning outcome. “Good” and “very good” represented the satisfaction of the classroom teacher towards this association memory method.

In summary, this section has outlined how the teacher-researcher used AMM to connect the meaning of the character with its orthography. Using visual assistance/resources helped students to better memorize the meaning of the characters. The classroom teacher also regarded this as an effective method in learning Chinese characters.

While in sections 5.2 and 5.3 the teacher-researcher applied AMM when teaching Chinese characters, in the following section, the application of this method into teaching Chinese words has been explored.

5.4 Associate the meaning and pragmatic function

In this section, the teacher-researcher applied AMM at the lexical level. The first sub-section has reported how new words were learnt through associating with previously learnt words. The second part has explored how the teacher-researcher taught new words by association their pragmatic functions.

5.4.1 Learning new words through associating shared characters

The teacher-researcher associated the words with similar characters that students had learnt before to help them build up new words. The first example of this teaching method is described below:

Today my topic was the mid-autumn festival. At first, I asked the students how to say “spring festival” and “dragon boat festival” in Chinese. Although these two festivals were taught previously it was some time ago. Some students found the *pinyin* in their books quickly and told me ‘*chūnjié*’ and ‘*duānwǔ jié*’. I then asked them, which word meant festival? I had just finished asking when half of the class cried: *jié*. I nodded my head and said “Well done!” So I wrote down both festivals in *pinyin* and underlined *jié*. After that, I continued to ask the students how to say “middle” in Chinese? At

first, students had no idea. They looked at each other or looked at me waiting for my answer. I next gave them a little hint: “it is related to China”. Immediately, one girl raised up her hand and said: *zhōngguó*. “*tā duì ma?*” (Is she right?) I asked the other students in Chinese. The rest of the students replied: “*bù duì!* (It’s wrong!) It’s *zhōng*” Hearing the right answer, I nodded my head again and gave the students a “very good” gesture to encourage them. I explained “*zhōng* means middle, *zhōngguó* is China, which means middle country.” I continued the explanation, “autumn” in Chinese is called “*qiū*” and further asked them to say “mid-autumn festival” by themselves. Almost the whole class raised up their hands and some even blurted out: *zhōngqiū jié* (From the teacher-researcher’s reflection journals, week 1, Term 4, 2015).

In this excerpt, the teacher-researcher associated the students’ prior knowledge with the learning of the new phrase. Initially the teacher-researcher reminded the students of the word “*jié*” (meaning festival) by associating several festivals the students had learnt before. The students were prompted and recalled the word “*zhōng*” (meaning middle) in Chinese. The girl who replied “immediately” showed that she had a strong association between the Chinese word and the concept “China”. As soon as the teacher-researcher mentioned “China”, she thought of “*zhōngguó*” at once. Due to teacher-researcher’s hint and the girl’s answer, the students were reminded of the word and provided the teacher-researcher with the right answer. The next step was to confirm the Chinese word for autumn “*qiū*”. By reviewing the words they had previously learnt, the students had all the individual words to combine to make the phrase “mid-autumn festival” and were able to put the phrase together successfully. In this way, the students not only learnt a new phrase, but also reviewed their prior knowledge through associating shared words in different phrases (‘*chūnjié*’, ‘*duānwǔ jié*’ and ‘*zhōngqiū jié*’ shared the same word ‘*jié*’; ‘*zhōngguó*’ and ‘*zhōngqiū jié*’ shared the same word ‘*zhōngqiū jié*’). The students gained a sense of accomplishment whilst making up the Chinese phrase by themselves. “Almost the whole class raised up their hands and some even blurted out: *zhōngqiū jié*” reflected that the students had mastered every single word and were quite sure about their answer to the teacher-researcher’s question.

The teacher-researcher also used strategies to help the students recall the words they had learnt previously. Instead of asking them how to say festival in Chinese directly, the scaffolding strategy was used to lead students to recall some traditional Chinese festivals and then to single out the Chinese word for “festival. Although the students learnt these festivals a long time ago, they were able to remember their names and the meanings of each character once the scaffolding had begun.

In addition, teacher-researcher allowed the students to mentor each other. When one student answered incorrectly: “*tā duì ma?*” rather than the teacher-researcher pointing out the mistake directly, the other students were encouraged to make a comment. The students were encouraged to learn from each other in a non-threatening way.

In another example, the teacher-researcher taught the students the word for “milk through associating the shared character in the same way:

In today’s lesson, the first word I taught was milk - *niúnǎi*. So firstly I let the students see the pictures of milk and told them it was ‘*niúnǎi*’ in Chinese. Then I asked them how to say cow in Chinese. One girl raised her hand quickly and replied: *niú*. I nodded my hand, gave her a well done gesture and further explained: *niúnǎi* means milk from cow because we call the cow *niú* in Chinese. After they got the pronunciation of *niúnǎi* correct, I asked them to think about how they might say “milk” from a goat? As the students had learnt cow and goat in Chinese last term, as soon as I completed my question, some students raised up their hands and called out it would be called *yángnǎi* because in Chinese goat is called *yáng*. (From the teacher-researcher’s reflection journals, week 3, Term 4, 2015)

In the above example, the teacher-researcher associated the word that students had learnt before to help students think about what the new word might be. By firstly explaining how the word for milk from a cow *niúnǎi* was pronounced and coined, the teacher-researcher guided the students to work out possibilities for the word “milk from a goat”. The students were able to draw on their previously learnt vocabulary

for goat (*yáng*) and applied the word structure (___ + *nǎi*) and subsequently composed the new word *yángnǎi* by themselves. In this way, the students learnt two similar words (*niúnǎi* and *yángnǎi*) which belonged to the same category (milk). This involved comparing the same part – milk (*nǎi*) and the distinctive parts – different animals (*niú* and *yáng*). This helped the students complete the “transition from dependence on ‘form’ in storing the items to dependence on ‘meaning’ when establishing a lexical network of links between L2 words in the mind” (Ringbom, 2007, p. 92).

5.4.2 Learning words through associating pragmatic function

In this section, the teacher-researcher applied AMM into learning new words according to their pragmatic functions in context. The first example below involved the teaching episode for listing family members:

This lesson began by asking the students how many members were in their families. I furthered questioned them: Who are they? Some of the students told me the family member titles separately, while others used the English word ‘and’ as they listed the last family member’s name. Observing this, I stopped them and started to introduce my family saying “爸爸， 妈妈和我” (dad, mum and me) as the correct phrase. After that, I questioned the students as to the meaning of “和”. They quickly told me it meant ‘and’. I continued and wrote the *pinyin* ‘hé’ and explained that ‘和’ was used between the last two words in a list (i.e. similar to ‘and’ in English). After my example and explanation, the students used “和” properly. (From the teacher-researcher’s reflection journals, week 4, Term 3, 2015)

From the excerpt above, the teacher-researcher associated the words’ pragmatic function by using the new word in the context that the students were familiar with. Since they had not learnt the conjunction word “and” in Chinese, the students were unable to connect a whole sentence to reply teacher-researcher’s question correctly – who are the members in your family. Therefore, they had to either tell the teacher-

researcher the names/titles of their family members separately or use the word “and” between the last Chinese family member titles/names to complete the sentence.

Noticing this phenomenon, the teacher-researcher provided an example - 爸爸, 妈妈和我 – for the students to learn the right word and the right way of saying this type of sentence in Chinese. By comparing the sentence “爸爸, 妈妈和我” and their previous attempts, the students discovered the new word “*hé*” and associated this with the English “and”. The teacher-researcher’s explanation about the pragmatic function of “*hé*” helped the students to further consolidate this knowledge.

