TOWARDS TECHNOLOGICAL PEDAGOGICAL CONTENT KNOWLEDGE VIA CROSS SOCIO-LINGUISTIC INTERACTION: A CASE STUDY OF BEGINNING TEACHER-RESEARCHERS’ DECISION-MAKING IN SCHOOL-ENGAGED TEACHER-RESEARCHER EDUCATION

Yiye LU

Bachelor of Arts (English)
(Shaanxi University of Science and Technology, 2010)

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Centre for Educational Research
University of Western Sydney

Supervisory Panel
Professor Michael Singh (Principal Supervisor)
Dr Dacheng Zhao (Associate Supervisor)

27 May, 2014
DECLARATION

I declare that except where due acknowledgement has been made, this research is my own work and has not been submitted in any form for another degree at any university or other institute of tertiary education. Information derived from the published or unpublished work of others has been acknowledged in the text and a list of references is given.

…………

Signature: Yiye LU
Date: 27 May, 2014
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Doing PhD study is one of the challenges in my life, but, of course, the most rewarding and meaningful journey of my whole life. In this long journey, I experienced numerous difficulties, such as physical illness, emotional upheavals and spiritual loneliness. However, there were a host of people who were always there to guide, help, support and encourage me. I want to thank them here, because without them, this thesis would not have been possible.

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<th>Full Form</th>
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<tr>
<td>AIESEC</td>
<td>Association Internationale des Etudiants en Sciences Economiques et Commerciales</td>
</tr>
<tr>
<td>CC1</td>
<td>China Connect 1</td>
</tr>
<tr>
<td>CC2</td>
<td>China Connect 2</td>
</tr>
<tr>
<td>CET 4</td>
<td>College English Test 4</td>
</tr>
<tr>
<td>CET 6</td>
<td>College English Test 6</td>
</tr>
<tr>
<td>CK</td>
<td>Content Knowledge</td>
</tr>
<tr>
<td>CoC</td>
<td>Confirmation of Candidature</td>
</tr>
<tr>
<td>CSLI</td>
<td>Cross Socio-Linguistic Interaction</td>
</tr>
<tr>
<td>DEC</td>
<td>Department of Education and Communities</td>
</tr>
<tr>
<td>e²</td>
<td>Extending Education</td>
</tr>
<tr>
<td>FL</td>
<td>Foreign Language</td>
</tr>
<tr>
<td>ICT</td>
<td>Information and Communication Technology</td>
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<tr>
<td>IWB</td>
<td>Interactive Whiteboard</td>
</tr>
<tr>
<td>L1</td>
<td>First Language</td>
</tr>
<tr>
<td>L2</td>
<td>Second Language</td>
</tr>
<tr>
<td>MFL</td>
<td>Modern Foreign Language</td>
</tr>
<tr>
<td>NALSAS</td>
<td>National Asia Languages and Studies in Australian Schools</td>
</tr>
<tr>
<td>NBN</td>
<td>National Broadband Network</td>
</tr>
<tr>
<td>NEAF</td>
<td>National Ethics Application Form</td>
</tr>
<tr>
<td>NMEB</td>
<td>Ningbo Municipal Education Bureau</td>
</tr>
<tr>
<td>NSW</td>
<td>New South Wales</td>
</tr>
<tr>
<td>PCK</td>
<td>Pedagogical Content Knowledge</td>
</tr>
<tr>
<td>PK</td>
<td>Pedagogical Knowledge</td>
</tr>
<tr>
<td>ROSETE</td>
<td>Research-Oriented School-Engaged Teacher Education</td>
</tr>
<tr>
<td>SERAP</td>
<td>State Education Research Approval Process</td>
</tr>
<tr>
<td>TCK</td>
<td>Technological Content Knowledge</td>
</tr>
<tr>
<td>TK</td>
<td>Technological Knowledge</td>
</tr>
<tr>
<td>TL</td>
<td>Target Language</td>
</tr>
<tr>
<td>TPACK</td>
<td>Total PACKage/Technological Pedagogical Content Knowledge</td>
</tr>
<tr>
<td>TPCK</td>
<td>Technological Pedagogical Content Knowledge</td>
</tr>
<tr>
<td>Acronym</td>
<td>Description</td>
</tr>
<tr>
<td>---------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td>TPK</td>
<td>Technological Pedagogical Content</td>
</tr>
<tr>
<td>UWS</td>
<td>University of Western Sydney</td>
</tr>
<tr>
<td>VC</td>
<td>Video Conferencing (Technology)</td>
</tr>
<tr>
<td>VTR</td>
<td>Volunteer Teacher-Researcher</td>
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<tr>
<td>WSR</td>
<td>Western Sydney Region</td>
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</table>
ABSTRACT

Much of the current research demonstrates that teachers’ knowledge is a powerful force in students’ learning and teachers’ instruction, and it is also persuasive, individualistic, and modifiable (Sotelo, & Stigler, 2010). It is further argued that to achieve to pedagogical knowing conceptually as well as substantively, requires attending to teachers. It is in teaching that knowing resides, and is revealed. This study first aims to explore the ‘knowledge base’ that beginning teacher-researchers have used, changed and developed through a research-oriented school-engaged teacher education (ROSETE) Partnership in Western Sydney (Australia). To do so, it explores the influence of the ROSETE Partnership on developing beginning teachers into teacher-researchers.

Case study methodology was selected in order to provide a detailed examination of what teachers do in the classroom, in addition to how and why they draw on particular types of knowledge to facilitate student learning. Volunteer Teacher Researchers (VTRs) from the ROSETE Partnership were chosen as the main participants for this study. The data were collected from VTRs’ theses, face-to-face interviews and lesson plans. These data were analysed to investigate the different categories of knowledge that VTRs have developed in order to support their teaching in Western Sydney schools. It reveals that the VTRs’ beliefs about the subject and educational purposes influence their decisions on what Chinese should be taught to Australian students. It also shows that knowledge of context, curriculum, content (Mandarin), pedagogy and learners are the main categories that contribute to effective teaching and learning. In addition, knowledge of self and knowledge of English are two new categories of knowledge that proved indispensable elements for effective teaching and learning, especially in the English-speaking context of this study. However, the VTRs’ were concerned about the way they can organise these types of knowledge to make Chinese learnable for English-speaking learners.

Another main participant of this case study is the researcher herself. The data were from my self-reflection diary, accompanied by mentor’s lesson feedback, as well as interviews with teachers and the questionnaires with students. The first 18 months of face-to-face classroom teaching aimed to investigate ways to make Chinese learnable
for Australian students. Shulman’s (1976, 1987) concept of pedagogical content knowledge (PCK) and Ringbom’s (2007) concept of cross-linguistic similarities were used as theoretical tools to analyse the evidence for the possibility of making Chinese learnable. The analysis of evidence suggests that by making connections between Chinese and English with which the Second Language (L2) learners are familiar presents possibilities for making Chinese more learnable for them. However, Ringbom’s (2007) concept was contested because comparisons between Chinese and English can be from linguistic perspective, and perhaps more importantly from social and cultural perspectives. Therefore, a new concept of ‘cross socio-linguistic interaction’ (CSLI) is proposed. The close relationship between PCK and CSLI provides a novel theoretic-pedagogical framework to inform the debates about making Chinese learnable.

This study also investigated the concept of technological pedagogical content knowledge (TPACK) through a ‘Connected Classroom’ Chinese course. The analysis of evidence reveals that relying on video-conferencing facilities provides a potential teaching and learning medium to engage students’ Chinese language learning, and to offer Chinese language courses for schools in distant areas. However, there exist numerous challenges, problems and issues in the ‘Connected Classroom’ context. These require teachers to master a range of technological knowledge such as video-conferencing equipment, Bridgit and Smartboard. Such challenges also demand teachers to adapt pedagogical strategies to make Chinese learnable through ‘Connected Classroom’. This analysis helps to provide a better understanding of TPACK and its related knowledge sources in Chinese language education.
AUTHOR’S CONFERENCE PRESENTATION


FOR READERS

This thesis records my three-years’ teaching and researching journey in Australia. It is a fruitful and rewarding part of my life. I use Chinese Chénɡ Yǔ (成语), which is a type of traditional Chinese idiomatic expression, and most of which consists of four characters, to describe this long journey. These Chénɡ Yǔ are presented as follows, and are explained in detail before each chapter:

扬帆起航 (Yánɡ fān qǐ háng)
探索知识 (Tán suǒ zhī shí)
知识应用 (Zhī shí yǐng yòng)
应用创新 (Yìng yòng chuàng xīn)
创新成果 (Chuàng xīn chéng guǒ)
满载而归 (Mǎn zǎi ér guī)

In addition, this journey not only developed my research capabilities, but also improved my teaching skills. Therefore, I want to share my teaching/learning materials of Chinese I developed as a teacher-researcher. It is included in the

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3 Picture from:
supplemented CD at the back of this thesis. Welcome your sincere and insightful thoughts. Thank you.
PROLOGUE

“He who can, does; he who cannot, teaches.”