Similarly, the teacher-researcher applied this method in teaching the words *shuài* (handsome) and *piàoliàng* (beautiful):

For the new lesson, I taught students two words: *shuài* (handsome) and *piàoliàng* (beautiful). I anticipated they would be interested in these words and it was as I expected. After reading the word ‘*shuài*’, I described the word instead of saying the word directly: it is a positive word which is only used on boys and to describe their appearance. Students responded immediately: “handsome”. So I asked: who thinks he is ‘*shuài*’? hands up! Almost all the boys put their hands up (as well as some girls). At the same time, the boys called out to the girls: “Put down your hand. It is only used for boys”. These girls blushed and quickly put down their hands. When I then spoke the second word ‘*piàoliàng*’, some girls suggested immediately that it might mean ‘pretty’. After some practice with the pronunciation, I questioned the students again: Who thinks they are *piàoliàng*? Besides all the girls, some boys also raised their hands with a smiling face, and these boys were the ones who had pointed out the girls’ mistake before. Some girls pointed back to them and started giggling. I knew the boys had known the meaning and function of the word ‘*piàoliàng*’, but they just wanted to have some attention from the class. (From the teacher-researcher’s reflection journals, week 4, Term 3, 2015)

In this excerpt, the teacher-researcher taught the students some new words through associating their pragmatic functions. After she taught the meaning and use of the word “*shuài*”, the students were tested for their understanding through the question: “who thinks they are ‘*shuài*’? Hands up!” Although some girls raised their hands, the boys immediately pointed out the girls’ mistake and “called out”: “it is only used on boys”. This indicated that the boys had mastered the pragmatic function of “*shuài*” so they could easily point out the girls’ mistake. After the teacher-researcher taught the students the meaning of the word “*piàoliàng*”, the students were questioned “who thinks they are *piàoliàng*?” All the girls raised up their hands, providing evidence that they had associated the meaning of the new word. Although, it might be assumed from the boys raising their hands, that they did not understand the meaning of the word “*piàoliàng*” according to the excerpt, however, these boys had “a smiling face” which implied that they knew the use of “*piàoliàng*” but chose to give the wrong response to gauge the effect on the class and teacher-researcher.

In addition to learning new Chinese words through their pragmatic function association, the teacher-researcher also constructed lessons where AMM was used to associate the Chinese words with English words with a similar function:

In today’s lesson the students were reading a text which included modal adverbs ‘*hěn*’, ‘*zuì*’ and ‘*fēicháng*’. After this exercise, rather than have the students repeat the words after me, I explained the meaning of all the new words. I emphasized the modal adverb words, which were used to express the degrees – ‘*fēicháng*’, ‘*zuì*’ and ‘*hěn*’, and listed them on the board “*zuì* > *fēicháng* > *hěn*” so that students could easily distinguish between the different degrees. Moreover, I asked the students to think about other modal adverb words in English. After around thirty seconds’ reticence, one student said “absolutely” and “greatly” in front of the class. Then other students told me “extremely, less, sharply, and barely ...” Although they have three tasks about these words, they never made a mistake in the following exercises. (From the teacher-researcher’s reflection journals, week 5, Term 3, 2015).

In this excerpt, the teacher-researcher extracted all modal adverbs from the Chinese reading and helped the students distinguish and associate them with other modal adverbs in English. After an explanation of the meaning of each modal adverb, the words under study were listed on the board using the mathematical symbol “>” to link each word. This assisted the students to visualize the degree of each word. In this way, the students knew at a glance, the degree of the modal adverb “*zui*” would be greater than “*fēicháng*” and the degree of modal adverb “*fēicháng*” would be greater than “*hěn*”. In addition, by being asked to think about other modal adverbs in English, students were able to associate other similar functional words in English. This activity (举一反三: drew inferences about other cases from one instance) in order to have the students store both Chinese and English modal adverbs under the concept of “modal adverb”, strengthening the association. This strategy was successful as no students made mistakes during the practice exercises. This revealed the usefulness of comparing and associating words when students encountered several words with similar functions. By comparing the different parts (different degrees the words expressed) between words and associating with similar words in their native language, students could better master the words with similar functions.

5.5 Discussion

In this chapter, AMM has been examined from three semantic levels, namely: radical, character and word.

At the radical level, two dimensions were involved. They were teaching Chinese characters through decomposing them into semantic radicals and highlighting the same radical in different Chinese characters.

For the first dimension, by decomposing a character into several radicals (components), and explaining the association between each radical and the holistic character, the teacher-researcher supported the students’ learning success. In the second dimension, by “analyzing characters through presenting the same shared radical and distinguishing the different ‘rest’, the teacher-researcher made the learners notice “the shape, position and consistent semantic function of those characters” (Xu et. al., 2014, p. 783). This finding demonstrated the value of semantic radicals in recognizing the characters in both native speakers as well as

Chinese as a foreign language (CFL) learners. This is supported by Ding et. al., (cited in Tong et. al., 2014) who found a facilitation effect when primes and targets share the same radical in the same position (e.g., 躯 - 枢), but not in different positions (e.g., 欧 - 枢). Liu et. al., (2007), demonstrated that the pairs (e.g., 还 still -- 这 this) shared with same radical facilitated CFL learners' character naming (2007). In the studies of both Ke (1998) and Shen (2004, 2005), the findings showed that radical structure and radical knowledge were perceived as the most effective strategies to learning new Chinese characters by CFL learners.

In section 5.3, the character level and associated orthography of a character has been discussed. By interpreting the meaning of a character through its orthography, learners associate abstract strokes or radicals of a character with the meaning behind the character. Visual pictures and videos used as teaching resources supported the association being meaningful and assisted memorization. Many researchers support the use of appropriate resources in language teaching. Opitz et. al., (2014, p. 2) suggest that “alphabetic native speakers need to adopt additional visual procedures that process the detailed and complex stroke pattern of Chinese characters”. Students were tested in Hong Kong, Taiwan and Britain in connection with their visual, phonological and reading tasks and found that Chinese reading was better supported through visual skills, rather than phonological measures Huang and Hanley cited in Shu, 2003). Tan, Spinks, Eden, Perfetti and Siok (2005, cited in Opitz, 2014) also contended that visual-orthographic processes should be mandatory for Chinese character reading.

At the word/lexical level, associating the same shared morpheme and words' pragmatic functions as another AMM assisted to enhance the students' vocabulary in Chinese learning. Shu (2003) mentioned “many words shared with the same morpheme are semantically related (e.g. “willow” (柳树), “pine” (松树), and “palm” (棕榈树) with the morpheme 树 (tree))”. Learning words with shared morphemes not only reduces students' cognitive load but also clusters words in groups and assists memorization through the category meanings. Zhen (2006) also put forward a similar teaching strategy at the lexical level in his book and stated: “逐步复习旧词、学习新词时讲授合成词中的偏正式结构方式，并进行联想性系联... 通过启发

学生联想, 可以串联出词语” (review old words step by step, learn new words while introducing modifying compound words, and associate new words with other words with the same structure... by constantly building on students' associations, students will begin to look for associations themselves and hence become more independent learners.

5.6 Conclusion

This chapter has analyzed the evidence related to the application of semantic association in Chinese language teaching. In radical, character and pragmatic association, the evidence reported has shown that AMM has the potential to be an effective method to help Chinese language to be learnable to Australian students.

CHAPTER 6

CULTURAL ASSOCIATION

6.0 Introduction

In this chapter, the teacher-researcher integrated cultural knowledge into language teaching and learning, to further facilitate successful communication among beginning Chinese learners. The chapter has been organized to provide an overview of the evidence to answer the third contributory research question:

1. How can the Association Memory Method be employed to make Chinese local knowledge (e.g. geographical, historical and social knowledge) learnable?

Data analysis related to cultural association in this chapter has been divided into three sections: Chinese customs, kinaesthetic intelligence, and social/cultural knowledge. Different AMM strategies have been used in the teaching according to specific content selected for the lessons.

6.1 Language learning through associating traditional customs

In this section, the teacher-researcher associated the lesson content to traditional Chinese customs to support students' Chinese literacy. This approach has been based on the belief that traditional culture can attract people's interest in language learning due to its uniqueness. The following excerpt demonstrates how a Chinese festival custom was used to associate the language learning:

I showed the students a short video about the Mid-Autumn Festival, which included the information that on the day chosen for this

festival, the moon is full (round and bright) and symbolizes family reunion. After the video, I presented the students with several varieties of round shaped mooncakes and asked the students why these cakes, shared during the Mid-Autumn Festival, were round. ‘It symbolizes the moon’ one of the students called out. ‘It also means family reunion!’ another one added. I then introduced different kinds of the mooncakes – the fillings inside, the pastries and the flavor. After I had taught the names for all the different mooncakes, I asked them why Chinese people put an egg yolk in the mooncake? The whole class responded that they thought an egg yolk ‘... looks like the round moon!’ When I gave each student a piece of mooncake, some of the students even said they should eat it and share it with their families (From the teacher-researcher’s reflection journals, week 1, Term 4, 2015).