(George Bernard Shaw, 1903)

I was shocked and confused when I first read this aphorism, since it was different from my prior image of teachers in China. Teachers are regarded as authoritative masters who impart various kinds of knowledge to students. Students, as receivers, always think that whatever teachers say is correct and undeniable. From this perspective, teachers in China are actually the people who do.

Moreover, I also felt puzzled and confounded when thinking about Shaw’s aphorism with regard to Western teachers, Australian teachers in particular. Based on the students’ interests and learning levels, teachers have to choose appropriate teaching/learning materials, prepare lessons, and produce localised booklets. Further, they also have to answer students’ tricky questions. Managing students is another issue that they have to deal with. Therefore, how can Shaw make the off-repeated derogatory claim, “He who cannot, teaches”? As a research student from China, I think of teachers as credible sources of knowledge. I cannot say the same for Shaw—that is for sure.

It is no exaggeration to say that teaching is said to be an art (Torres, 2005). Teaching in an artful manner has the same power to encourage and inspire students as the famous art works in libraries and museums do to inspire the art connoisseurs. Perhaps the only difference is that we, as teachers, do not display our works in novels or on canvas and hang them in a museum with a price tag few can afford.

An inspiring question is: what makes teaching an art? To answer this question requires a better understanding of “art of teaching” (Torres, 2005, p. 4), and this will vary depending on each teacher’s viewpoints and that of students. Among contesting definitions, Torres interprets artful teaching as “teacher passion—a type of kinetic art” (2005, p. 4). It is difficult for a teacher to be successful if s/he puts little or no passion into teaching, or even less into students’ learning. Good teachers teach with passion. They are enthusiastic about what they do; they are eager to learn how to do better; and they have a “burning desire” (Smart, Kelley and Conant, 2003, p. 71) to be the best teachers they can be.

Teachers can be considered as artists when their expression to the “art of teaching” (Torres, 2005, p. 4) is reflected. And the classrooms are the places of possibilities, like libraries, museums, novels and canvas for teachers to display their artful teaching works. However, these possibilities are made real only when they understand the meanings of teachers-as-artists.
We can elaborate our enlightening question as: What does it mean to be an artistic teacher in the classroom? Torres’s (2005) list of attributes provides key points to be reckoned with:

It means caring about students. It means teaching with creativity. It means looking for fresh and novel meanings of impacting students’ lives. It means juggling many teaching factors in a creative mix that cannot be duplicated by another. It means instruction that is blended in a unique fashion that, when put together, it multiplies exponentially (p. 4).

The paramount idea here for me is that teaching can and should be artful, and teachers can and will be artists during the professional teaching journey. To become an artistic teacher, the challenge is to develop the capability to make learning alive and inspire students’ desire to learn through understanding students, looking for their creativity, and learning from other educational professionals. When a teacher’s personality, skills, knowledge, behaviours mix just right, s/he becomes an artist who are able to create artful teaching/learning in a supportive classroom atmosphere.

Moreover, it is important for teachers to realise that the “art of teaching” is more of “a journey than it is a destination” (Smart et al., 2003, p. 71). Teaching is such a personal matter. It is not recommended that one duplicates what others do; rather each teacher should interpret and consider applying what they have learnt from meaningful classroom experiences in meaningful but eclectic ways. With passion, capability and knowledge, teachers work to create their own masterpieces, that is, efficacious teaching/learning in their classrooms.

However, everything comes into existence for certain reasons. Hence, even though I am not happy with Shaw’s calamitous insult to teachers and the teaching profession, I wonder whether there are some reasons to support his questionable assertion. The following two questions come into my mind:

1) Why does such a demeaning image of the teachers’ capabilities exist?
2) Is Shaw’s aphorism to be treated as the last word on what teachers can know and do, or cannot know and not do?

The above vignette—an “inside story” (Hunter, 2012, p. 90), inspired my thinking as I began this study. The term vignette comes from French word vigne which means small vine. Hunter (2012) defines vignette as “short stories, scenarios, depictions of situations, accounts using imagery, and collection of actions. They are explored and styled contextually, and include visual or written texts” (p. 92). After reading Shaw’s
derogatory claim about teachers, I recorded my own monologue using the following mantra-“tell it like a story” (Terry, as cited in Hunter, 2012, p. 91). This particular vignette is about my insights into the central role of teachers, both in Australia and China, in encouraging creative and successful teaching and learning. It provides “crystallisation” (Hunter, 2012, p. 93) of the understanding that formed the starting point for my research, and provides readers a key reference point for this study. There were various vignettes that emerged during my subsequent teaching and research, which assisted me to make sense of, contextualise, manage and rebuild my merging theoretic-pedagogical framework. Hopefully, these colourful and textured vignettes also open intellectual spaces for readers to reflect upon and re-imagine the project reported in this thesis.

This study explores the answers to the above questions in terms of teacher-researchers’ knowledge base for teaching, with a specific focus on the concept of pedagogical content knowledge (PCK) (Shulman, 1986, 1987). What knowledge and skills do beginning teacher-researcher need in order to conduct effective lessons in the classroom? What problems appear in current teaching/learning and teacher education that lead to a dreadful insult, like Shaw’s aphorism, still has a cultural presence? What can teacher-researchers do to re-establish their image within the education profession, and in the public?
扬帆起航 (Yáng fān qǐ háng)

Sail is up, wind is ready
Start a teaching journey to the West

Picture from:
CHAPTER ONE

EXPLORING BEGINNING CHINESE TEACHER-RESEARCHERS’ PEDAGOGICAL CONTENT KNOWLEDGE: AN INTRODUCTION

1.1 Introduction to the research problems

When I was a child, I dreamt of going abroad. When I was a child, I dreamt of being a teacher. Fortunately, my dream came true when I came to Australia as a volunteer Chinese teacher. However, this dream shortly became a nightmare because I encountered many challenges in teaching my mother tongue (Chinese) to Australian students. This chapter provides a blueprint of this study reported in this thesis. First, it introduces my teaching experience in India and Australia, which lead to the main research question and contributory questions I explored in this study. Then, key terms are explained. This is followed by a review of Chinese teaching and learning in Australia and elsewhere in the world, especially the issues and challenges that are faced by schools, teachers and students. In order to solve one of the issues, that is the qualification and cultivation of experienced teachers, this study proposes the theoretic-pedagogical framework. Next the significance and research methods used in this study are presented. This Chapter concludes with a statement of the thesis and an overview of how it is developed through the ensuing chapters.

1.1.1 Teaching Chinese in India

Before joining the Research-Oriented School-Engaged Teacher Education (ROSETE) Partnership as a Volunteer Teacher-Researcher (VTR) in Australia, I had a short experience of teaching Chinese in India. It was part of my four-year college life, as a member of the world’s largest non-profit organisation called Association Internationale des Etudiants en Sciences Economiques et Commerciales (AIESEC). It provides students with leadership training and internship opportunities at for-profit and non-profit organisations overseas (Google Wikipedia, n.d.). I had the opportunity to do a two-month educational traineeship in India in 2009. There I worked in an educational training institute where on and off campus students undertook English
test training for various reasons. My responsibility was to promote Mandarin and Chinese culture, in addition to the routine office work. I found that there were many Indian students who were interested in China as well as Mandarin and Chinese culture. Often I heard “老师，您好（Lǎo Shī, Nín Hǎo!/Miss, how are you?)”, “老师，我喜欢中文（Lǎo Shī, Wǒ Xǐ Huān Zhōng Wén./Miss, I like Chinese.)”, “老师，我喜欢你上课（Lǎo Shī, Wǒ Xǐ Huān Nǐ Shàng Kè./Miss, I like your teaching style.)”. This was really a powerful driving force that inspired me to further my work as a volunteer Chinese teacher. From then on, I dreamt of going to other countries to continue my mission of promoting Mandarin and Chinese culture.

My teaching experience in India also provided me with an opportunity to think about how to develop my knowledge as a volunteer teacher of Chinese. When in the office, colleagues and the manager always talked about Chinese culture. The manager, having been to China before, knew much about China. When a colleague posed a question, I sometimes knew nothing, or knew a little and could not answer in detail, so it was the Indian manager who always gave a fulsome description in response to the question. These were the most frustrating moments for me. Since then, I recognised the importance of knowledge in teaching a language and the culture in particular.

After returning to China, I thought about my teaching experiences in India. The more I reflected, the more questions were sparked:

1) What do I already know, which can contribute to successful teaching of Chinese?
2) What do I not know, which can hinder students’ learning of Chinese?
3) What do I need to know in order to better facilitate students’ learning of Chinese?