In this excerpt, the teacher-researcher associated the features of the mooncake with the main symbol of the Mid-Autumn Festival – the full moon. After introducing the mooncakes, and sharing these as a traditional custom, the children were asked to think about the shape of the mooncakes and the significance of the one with the egg yolk filling. Since the students had the background knowledge from the video (which has told them the round and big moon symbolized family reunion), when they saw the round shape of the mooncake and the egg yolk, they were able to associate these with shape of the moon on the festival night. Through the teacher-researcher’s scaffolding of the lesson content, the students were able to extrapolate the meaning behind some festival food. They understood the significance of the custom with some students suggesting they should “eat (the mooncakes) with their families”.

Another example has been outlined below to further suggest the effectiveness of incorporating a knowledge of customs into language teaching:

As part of the topic of this lesson, the Spring Festival, I showed the students a lot of Chinese artefacts, like Spring Festival Couplets, red envelopes, firecrackers and lanterns. After I introduced all the elements, I put these all together on one page and asked the students what they could observe that was common in all the

examples. The students replied to me that all the pictures were red or had elements that were red. I continued to question the class and asked why they thought Chinese people used ‘red’ throughout the items that were associated with the Spring Festival. [previously I had mentioned that in China, red is a lucky colour and featured as the main colour on the Chinese national flag]. Some students were able to draw on this associated knowledge and remembered that red was a lucky color in China. I was really proud of them and told them that people wish to be lucky in the following year and hence that is why the colour red is featured at the Spring Festival. (From the teacher-researcher’s reflection journals, week 3, Term 1, 2015)

From the excerpt above, the teacher-researcher revisited the students’ knowledge of the significance of the colour red in Chinese customs. “Red” as a symbol of luck in China occurs in Chinese people’s lives very frequently, especially during the festivals. The teacher-researcher had already taught this association of ‘red and luck’ in the students’ minds in a previous lesson. Therefore, in this lesson, when the students were prompted to think about the decorations and artefacts for the Chinese Spring Festival being red, they were able to associate their previous Chinese cultural knowledge and proposed that in the new context of the Spring Festival, a similar meaning for red would apply – that is, ‘lucky and prosperous’. This indicated the effectiveness of AMM. Moreover, during the teaching of the lesson, the teacher-researcher not only displayed the elements of the Chinese Spring Festival for students, but also revealed a deeper implied meaning of these elements – pray for luck in the next year – through the concept and meaning of the colour red. It was an important cultural understanding lesson for the children to consider the reason behind the customs.

As there is an intrinsic and intricate link between language and culture, both can promote each other during the Chinese language lessons. The following example has been included to show the positive impact of cultural awareness in a language learning lesson:

In this lesson, students chose the dragon as one of the zodiac animals they wanted to learn, as they thought it was the symbol of

China. Suddenly, a girl waved her hands and asked me whether dragon in Chinese was called ‘*lóng*’. I was quite surprised because I’ve never taught students before and she is definitely not a Chinese background student. I wondered how she had come up with this word? She told me that she went to a high school Chinese Cultural Day at the beginning of the term and the Chinese classroom teacher there had introduced ‘dragon’ to them e.g. why Chinese people are called the descendants of the dragon, and had the opportunity to compare the different characteristics of ‘dragon’ between Chinese and Australia. On this high school Cultural Day, visitors were encouraged to draw the character ‘*龍*’ with a writing brush. The student recounted that because she found that lesson fantastic and interesting she had remembered the word for ‘dragon’. (From the teacher-researcher’s reflection journals, week 9, Term 3, 2015).

In this excerpt, the student remembered the pronunciation of dragon in Chinese due to her deep impression of a Chinese teacher’s interesting activities set up to study the word for ‘dragon’. When this student had gone to the high school and attended a culture day event, she was attracted by the high school teacher’s introduction and relevant activities of dragon, which was “fantastic and interesting”. Therefore, she remembered the pronunciation of dragon ‘*lóng*’ spontaneously. When the teacher-researcher started to teach dragon in Chinese in this lesson, the girl was able to associate this prior knowledge and recall the pronunciation of dragon from her long-term memory without any help. This indicated the great impact of culture on facilitating language learning.

6.2 Learning language through associating kinaesthetic skills

Kinaesthetic learning offers students the opportunity to participate in lessons with physical activities and where they can interact with their surroundings. These opportunities not only stimulate the students’ motivation but also maximize their exposure to language in use.

6.2.1 The English-Chinese dictionary as a resource

The following excerpt illustrates how the teacher-researcher made use of kinaesthetic as part of the Chinese language learning activities:

In this lesson, one of my aims was to teach the students how to use the English—Chinese dictionary to find a Chinese word. So I firstly asked the students how to look up English words in an English dictionary. Since this activity was already familiar to them, most of the class raised their hands and were eager to provide an answer. After we reviewed the steps about how to look up the dictionary, I told the students the English-Chinese dictionary worked exactly the same way. I asked them to help me find the pinyin and character for the word “book” in Chinese. Their new dictionaries were opened and within less than one minute, all the students had raised their hands to try the pronunciation of their new word ‘book’. (From the teacher-researcher’s reflection journals, week 2, Term 2, 2015)

In this excerpt, the teacher-researcher associated words learning with kinaesthetic intelligence - looking up Chinese words in English-Chinese dictionary. She first led students to review the way of using English dictionary in order to make sure every student had mastered the skill and followed her steps. Then she gave students a task – finding the Chinese word for “book” in the English-Chinese dictionary. Although the method and steps were the same as looking for a word in the English dictionary, the students attempted this task in a totally different dictionary with enthusiasm, as they were solving the problem on their own. Through this activity, students not only learnt new words and practiced their skills of locating new words in the dictionary, they also gained an important strategy for learning Chinese by themselves. This learning method of connecting learning activities and kinaesthetic intelligence has also been recommended by Gardner in 1989 as “students learn and solve problems using physical motion” (cited by Hwang e.t., 2014, p. 432).

6.2.2 Handling chopsticks

Similarly, another excerpt also showed how kinaesthetic intelligence helped motivate the students' learning:

After revision, I asked the students which utensil Chinese people use when they eat food. The students immediately replied – chopsticks. I continued the lesson by showing two videos about chopsticks. One was the history of chopsticks and the other one was how to use them. All the students were interested in learning how to use chopsticks. Some students mastered the skill quite quickly and practiced further by replacing their chopsticks with two pencils and attempted to pick up various objects that were placed on their desks. Some of the students even showed me they could pick up their booklet using chopsticks. While I was teaching some of the students how to use their chopsticks, the ones who had mastered the skill, continually asked me how to say chopsticks in Chinese (From the teacher-researcher's reflection journals, week 3, Term 4, 2015).

The piece of data above has revealed that the students initiated some additional Chinese learning that was not planned as part of the teacher-researcher's lesson, and this was an outcome of actually using the chopsticks (kinaesthetic skills). Unlike learning words or phrases that were related to linguistics, learning the skill of using the chopsticks related to their kinaesthetic intelligence which the children found interesting and in line with their learning nature. Therefore, the students' enthusiasm had been aroused by watching the video of using chopsticks and then learning the new skill of using the chopsticks and then taking this a step further for some students who replaced the "chopsticks with two pencils". It seemed apparent that the new skill and activities had motivated the students to want to learn even more - the new word "chopsticks". This example could be said to have similarities to Bruner' theory of systems of representation that purports that "helping learners make physical motions in order to understand what they learned and interact with their surrounding environment improves learning by applying knowledge to related situations" (cited by Hwang e.t., 2014, p. 432).

6.2.3 Incorporating outdoor games

Kinaesthetic intelligence and physical activity was also found to be effective during practice sessions when the aim was to have students' memory of new words strengthened. The specific example below has described a language practice session that was associated with playing newcomb ball:

After I had taught the students the basic words associated with the game 'newcomb ball', e.g. 'fāqiú' (serve the ball), 'jièwài' (out of bounds), 'wǎngqiú' (net ball), and how to count scores in Chinese, I took students to the hall to play the game. Prior to leaving the room, there needed to be some special rules in place. For example, the server did not serve the ball until the umpire said 'fāqiú', and the students needed to report the score in Chinese after each round. When they first started to play the game, they tended to forget the rules or made mistakes when keeping track of the scores. So I stopped the competition and asked them to follow the game rules. After completion of one full game, the students were completely adopting the rules and said the scores fluently without my prompt (From the teacher-researcher's reflection journals, week 7, Term 4, 2015).

In this excerpt, the teacher-researcher associated students' physical activity with language learning. Before the newcomb ball activity commenced, the teacher-researcher taught the students the basic words the umpire would use, and also had the students practice the way the score would be counted in Chinese. The game was then able to commence. The umpire called the directions to the players in Chinese and the students kept the score and spoke the number of the scores in Chinese.

While students thought they were just having a game of newcomb ball, they had actually been exposed to a rich experience of applying Chinese language in listening, understanding and speaking, and they were also constantly practicing the scores and rules due to their desire to play and win. Therefore, they were able to "adapted to the rule" and "said the scores fluently" without the teacher-researcher's support. Through this kind of TPR (total physical response) teaching method, students needed

to “be engaged both affectively and cognitively in the language experience” (Tomlinson & Masuhara, 2009, p.651), which also helped them to “internalize what they learned deeply and improve and sustain the effect of their learning” (Hwang et. al., 2014, p. 432).

6.3 Learning language through associating cultural knowledge

6.3.1 Chinese festivals

Teaching Chinese in Australia is not just about speaking Mandarin. It also has to include the comparison and communication between the cultures of the two countries. In this section, the teacher-researcher used associated knowledge to solve the students’ problems during her lessons. The teacher-researcher explained the student’s problem through geographic knowledge in the following piece of data:

Just when I wanted to finish the history of the Mid-autumn festival, a boy asked me why it was called Mid-Autumn Festival, when the season here in Sydney was actually spring? I didn’t answer him immediately, but turned to the class and reiterated the question to them all. After a few seconds, one student raised his hand and answered that this happened in China, which was now in autumn. I nodded my head and added: yes, because China and Australia are in different hemispheres ... so when Australia has Spring, it would be Autumn in China. When I further explained the boy’s question, I saw that even some naughty students listened to my explanation and stopped talking with others (From the teacher-researcher’s reflection journals, week 1, Term 4, 2015).

From the excerpt above, the teacher-researcher explained the reason why different seasonal orders in China and Australia occurred and that these related to geographic knowledge. The boy raised a question when he associated the season in Australia (spring) with the name of Mid-Autumn Festival and found that they did not match. This showed he did not passively accept the knowledge from the teacher-researcher but tried to actively think and understand the reason for the festival’s name.

The teacher-researcher then delivered the boy's question to the other students, to provide them with an opportunity to cultivate their independent thinking capabilities rather than passively receive or depend on, the teacher's knowledge. Once the correct answer was offered by a student, the teacher-researcher continued the explanation by providing detailed geographic information, which sparked the students' interest and overcame the "boring and difficult" syndrome (Ward, 2009, p. 27).

6.3.2 Differences in translation

In the following excerpt, the teacher-researcher explained the Chinese name of black tea to her students:

After the students learnt tea² in Chinese, I asked them to add a color word before the word 'tea', so they could get the saying of green tea, yellow tea and white tea in Chinese. Finally, I asked them how to say black tea. One student responded to the whole class: '*hēichá*'. All the students agreed that this would make sense. However they were incorrect. The students were all very surprised. I explained that in China we call black tea '*hóngchá*' (literally means red tea) instead of '*hēichá*'. Students lifted their eyebrows and looked confused. I continued explaining: the reason we call it black tea is because the leaves of black tea are fermented deeply so they look black; however, after brewing 'black tea', you can see the color of the tea is actually red. This is why Chinese people call it '*hēichá*' but in English it would be called black tea. After my explanation, the students had smiles on their faces and I knew they had understood this concept. (From the teacher-researcher's reflection journals, week 3, Term 4, 2015)

From the excerpt above, the teacher-researcher explained why 'black tea' did not have a literal translation in Chinese. By giving the students an activity where the literal translation did work, e.g. green tea, yellow tea and white tea, the students had mastered the formula (color + tea). At this point they were achieving success. The

² See Chapter 4.2.3 for discussion related to the teaching of the word 'tea'; Chapter 5.2.1 has discussed teaching the character for 'tea'

example that broke this formula was ‘black tea’ which left the students puzzled. The teacher-researcher needed to explain the reason why Chinese people called black tea ‘*hóngchá*’, and continued the explanation that Chinese people named their tea according to the tea color after brewing, while English speaking people named it black tea based on the color of tea leaves before brewing. This explanation made sense to the students and would provide an opportunity for them to commit the name of black tea in Chinese to memory.

The lack of a literal translation in Chinese and English for ‘black tea’ revealed different thinking patterns across the two cultures. There are other examples where the literal translation for Chinese and English words cannot be found. For instance, Chinese people provide a special title for every family member according to their gender, age and which also relates to the maternal or paternal side of the family. Western people name their family members comparatively vaguely. For example, the generic word ‘cousin’ in English has many more specific connotations in Chinese (e.g. “堂哥(older brother from father side), 堂妹(younger sister from father side), 表弟 (younger brother from mother side), 表姐(older sister from mother side). Moreover, the Chinese counting system uses the four section method (e.g. 万(ten thousand), 亿(a hundred million)), while western counting system uses three section method (e.g. thousand, million). Different cultural and historical attitudes and perspectives between Chinese and western people have been represented in their languages as shown above. Scarino and Kohler (2003) make the point that “language cannot be separated from its social and cultural contexts of use” (p.3). Therefore, understanding Chinese culture has a great importance in Chinese language teaching.

6.3.3 The lunar calendar

The lunar calendar system plays an important role in Chinese festivals and agricultural events. In the following excerpt, the teacher-researcher introduced the lunar calendar during her Dragon Boat Festival lesson:

After I introduced the background information that the Dragon Boat Festival fell on the 5th day of the 6th month in the Chinese lunar calendar, I asked the students what they thought ‘lunar calendar’ meant? One student proposed that it was to do with the

movement of the moon. I confirmed this and explained that the lunar calendar was according to the phases of the moon. The circle from new moon to full moon and then back to new moon was called one month in lunar calendar. I then asked the students to guess how many days in one month of the lunar calendar. They told me it might be 28, 29, 30 or 31. I showed the students an online lunar calendar and let them observe that most of the months only, which was different from the solar calendar. “So will the Dragon Boat Festival fall on the same date on the solar calendar next year?” I further asked. They said no shaking their heads. One student replied, “The days in different months are all different” (From the teacher-researcher’s reflection journals, week 1, Term 3, 2015).

In this piece of data, the teacher-researcher associated the knowledge of the lunar calendar in the Dragon Boat Festival lesson and compared it with solar calendar through scaffolding. Wood et. al. (1976, p.90) have defined scaffolding as a “process that enables a child or novice to solve a problem, carry out a task or achieve a goal which would be beyond his [sic] unassisted efforts”. The teacher-researcher firstly let the students express their own opinion about the lunar calendar, which provided students with an opportunity to display their extra-curricula knowledge. In this instance the idea of the lunar calendar was unfamiliar to them. The teacher-researcher then provided the children with an online lunar calendar to help them compare this to the solar calendar with which they were familiar. The lesson concluded with a question that asked the students to think whether the Dragon Boat Festival would fall on the same date on next year’s solar calendar. In this way, the teacher-researcher broke down a comparatively complicated concept and guided students to learn it step by step.

Both of the classroom teachers affirmed the method of associating Chinese culture into language learning in their interviews. One teacher said:

It is important to engage culture into language learning ... When they (the students) see something they don’t know, something different from their culture, they have the curiosity to touch it,

know it and won't be distracted by their own ideas (Term 3, Lisa, Interview).

While another classroom teacher agreed that associating culture into language learning was useful, she further advocated to embed the teacher-researcher's personal life or something relevant to modern Chinese life into language teaching, as well as traditional culture:

It's good to engage culture into Chinese learning. One of the purposes of having Chinese volunteer teachers in our school is to let the students know more about China. However, if you can share your own life story, it will be better. Because they know you, they want to know more about you, like your family members, your hobbies. When you talk about these in the lesson, they think you want to get closer to them. They will be more willing to behave well in your future classes. They also want to know if there are any McDonald's in China. Do you play Lego or Play Doh like them... (Term 3, Susan, Interview).

From the interview above, the classroom teacher suggested the teacher-researcher could use her daily life experience in China as teaching content. The teacher-researcher took this advice and planned to include these experiences from her life in future lessons. The point raised by the classroom teacher regarding McDonalds, Lego and Play Doh, revealed that the students were not familiar with Chinese life and they were curious about that. The teacher-researcher would use this feedback to include activities and content related to modern Chinese life as well as traditional customs.

6.4 Discussion and conclusion

As evidenced by the data presented from sections 6.1 to 6.3, the teacher-researcher associated different Chinese cultural experiences into the Chinese language lessons in an attempt to portray China more comprehensively to the students. Two findings were generated applicable to teaching Chinese culture.