A long list of questions spurred my thinking, and in many ways prepared me to join the ROSETE Partnership.
1.1.2 Teaching Chinese in Australia

In Australia, I became involved in the ROSETE Partnership. As a VTR, my main responsibility was to encourage and inspire primary and secondary students in Western Sydney public schools to learn Mandarin and Chinese culture. This was quite similar to my teaching experience in India. However, this experience seemed to be more serious and extensive, as we aimed to design teaching situations, find teaching problems, and solve problems by doing research. This was what being a teacher-researcher meant to me. Singh (2013) acknowledges the significance of such research impact, as it focuses on improving school students’ learning, while also enhancing teacher-researchers’ “knowledge and capabilities to make informed decisions about technology, curriculum and pedagogy” (p. 3). I was very enthusiastic about this Partnership, because it provided me with a wonderful opportunity to explore the questions that I had in my mind after teaching in India.

However, the first day I started my journey in Australia with the glorious mission of teaching Chinese language and promoting Chinese culture, I felt worried and nervous rather than being excited and proud. Why? I kept asking myself, “Am I a qualified Chinese teacher?” My worries came from two sources. First, in my undergraduate studies, I majored in English rather than teaching Chinese as a second language. Second, I had never been a teacher before in China, let alone in an English-speaking country, such as Australia. I very much doubted the commonsense claim that “you are a native speaker of Chinese, of course, you can teach your mother tongue to non-Chinese students”.

After I started teaching in Australia, I realised that I was absolutely correct to be worried. I encountered different school cultures, difficult classroom management practices, and unexpected language obstacles, to name just a few challenges. What scared me most were the unexpected questions that students asked, to which I had no ideas about how to respond. “Is Chinese really my mother tongue?” I asked myself, questioning whether I was really a native speaker of Chinese. Being a native speaker of a language does not mean one can answer non-native speakers’ intellectual questions about the language. The following was one of the episodes that happened during my teaching, which inspired me to do the research reported in this thesis.
When I taught my students that “老鼠 (Lǎo Shǔ)” is mouse, and “老虎 (Lǎo Hǔ)” is tiger (see Table 1.1), at that moment, one student put his hand up and asked, “Miss, mouse and tiger belong to different families of animals, why do they have the same character ‘老 (Lǎo)’”? What a brilliant question that was! To be honest, I had never thought of this question before.

**Table 1.1: Teaching episode of mouse vs tiger**

<table>
<thead>
<tr>
<th>Episode</th>
<th>Pinyin</th>
<th>Lǎo Shǔ</th>
<th>Lǎo Hǔ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hanzi (Characters)</td>
<td>老鼠</td>
<td>老虎</td>
<td></td>
</tr>
<tr>
<td>English meanings</td>
<td>Mouse</td>
<td>Tiger</td>
<td></td>
</tr>
</tbody>
</table>

The next day, when I taught the same topic to another group of students, I purposefully mentioned this question. I explained the problem to the students in this way, “Year 7, you might find it interesting as to why ‘老鼠 (Lǎo Shǔ)’ and ‘老虎 (Lǎo Hǔ)’ share the same character even though they are not from the same family of animals. ‘老 (Lǎo)’ literally means ‘old’. Its usage is very similar to a prefix that is used in an English word. For example, you can find some English words that share the same beginning part (prefix), such as unhappy and unlucky. The prefix ‘un’ means ‘not’. So in Chinese ‘老 (Lǎo)’ is a prefix which means ‘old’”. I thought that this time there would be no more strange and bizarre questions coming from the students. However, as a matter of fact, my students always went against my expectations. A sweet girl asked, “Miss, so little tiger is also called ‘老虎 (Lǎo Hǔ)’? How can a young tiger be called ‘老 (old)’?”

There were so many lively episodes such as these that occurred in my teaching at local schools in Western Sydney Region (WSR). These critical teaching moments, together with my teaching experience in India inspired me to think about:

1) Somethings that teachers who are First Language (L1) speakers of Chinese take for granted might greatly inspire Second Language (L2) learners’ interest and
2) curiosity.

3) Somethings that L1 speaking teachers know about Chinese, but they do not know how to explain to L2 learners.

4) Somethings that L1 speaking teachers might explain about Chinese, but their explanations might result in students’ further confusion or more perplexing questions.

I am a native speaker of Chinese, with subject knowledge (Chinese) training in China and pedagogical training provided by New South Wales (NSW) DEC. I expected to have the capability to conduct my lessons well. Why did I fail? Why could I still not answer students’ questions? Why was it that the accepted knowledge of how to teach Chinese to foreigners which I learnt in China could not be applied to L2 learners in Australia? Even though the VTRs are native speakers of the foreign language to be taught, Chinese in this case, this does not mean that they are effective L2 teachers in Australia (or elsewhere). When I talked with the other VTRs, they had the similar questions. I gradually recognised that this phenomenon was not a sporadic and an infrequent one, but rather a widespread experience among teachers from China teaching Chinese as an L2 in countries such as Australia. I decided that this problem warranted further investigation if we were to make Chinese learnable in such setting. The result of the project presented in this thesis offers insights into this issue and makes contribution to understanding how to make Chinese learnable in English-speaking countries.

1.2 Research questions

Based on the challenges and issues that I encountered in the classrooms when teaching Chinese in Western Sydney schools in Australia, there are all together 5 contributory research questions that I want to focus on. Each contributory research question listed below will be answered in relevant evidentiary chapters as indicated. The contributory research questions are:

1) What is the prerequisite ‘knowledge base’ that VTRs learned and developed in order to support their teaching of Chinese as part of the ROSETE Partnership in Western Sydney schools? (Chapter 5)
2) How might VTRs use ‘cross socio-linguistic interaction’ (CSLI) as a guide to inform, interact and interweave with “pedagogical content knowledge” (PCK), with the aim of making Chinese learnable for Australian students in Western Sydney schools? (Chapter 6)

3) What does technological pedagogical content knowledge (TPACK) mean for making Chinese learnable through a pilot “Connected Classroom” project in Western Sydney schools? (Chapter 7)

4) How do VTRs develop technological pedagogical content knowledge (TPACK) for making Chinese learnable via CSLI through a pilot “Connected Classroom” project in Western Sydney schools? (Chapter 8)

After a robust investigation and discussion of the above five contributory research questions, the Chapter nine in this thesis aims to answer the main research question for this study:

How do, and what factors influence beginning VTRs’ knowledge development and use of (technological) pedagogical content knowledge as a tool to make Chinese learnable for Australian students L2 learners in Western Sydney schools? (Chapter 9)

1.3 Definitions of key terms

In order to gain a better understanding of this thesis, the following key terms are of great significance, because they provide the central focus of the thesis and its construction.

1.3.1 ROSETE-An innovative teacher education partnership in NSW

It is well recognised that the lack of supply of qualified teachers constrains the development of Chinese language teaching and learning programs in many parts of Australia (Orton, 2008). In order to meet the demand for qualified teachers at all levels, many States and Territories fund various in-service and pre-service Chinese teacher education programs in universities for those already approved teachers from a Chinese background but lack formal language teaching qualifications and also for novice Chinese teachers (Orton, 2008).
According to Orton (2008), in NSW, there is a successful program, which supplies Chinese L1 speakers as volunteers to teach Chinese language in the local schools, so that the shortage of Chinese teachers can be solved to a certain extent. This program is called ROSETE, which is an abbreviation of “Research-Oriented School-Engaged Teacher Education” (Zhao & Singh, 2008). It is the result of a partnership among the Ningbo Municipal Education Bureau (NMEB), the Western Sydney Region (WSR) of the NSW DEC, and the University of Western Sydney (UWS). From 2008, there have been forty-four Volunteer Teacher-Researchers (VTRs) from Ningbo, China, who have been studying for a Master of Education (Honours) at UWS and teaching Chinese voluntarily at local schools every week. This international collaboration Program aims to prepare future teacher-researchers through a combination of research and teaching practice or as Singh (2013) indicates as a “university/industry” (p. 6) collaboration aiming to improve school students’ learning outcomes. Fortunately, I am one of the VTRs in the third cohort in this Partnership.