6.4.1 Language and culture are intertwined

Language teaching and cultural teaching complement each other (相輔相成). Since language and culture are intertwined, culture becomes an inevitable part in foreign language teaching. J.K. Hall (2002, p.19) asserted that “any study of language is by necessity a study of culture”. Moreover, NSW Chinese K-10 Syllabus also listed “Moving Between Cultures” as a part of each stage’s learning content for Chinese language. In this chapter, the teacher-researcher not only introduced some traditional Chinese culture, but also associated culture with different knowledge points which aroused the learner’s interest.

In section 6.2, the teacher-researcher has recounted the teaching of Chinese language using practical skills (e.g. using dictionaries and chopsticks and playing newcomb ball) to engage their kinaesthetic intelligence. In section 6.3, the teacher-researcher associated the knowledge from other subject areas (geography and history) to solve students’ problems during the language classes. In each of these sections, the data has provided evidence that learning and understanding Chinese culture motivated the children to take part in the lessons enthusiastically. Although in section 6.1, the students showed an interest in learning the zodiac symbols, if the teacher-researcher could continue this content to learning the names of all the symbols, the student might have been able to associate the language with culture more directly. This would necessitate a longer series of lessons beyond the scope of this research. However, this does provide a finding that language learning and cultural learning can be successfully undertaken side by side.

6.4.2 Including modern and traditional Chinese cultural experiences

Secondly, the teacher-researcher has extended the concept of ‘cultural learning’ to include not only traditional Chinese culture, but the culture that can be related to the Australian way of life, and also modern life in China.

The students were very engaged with the topics that related to their daily life: they remembered to share mooncakes with family members, and they asked the name of chopsticks after they learnt to use them. This was because the students were able to see the relationship and impact of Chinese culture and language on their life. This tended to motivate their interest and further facilitated successful language learning.

The classroom teacher Susan proposed that the teacher-researcher should include her own life experiences as part of the lesson content. Building a positive relationship with the students and provoking their interest in modern day China were suggested as the advantages of taking this approach. Hall (2002, p. 28) holds the viewpoint that “language is not an individual phenomenon but a social one, comprising linguistic resources whose meanings are both embodied in and constitutive of people’s everyday practices, and more generally, their social, cultural and political contexts”.

When learners are exposed to contexts that are related to every corner of their daily life, they acquire language more actively and quickly. Moreover, the introduction of modern Chinese people’s life, rather than traditional customs, could address the misunderstanding about China that some Australian children may have. Many Australian learners, and even their parents, may not know about modern day life in China, apart from what they see on television. If the Chinese language teacher only introduces the content related to traditional Chinese customs, the learners may build a false picture of China in their mind. The suggestions raised by the teacher in the interview (do Chinese people eat McDonald’s or play with Lego and Play Doh) gave the teacher-researcher cause to think about what cultural knowledge could and should be included in Chinese language teaching. Therefore, the function of the language teacher should not only be to connect the language learners with their target language L2, but also to open a window for the learners to know more about the country in which people use the target language.

CHAPTER 7

CONCLUSION

7.0 Introduction

Chapter 7 has provided a summary of the research as a whole and has presented the major findings, specifically the implications of the Association Memory Method. As a collaborative action research, the teacher-researcher's self-development over the data collection terms has been included. The limitations of the study and suggestions for future Chinese teaching have been provided in the final comments.

7.1 Implication of Association Memory Method

7.1.1 Main principles of Association Memory Method in teaching

Based on the data analysis related to the Chinese language teaching strategies of pronunciation (Chapter 4), vocabulary (Chapter 5) and culture (Chapter 6), three main findings (principles) of Association Memory Approaches in Chinese teaching have been extrapolated.

Firstly, AMM can be implemented to take advantage of the similarities and differences between Chinese and English languages. Although Chinese and English are from different language families, both languages still share some common pronunciations and sentence structures, which can be taught through cross-linguistic comparison. Contrasting the differences between Chinese and Western (Australian) culture was also used effectively with the students implementing AMM.

Secondly, the AMM principle of associating new knowledge with prior knowledge that students learnt in previous Chinese lessons supported their learning. As

presented in the data analysis chapters, the teacher-researcher used learnt Chinese phonemes, syllables, and radicals which conveyed semantic information of a character, and the meaning of the Chinese symbols to help students memorize Chinese. This principle of AMM incorporates scaffolding into the content of the lessons. This was shown to assist the students' language learning.

Thirdly, AMM can be used to associate the skills or knowledge acquired in other subject areas back into the language lessons. In addition to inter-lingual and intra-lingual association, Chinese can be also learnt through explaining the knowledge or phenomena through kinaesthetic intelligence.

7.1.2 Advantages of Association Memory Approaches in teaching

Firstly, AMM has the potential to strengthen and consolidate Chinese language learning in the following ways:

- Through association, learners connect and then more easily memorize the new knowledge with its counterpart (old information)
- Recalling the new knowledge is more likely to be retrieved since the counterpart functioned as a cue, which significantly consolidate learner's memory and increases the learning effect
- Semantic association triggers elaborative encoding processes which can enhance long-term retention of the new knowledge

Secondly, Association Memory Approach has the potential to build learners' confidence during the learning process. The core principle of AMM in the language lesson teaching in this research has been to associate learners' previous knowledge or skills with the new knowledge. Although the students were not familiar with Chinese pronunciation, when the teacher-researcher connected the students' attention to similar pronunciation in English, learners felt more confident to pronounce the words. AMM assisted the students to recognize the learnt radicals in the new characters and hence increased their success and confidence. Similarly, as the radicals within a character function as cues to the meaning of the whole character if AMM can assist the students to 'work' out the meaning of a whole character on their own, a sense of self-confidence and achievement may follow.

Thirdly, the Association Memory Method principle that scaffolds the students' learning has been very effective in this research. In the data analysis chapters, different AMM have been used in scaffolding pronunciation, characters, and cultural learning: e.g. associating hand gestures with tones in *pinyin*, associating same or similar pronunciation in English, associating learnt radicals with character learning and associating different study/life skills or knowledge in other subjects into culture learning. In this way, the new knowledge has been connected to the learners' previous knowledge and hence more easily learnt. The learning process has been made more effective for most students.

The final advantage the teacher-researcher observed when implementing Association Memory Approaches in this study was that it had the potential to increase students' learning motivation. Through comparisons drawn between the language and culture of China and Australia, associating new knowledge with previous knowledge from other subject areas to solve problems in the Chinese class and by using kinaesthetic activities, the language learning implemented by the teacher-researcher in this study was not limited to a purely linguistic field. The activities related to the students' existing knowledge and life, which increased their engagement and further motivated them to explore Chinese language and culture.

7.1.3 Prerequisites for Association Memory Approaches in teaching

While AMM was implemented in this research and advantages were found, in some instances some negative transfer between the new and old knowledge was noted.

In most instances in this research, AMM required the teacher-researcher to make clear the similarities or differences between the new knowledge and its associated counterpart. Although associating previous knowledge helped learners to connect the new knowledge, if the previous knowledge has a negative transfer effect, students become confused. This required the teacher-researcher to take note of instructions given and to change the AMM once a negative transfer had been identified.

The teacher-researcher found through conducting this study that AMM required a prerequisite whereby the teacher-researcher needed to keep a constant watch for all possible associations for the students across their L1 and L2. Constantly reviewing the content from previous lessons, allowing the students to think for themselves and

offer answers and solutions based on the lesson reviews and in connection with the new lessons, required the teacher-researcher to be a constant observer of the children and their responses. AMM would not be as efficient if there was no opportunity for children to draw on their previous lesson knowledge.

7.2 Self-development

Chapter 4 to Chapter 6 analyzed the data collected from four terms of Chinese teaching for stage 3 students in two public schools. In this section, the teacher-researcher has summarized her professional development during this teaching assignment, as a volunteer, beginning Chinese language teacher.

7.2.1 Instructional language

Firstly, the teacher-researcher's instructional language became clearer and more detailed after four terms of practical teaching experience. At first, the instructional language was abstract and based on preconceived notions of how to teach young children. After four terms teaching and observing other teachers' lessons, instructional language improved when providing step by step explanations and content presentation in the lessons and even in terms of explaining the rules of a game or activity.

Secondly, the function of the teacher-researcher's instructional language became more diverse. In addition to explaining Chinese words and sentences, during some teaching sequences the teacher-researcher used instructional language to deliver questions to the students. Questioning is an important technique:

- to create positive interactions between students and the teacher,
- to provide more opportunities for the students to solve problems by themselves, and
- to cultivate their critical thinking.