The ROSETE Partnership is an innovative model for language teacher education. This is because it aims to develop beginning Chinese teachers as “multilingual teacher-researcher theorists through their real-life evidence-driven teaching practice in the classrooms” (Singh, 2013, p. 9). Teacher professional development is not enough if just based on a transmission model of by-the-textbook training where professors explain to student-teachers what to do by presenting theories to them and having them read about best approaches to language teaching past and present. Such “application of theory” model (Zeichner, 2010, p. 90) needs to be changed, because the student teachers find it difficult to connect with what they are taught in university courses to practice in their school contexts. However, becoming a teacher-researcher in the ROSETE Partnership is a highly interactive, reflective, constructive, experiential process of professional learning. This is based on the view that there is no authoritative source of knowledge, but there is a non-hierarchical interaction between professors and student teachers (Zeichner, 2010). Thus, we, as teacher-researchers, are able to develop our professional stance—our competencies, beliefs, skills and identities as language teachers through extended and supervised teaching practice and through rigorous research into our own teaching (Duff, 2008). Such kind of theoretic-pedagogical knowledge cannot be achieved through book learning alone. Therefore, the ROSETE Partnership provides a new approach to
combining teaching, theory and practices so that novice language teachers can steadily improve their teaching efficiency based on day-to-day reflection of their lessons, and are able to produce theses such as the one that I present here.

1.3.2 Beginning volunteer teacher-researchers (VTRs)

This key term illustrates the background information of the researcher and her colleagues, as well as the ROSETE Partnership in which they participate. It can be best understood by focusing on each of three key words separately.

The first key word is “beginning”. The researcher and her colleagues are from China and are engaged in the ROSETE partnership; all graduates from universities in China with no teaching experience. Their undergraduate studies vary, with most of them studying English, while others majored in Chinese (literacy), teaching Chinese as a second language, business English, and a few in science courses. When the NMEB selects the candidates each year, a major in language education is specifically required for their undergraduate study, along with high criteria for English proficiency (IELTS overall score 7+) and National Putonghua Proficiency Test (Grade 2 Level A+). Since they have no teaching experiences, they are called beginning or novice teachers.

The second and third key words are ‘volunteer’ and ‘teacher-researcher’. Being participants of the ROSETE Partnership, they are required to teach the Chinese language as volunteers in the local public schools in WSR, while at the same time, completing a Master of Education (Honours) research degree at UWS by researching how to make Chinese learnable. The dual roles of voluntary teacher and researcher mean that we are called Volunteer Teacher-Researchers (VTRs). The title ‘beginning VTRs’ give us a unique role in developing ourselves as professional teachers and educational researchers.

1.3.3 Decision-making

Language teaching is a process of decision-making, which is based on the interaction and choices making among constituents of knowledge, skills, attitudes, and awareness
1.3.4 *What is this thing called ‘Mandarin’ or ‘Chinese’?*

When I first started to describe the job I was doing, I was confused with different terms: Chinese? Mandarin? Hán Yǔ? Zhōng Wén? Pǔ Tōng Huà? Although in the official Chinese document, 对外汉语专业 (Duìwài Hán Yǔ Zhuān Yè) was translated as teaching Chinese as a second language, I still found other terms that appeared in different articles and textbooks. Therefore, I did some research on the meaning of different terms, which helped me choose an appropriate term for this study.

*Mandarin* is often taken today as a designation for modern standard Chinese, the language now called Guó Yǔ, Pǔ Tōng Huà, or Huá Yǔ in Chinese-speaking areas (Coblin, 2000, p. 537).

*The Chinese language* (Hàn Yǔ), the major language of the Chinese people with a history of more than 5000 years, is one of the oldest languages in the world. The language is spoken in many dialects within China, as well as in many overseas Chinese communities, especially in Singapore and Malaysia. Chinese includes variants from seven main dialect groups (刘珣 Xun LIU, 2009, p. 12).

Standard Chinese is also known by its official designation, *Pǔ Tōng Huà*, literally “common speech” (刘珣 Xun LIU, 2009, p. 12).

中文（Chinese），一般特指汉字，即汉语的文字表达形式。但有时广义的概念也有所扩展，即包括书写体系，也包括发音体系。中文的使用人数在15亿以上，范围包括中国（含香港、澳门、台湾地区）、新加坡、马来西亚、印度尼西亚、泰国、越南、柬埔寨、缅甸以及世界各地的华人社区 (Extracted from http://baike.baidu.com/view/48682.htm).
According to the above definitions of each term, it is possible to conclude that these contested terms (Chinese, Mandarin, Hán Yǔ, Zhōng Wén, and Pǔ Tōng Huà) focus on the language itself, but with differences in meanings. Both Coblin (2000) and LIU (2009) agree that there is a common speech for people all over the world to communicate, which is called Mandarin or Pǔ Tōng Huà. However, Hán Yǔ and Zhōng Wén not only include Mandarin/Pǔ Tōng Huà—the standard Chinese language, but also include many dialects within China, as well as in many overseas Chinese communities. In addition, LIU (2009) illustrates that Hán Yǔ mainly focuses on the spoken/pronunciation system, while Zhōng Wén mainly refers to the writing system.