The teacher-researcher noted improvement in the language of questions and began to include more encouragement of the students' attempts and approximations at pronunciations. The students responded more confidently to make those

approximations without fear of being wrong. The teacher-researcher came to realise the importance of the instructional language in all language lessons.

7.2.2 Teaching strategies and lesson planning skills

Apart from applying AMM across the language teaching lessons, the teacher-researcher began to improve her professional teaching capabilities by adopting other teaching strategies and skills. Scaffolding and kinaesthetic learning were adopted and have been discussed earlier in this thesis. Topic-based teaching was an additional strategy the teacher-researcher became familiar with.

Through implementing topic-based teaching the teacher-researcher aroused students' interest and helped them categorize and associate knowledge within the same topic. Changing the topic every term provided enough time for the students to learn the language and explore relevant background culture associated with that particular topic. When the next topic commenced, the students appeared equally as passionate and curious to explore that theme. More importantly, it was observed that the topic title itself became useful for students to categorize the new knowledge with the correct topics and associate the words more easily fitting into the same category.

Over the course of this research, the teacher-researcher formulated a set of teaching steps to apply to all lessons.

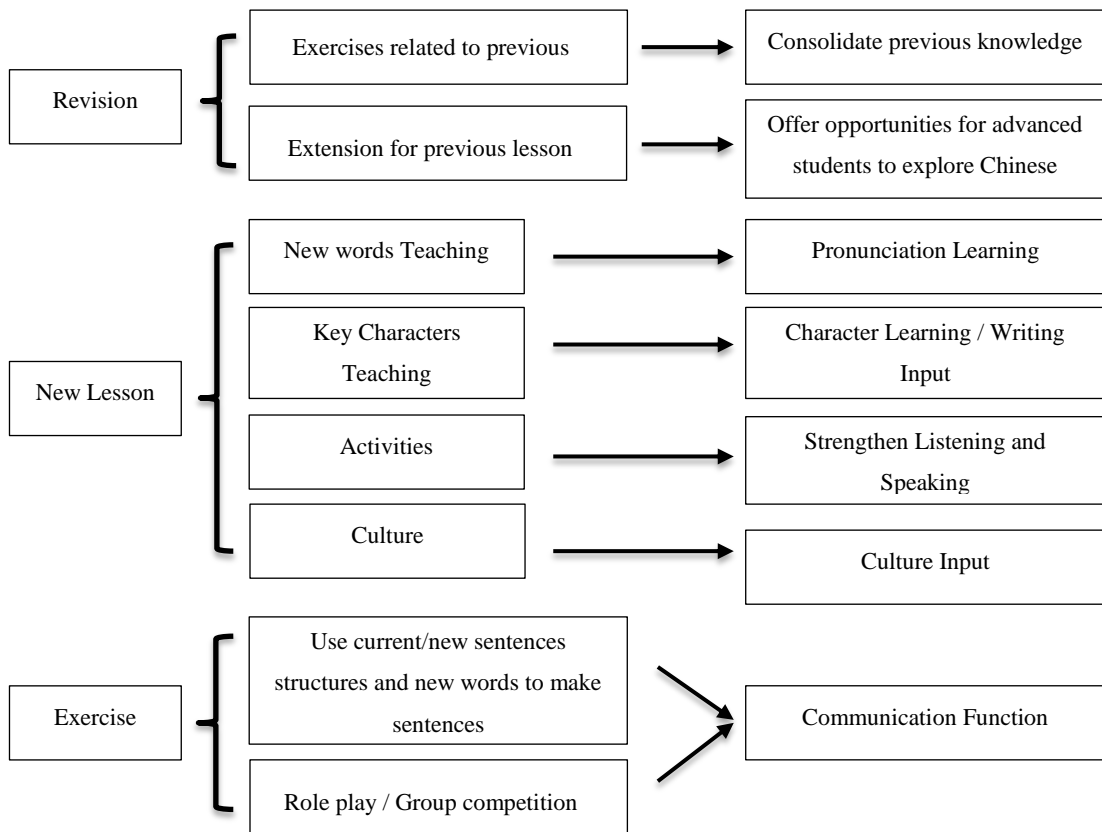


Figure 7-1: Major segments to lesson planning

In the table above, the teacher-researcher divided the whole lesson into three major sections: revision, new lesson and exercise. In each section, different activities were set up to relate to specific purposes. Through the whole lesson, the students not only acquired new words or sentences (some may also have included background culture), but this lesson plan ensured there were also opportunities for the students to practice their reading, listening, speaking and writing.

7.2.3 Classroom management

Throughout the four terms of teaching experience, the teacher-researcher applied different classroom management strategies observed from the classroom teachers and colleagues with obvious improvement.

The teacher-researcher became very familiar with encouragement as a strategy and used physical and emotional cues to praise and reward the children. Naming gestures like thumb up as “hen hao”, which means very good in Chinese, encouraged the students and they joined in. This gesture was used repeatedly, especially if a student answered a particularly hard question correctly.

The teacher-researcher also designed some special stickers with Chinese words (“zhen bang!” which means awesome/great) on them. If some students had great success throughout the whole lesson, they were given stickers as rewards. These kinds of encouragements were appreciated by the students. This approach appealed to the students and they began to respond by showing less inappropriate behaviour.

The teacher-researcher also learnt to control the lesson pace and timing to keep the students engaged and interested. During the teaching, the content was separated into four different parts and each was managed carefully. Gestures and instructional language was used to control the timing of the activities/lessons. The students were given an overview of the lesson before it began in terms of what needed to be achieved. When the time was up for an activity, the teacher-researcher used a Chinese gesture – putting the middle finger of her left hand under her right hand – to indicate the end of the activity. In this way, teaching time was managed more successfully.

Moving around the classroom was another strategy implemented by the teacher-researcher. In this way the students’ on task behaviour could be monitored, students’ attitudes and feedback gauged and modifications of the lesson could be made on the spot.

Rules and routines were also made for the students to know what was expected in the special Chinese classroom. This helped the students to know what was expected of them. Through these different classroom management methods, the teacher-researcher’s teaching became more professional.

7.3 Study limitations

The limitations of this study have been identified due to the status of the teacher-researcher, the nature of the research itself and the context within which it was undertaken.

First, AMM is a strategy that demands teachers to be aware of how knowledge associations occur for the specific students not only in the Chinese language and cultural lessons but also in other subject areas. Preparation by the teacher needs to be carefully undertaken. As a beginning teacher, the teacher-researcher trialled the

AMM approach into the language lessons. However, being a beginning teacher, in many teaching moments some possibilities for connection across different situations and content knowledge may have been missed. This lack of teaching experience may have indirectly affected the results of this action research project.

In addition, the method of data collection was limited. All the data was collected through the teacher-researcher's observation, self-reflection journal and classroom teachers' interviews. Although students' behaviour and performance have been recorded in the teacher-researcher's journal, it has not been a major data source. Therefore two main sources of data have been collected using the teacher-researcher's personal view. This limitation can be addressed by making no claims to generalizability of the findings from this research.

Finally, the time available to undertake the research was limited. In one term, which was one study cycle of the action research process, the teacher-researcher had a forty-five minute lesson with each class per week. During each lesson, approximately one third of the time would be used for the classroom routine and practicing the lesson content. This meant the time that the teacher-researcher could apply AMM to the new teaching content was quite short. In this context of limited time, the improvement of students in Chinese language learning as a result of the AMM implementation cannot be fully claimed, although the evidence in individual lessons did point to this occurring.

7.4 Implications for future Chinese teaching study

There are several implications of this study for applying Association Memory Approach into beginning Chinese teacher's professional development.

First, the potential for engaging AMM into Chinese language teaching is unlimited. As long as association can be triggered through comparison, the forms of AMM are not confined in phonology, grammar or other elements between Chinese and English languages. The potential is that AMM could be used to connect the children to previous learning and knowledge in other subjects, e.g. physical education, music, science. Further research could explore more similarities or contrasts of the implementation of AMM into other subject areas.

Second, AMM could be an effective teaching approach in other language teaching. The principle of Association Memory Approach in this research was to associate learner's prior knowledge with new Chinese language points in order to improve the students' memory and learning efficiency. Therefore, AMM could also be used in other languages not just Chinese.

Third, the method of writing self-reflection journals after observing students' performance in the classroom can be a positive way of developing teachers' professional skills. This would enable teachers to pay more attention to the learners and how they had engaged with the content, processes and activities presented. Teachers would then be able to actively revise their lesson plans for future teaching based on these observations.

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APPENDICES

Appendix 1: Observation checklist Template

Observation questions	Comments and examples
Did students remember the language points from association memory methods from last week's lessons?	
Were the language points taught through phonetic, semantic and cultural association successful? Which ones?	
What's the students' attitude towards phonetic, semantic or cultural association memory method? (bored or interested?)	
Have they absorbed language points relevant to phonetic, semantic or cultural association? Which method was most successful in this lesson? Why?	
Did I use a variety of teaching materials?	
Do I use clear instruction language during the teaching?	
Do I move around the classroom enough?	
Did I make good eye-contact with the students?	
Was my lesson timed well?	
Did the classroom teacher help me keep order? How many times?	
Ideas for improvement in the next lesson.	

Appendix 2: Interview Questions

Interview Schedule with XXX Public School

This term I still apply some association memory approaches into my research to enhance students' learning efficiency. The approach refers to a memory method that connects their prior knowledge with to-be-learnt knowledge (e.g. comparing two countries' map, finding a similar pronunciation in English for a Chinese character).

1. There are three types of associative memory methods:
 - The first one is called visual or audio assistance. During this term, when taught them how to write character 'zu 足' in '足球', I didn't teach them how to write the stroke directly. Instead I showed them an online story about how does the draw of foot develop and change to the character nowadays according to the video. Do you think it raised students' interest and helped student memorize the character?
 - The second one is called similarity comparison, which means distinguish some similarities or differences between two languages or two cultures. For example, when I taught them modal adverbs 'hen geng zui feichang'. There is another word 'chang chang' which means often in the reading. After I lead them to read the new words I emphasized 'fei chang' and 'chang chang' by telling students to distinguish the sounds of both words as well as the meanings and functions of the two words.
 - The third one is called affiliation, which means I use the language components they have already learnt to build up new knowledge or consolidate old knowledge. For instance, when I taught them how to write '跑', I asked them which part do they use in jogging or running. They said 'foot'. Then I told them in character '跑', there is 'zu' radical there and asked them to write it down. How do to think of this one?
2. Since you have been sitting in my class for the three terms, how do you feel about my teaching plan, delivery skills and students' response during my teaching process? Do you think my teaching has improved compared with the beginning period of this the term? (instruction language / teaching management /strategy)
3. What suggestions do you have for the improvement of association memory method teaching in future? Does it a good approach to be applied into Chinese teaching?
4. Would you like give me some suggestions about my future teaching career?

Appendix 3: HREC Approval

Locked Bag 1797
Penrith NSW 2751 Australia
Office of Research Services

ORS Reference: H10928



HUMAN RESEARCH ETHICS COMMITTEE

19 March 2015

Doctor Jinghe Han
Centre for Educational Research

Dear Jinghe,

I wish to formally advise you that the Human Research Ethics Committee has approved your research proposal H10928 "Exploring association memory method to make Chinese learnable for beginning learners in Australian schools: A novice mMandarin teachers collaborative action research", until 31 March 2016 with the provision of a progress report annually if over 12 months and a final report on completion.

Conditions of Approval

1. A progress report will be due annually on the anniversary of the approval date.
2. A final report will be due at the expiration of the approval period.
3. Any amendments to the project must be approved by the Human Research Ethics Committee prior to being implemented. Amendments must be requested using the HREC Amendment Request Form: http://www.uws.edu.au/_data/assets/pdf_file/0018/491130/HREC_Amendment_Request_Form.pdf
4. Any serious or unexpected adverse events on participants must be reported to the Human Ethics Committee via the Human Ethics Officer as a matter of priority.
5. Any unforeseen events that might affect continued ethical acceptability of the project should also be reported to the Committee as a matter of priority
6. Consent forms are to be retained within the archives of the School or Research Institute and made available to the Committee upon request.

Please quote the registration number and title as indicated above in the subject line on all future correspondence related to this project. All correspondence should be sent to the email address humanethics@uws.edu.au.

This protocol covers the following researchers:

Jinghe Han, Michael Singh, Ling Li

Yours sincerely

A handwritten signature in black ink, appearing to read "E Deane".

Professor Elizabeth Deane
Presiding Member,
Human Researcher Ethics Committee

Appendix 4: WWCC and SERAP Approvals



Miss Ling Li
4/45 Jones Street
PENRITH NSW 2747

CORP15/11941
DOC15/399228
SERAP 2015219

Dear Miss Li

I refer to your application to conduct a research project in NSW government schools entitled *Exploring association memory method to make Chinese learnable for beginning learners in Australian schools: A novice Mandarin teacher's collaborative action research*. I am pleased to inform you that your application has been approved.

You may contact principals of the nominated schools to seek their participation. You should include a copy of this letter with the documents you send to principals.

This approval will remain valid until 31-Mar-2016.

The following researchers or research assistants have fulfilled the Working with Children screening requirements to interact with or observe children for the purposes of this research for the period indicated:

Researcher name	WWCC	WWCC expires
Ling Li	APP0978650	28-Mar-2020

I draw your attention to the following requirements for all researchers in NSW government schools:

- The privacy of participants is to be protected as per the NSW Privacy and Personal Information Protection Act 1998.
- School principals have the right to withdraw the school from the study at any time. The approval of the principal for the specific method of gathering information must also be sought.
- The privacy of the school and the students is to be protected.
- The participation of teachers and students must be voluntary and must be at the school's convenience.
- Any proposal to publish the outcomes of the study should be discussed with the research approvals officer before publication proceeds.
- All conditions attached to the approval must be complied with.

When your study is completed please email your report to: serap@det.nsw.edu.au
You may also be asked to present on the findings of your research.

I wish you every success with your research.

Yours sincerely

Dr Robert Stevens
Manager, Quality Assurance/Research
22 June 2015



Policy, Planning and Reporting Directorate
NSW Department of Education and Communities
Level 1, 1 Oxford Street, Darlinghurst NSW 2010 – Locked Bag 53, Darlinghurst NSW 1300
Telephone: 02 9244 5080 – Email: serap@det.nsw.edu.au

Appendix 5: Information Sheet (Parents and Carers)

Human Research Ethics Committee
Office of Research Services



Participant Information Sheet (General)

An information sheet, which is tailored in format and language appropriate for the category of participant - adult, child, young adult, should be developed.

Note: If not all of the text in the row is visible please 'click your cursor' anywhere on the page to expand the row. To view guidance on what is required in each section 'hover your cursor' over the bold text. Further instructions are on the last page of this form.

Project Title: Exploring association memory method to make Chinese learnable for beginning learners in Australian schools: A novice Mandarin teacher's collaborative action research

Who is carrying out the study?

My name is Ling Li. I am a research candidate from the Centre for Educational Research, University of Western Sydney. I am conducting a research project, focusing on exploring the 'association memory approach' to making Chinese learnable for beginning learners in Australian schools.

The study is being supervised by Dr. Jinghe Han and Professor Michael Singh.

What is the study about?

This research is being conducted as 'action research'. I will explore and employ the 'association memory approach' in my Chinese class in two primary schools in the Sydney Region through three terms of teaching. I will focus my teaching on pronunciation, Chinese characters and typical Chinese cultural knowledge (e.g. festivals, food culture, clothes, Chinese calligraphy and tea ceremony) using this approach.

What does the study involve?

If you agree to your child participating in this project, she/he will attend my Chinese class as she/he usually does. While I am delivering the teaching, I will observe whether all the students, including your child, respond well to the strategies I use in teaching them the pronunciation of Chinese words, Chinese characters and cultural knowledge.

How much time will the study take?

The observation will be conducted during my weekly teaching (30 minutes per week for three terms).

Will the study benefit me?

By participating in this research, the problems my students (including your child) may come across in their learning will be observed and these problems will be addressed and/or resolved through improvement in my future teaching. Improvement in my teaching is therefore based on my students' learning needs and thus I will be able to help them learn Chinese in more efficient ways.

Will the study involve any discomfort for me?

My observations will be focused on the students responses to my teaching and teaching methods. I will explain to the students before my observation that I will not observe any other individual behaviors not related to this focus. Hopefully this will minimize any discomfort the study may cause them.

How is this study being paid for?

This study is being done as a research project for my Masters at UWS. It is not funded and neither you nor your child will receive payment.

Will anyone else know the results? How will the results be disseminated?

The findings of the study will be reported as a part of my Masters thesis.

Can I withdraw from the study?

Your child or you (on behalf of him/her) can withdraw from this study at any time without giving any reason and it will not cause any negative consequences.

Can I tell other people about the study?

Yes, you can tell other people about the study by providing them with the chief investigator's contact details. They can contact the chief investigator to discuss their participation in the research project and obtain an information sheet.

What if I require further information?

If you would like to know more about the research, please feel free to contact me through E-mail: 18141854@students.uws.edu.au

What if I have a complaint?

This study has been approved by the University of Western Sydney Human Research Ethics Committee. The Approval number is H10928.

If you have any complaints or reservations about the ethical conduct of this research, you may contact the Ethics Committee through the Office of Research Services on Tel +61 2 4736 0229 Fax +61 2 4736 0013 or email humanethics@uws.edu.au.

Any issues you raise will be treated in confidence and investigated fully, and you will be informed of the outcome.

If you agree to participate in this study, you may be asked to sign the Participant Consent Form.

Appendix 6: Consent Form (Parents and Caregivers)

Human Research Ethics Committee
Office of Research Services



Participant Consent Form for Parents/Caregivers

This is a project specific consent form. It restricts the use of the data collected to the named project by the named investigators. Where projects involve young people capable of consenting, a separate consent form should be developed. A parental consent form is still required.

Note: If not all of the text in the row is visible please 'click your cursor' anywhere on the page to expand the row. To view guidance on what is required in each section 'hover your cursor' over the bold text.

Project Title: Exploring association memory method to make Chinese learnable for beginning learners in Australian schools: A novice Mandarin teacher's collaborative Action Research

I,, give consent for my child to participate in the research project titled [Exploring association memory method to make Chinese learnable for beginning learners in Australian schools: A novice Mandarin teacher's collaborative Action Research].

I acknowledge that:

I have read the participant information sheet and have been given the opportunity to discuss the information and my child's involvement in the project with the researcher.

The procedures required for the project and the time involved have been explained to me, and any questions I have about the project have been answered to my satisfaction.

I have discussed participation in the project with my child and my child agrees to their participation in the project.

I understand that my child's involvement is confidential and that the information gained during the study may be published but no information about my child will be used in any way that reveals my child's identity.

I understand that my child's (stage three student) participation in this project is voluntary. I can withdraw my child from the study at any time, without affecting their academic standing or relationship with the school and they are free to withdraw their participation at any time.

I consent to have my child to accept the focus group conducted by Miss Ling Li about her teaching practice.

**Signed (Parent/
caregiver):**

Signed (child):

Name:

Name:

Date:

Date:

Where projects involve young people capable of consenting, a separate consent form should be developed. A parental consent form is still required.

Postal address:
J.G.13-School of Education,
University of Western Sydney,

Return Address:

**Locked Bag 1797,
Penrith NSW 2751
Australian**

Email: 18141854@students.uws.edu.au

This study has been approved by the University of Western Sydney Human Research Ethics Committee.

The Approval number is: H10928

If you have any complaints or reservations about the ethical conduct of this research, you may contact the Ethics Committee through the Office of Research Services on Tel +61 2 4736 0229 Fax +61 2 4736 0013 or email humanethics@uws.edu.au. Any issues you raise will be treated in confidence and investigated fully, and you will be informed of the outcome.

Appendix 7: Information Sheet (Teachers)

Human Research Ethics Committee
Office of Research Services



Participant Information Sheet (General)

An information sheet, which is tailored in format and language appropriate for the category of participant - adult, child, young adult, should be developed.

Note: If not all of the text in the row is visible please 'click your cursor' anywhere on the page to expand the row. To view guidance on what is required in each section 'hover your cursor' over the bold text. Further instructions are on the last page of this form.

Project Title: Exploring association memory method to making Chinese learnable for beginning learners in Australian schools: A novice Mandarin teacher's collaborative action research

Who is carrying out the study?

My name is Ling Li. I am a research candidate from the Centre for Educational Research, University of Western Sydney. I am conducting a research project, focusing on exploring 'association memory approach' to making Chinese learnable for beginning learners in Australian schools.

I am supervised by Dr. Jinghe Han and Professor Michael Singh.

What is the study about?

This research is being conducted as 'action research'. I will explore and employ the 'association memory approach' in my Chinese class in two primary schools in the Sydney Region through three terms of teaching. I will focus my teaching on pronunciation, Chinese characters and typical Chinese cultural knowledge (e.g. festivals, food culture, clothes, Chinese calligraphy and tea ceremony) using this approach.

What does the study involve?

Given that you are one of the classroom teachers sitting in my classes, I would like to get your opinion on my teaching approach in the three teaching areas. If you agree to participate in this research, you will be interviewed for 30 minutes at the end of each term for three terms. Some of the questions to be asked are: What do you think of the 'association memory approach' I used, in terms of helping students in their Chinese learning? Is the sound similarity strategy helpful for their learning of Chinese pronunciation? Is the visual method helpful for them to memorise characters? What would you suggest I do to improve my teaching in future?

How much time will the study take?

Interviews will be conducted at the end of each term for around 30 minutes each time. In total your time commitment will be approx 90 minutes.

Will the study benefit me?

This study will benefit Australian students who are learning Chinese as a foreign language, through improvements in teaching methods. It may not benefit you directly however.

Will the study involve any discomfort for me?

This study may cause some inconvenience given that you will be interviewed three times. However, it is not anticipated that it will cause you any other discomfort. I will be seeking your opinion on my teaching rather than asking you personal questions.

How is this study being paid for?

This study is being done as a research project for my Masters at UWS. It is not funded and you will not receive payment.

Will anyone else know the results? How will the results be disseminated?

The findings of the study will be reported as a part of my Masters thesis.

Can I withdraw from the study?

If you decide to withdraw from this study at any stage, you can do so without any reason and without any negative consequences.

Can I tell other people about the study?

Yes, you can tell other people about the study by providing them with the chief investigator's contact details. They can contact the chief investigator to discuss their participation in the research project and obtain an information sheet.

What if I require further information?

If you would like to know more about the research, please feel free to contact me through email: 18141854@students.uws.edu.au

What if I have a complaint?

This study has been approved by the University of Western Sydney Human Research Ethics Committee. The Approval number is H10928.

If you have any complaints or reservations about the ethical conduct of this research, you may contact the Ethics Committee through the Office of Research Services on Tel +61 2 4736 0229 Fax +61 2 4736 0013 or email humanethics@uws.edu.au.

Any issues you raise will be treated in confidence and investigated fully, and you will be informed of the outcome.

If you agree to participate in this study, you may be asked to sign the Participant Consent Form.

Appendix 8: Consent Form (Teachers)

Human Research Ethics Committee
Office of Research Services



Participant Consent Form

This is a project specific consent form. It restricts the use of the data collected to the named project by the named investigators.

Note: If not all of the text in the row is visible please 'click your cursor' anywhere on the page to expand the row. To view guidance on what is required in each section 'hover your cursor' over the bold text.

Project Title:

Exploring association memory method to make Chinese learnable for beginning learners in Australian schools: A novice Mandarin teacher's collaborative Action Research

I, _____, consent to participate in the research project titled [Exploring association memory method to make Chinese learnable for beginning learners in Australian schools: A novice Mandarin teacher's collaborative Action Research].

I acknowledge that:

I have read the participant information sheet and have been given the opportunity to discuss the information and my involvement in the project with the researcher/s.

The procedures required for the project and the time involved have been explained to me, and any questions I have about the project have been answered to my satisfaction.

I consent to observe Miss Ling Li's teaching practice and students' performance during Mandarin lessons once every week, and complete an evaluation form while observing. I consent to be interviewed at the end of each term to give my opinions about Miss Ling Li's teaching practice and students' performance.

I understand that the information gained during the study may be published but no information about me will be used in any way that reveals my identity.

I understand that I can withdraw from the study at any time, without affecting my relationship with the researcher/s now or in the future.

Signed:

Name:

Date:

Return Address:

Postal address:
J.G.13-School of Education,
University of Western Sydney,
Locked Bag 1797,
Penrith NSW 2751
Australian

Email: 18141854@students.uws.edu.au

This study has been approved by the University of Western Sydney Human Research Ethics Committee.

The Approval number is: H10928

If you have any complaints or reservations about the ethical conduct of this research, you may contact the Ethics Committee through the Office of Research Services on Tel +61 2 4736 0229 Fax +61 2 4736 0013 or email humanethics@uws.edu.au. Any issues you raise will be treated in confidence and investigated fully, and you will be informed of the outcome.