In this study, I decided to use Mandarin and Chinese culture or Chinese as the key terms based on the following three reasons. First, the VTRs’ task is to teach the Australian students the official standard language, not Cantonese, Singapore Chinese or others. In this sense, Mandarin or Pǔ Tōng Huà is an appropriate term to use. Second, teaching the language includes both the writing and pronunciation systems. Therefore, neither Hán Yǔ nor Zhōng Wén is suitable in this case. Third, language teaching cannot be complete and could not possibly survive without culture input and involvement. Therefore, I decided to use Chinese as an overall but a simple term in this study.

1.3.5 Making Chinese learnable

There are a large range of research reports offering principles and strategies to use in motivating students to learn (Vedder - Weiss & Fortus, 2011; Ryan & Dörnyei, 2013; Brophy, 2013). Brophy (2013) further illustrates that “warm, caring teachers are more likely to be successful motivators than indifferent or rejecting teachers (p. xi).” However, in some circumstances, students are eager to learn, but they still find difficulty to learn at early stages, which gradually reduces their motivations to continue learning. Take Chinese as an example. Due to the growing status of China globally, there are increasing number of people who are keen on learning Chinese as a foreign language. However, they encounter numerous difficulties in writing characters (Quan & Chang, 2012) and pronouncing words (Dong, Tsubota, & Dantsuji, 2013). As a result, students begin to reject the learning of Chinese as a fun and exciting
experience. Therefore, it is necessary to explore the issue of making Chinese learnable for learners whose first languages are different from Chinese.

‘Making Chinese learnable’ is a key term in this study, and also the main aim of this research. To make the language learnable, I need to mobilise the students to learn it. For example, the curriculum should be well matched to students’ interests and abilities; likewise, hands-on activities should be emphasised. More importantly, I need to take students’ prior knowledge of English into consideration. For example, students’ linguistic, social and cultural knowledge of their home languages need to be compared to, and then used to help them learn Chinese, so that they might cognitively feel less pressure to learn. Overall, such connection, between what students have known and what they are learning, hopefully, can encourage their desire to continue learning Chinese.

1.4 Intellectual context for this research project

1.4.1 Is English an International lingua franca?

English has been regarded as the global language for several decades, at least in my lifetime growing up in China. English is set as a core and compulsory subject from primary school to university in China. English is the prerequisite for seeking and maintaining a decent job position. What is more, English is treated as the best and the only benchmark for deciding whether one is a capable or incapable person. In a society which sees the goodness, benefits and advantages of knowing English, people are crazy about learning English in China.

What is more, the majority of people—but certainly not all—in Western countries hold the questionable opinion that English is the only international language. Thus, they do not see the value of learning other new languages, especially the Chinese language.

Is English really the international lingua franca? Although there is a variety of research discussing this heated topic (Ku & Zussman, 2010; Muraanen, Hynninen & Ranta, 2010; Conrad, 2003; Sowden, 2012; House, 2003; Canagarajah, 2007), it
seems that there is no consensus. In this case, it is quite suitable to use a Chinese Chéng Yǔ-百家争鸣 (Bāi Jiā Zhēng Míng), which literally means that all schools of thoughts contend for attention. I use this metaphor to argue that Chinese is part of the school of thought contending for global attention.

It is true that English is-and for the moment-often at the leading edge of economic modernisation and technological development, selling, marketing, and tailoring products and services to suit local markets. However, we require other languages to cater to global markets and international exchange. Thus, the concept that English is all that Western countries need, or even globally, is naive and out-dated. Asian languages are going to grow rapidly due to the restoration of Asian countries’ global status, economically, politically and socially. This is especially the case with respect to Chinese.

1.4.2 Australia in the Asian century

Living in a multilingual knowledge society with intense globalisation and human immigration, it is crucial to present “an appreciation of multiple languages and cultures and to develop an ability to communicate effectively with people across languages, cultures and communities” (Duff, 2008, p. 5). Chinese has attracted much international interest and has become the second most important language in the world at present, after English. It is widely used for communication among people from different ethnicities and language backgrounds (Duff, 2008; Orton, 2008).

Australia, as a proactive country in the world’s multilingual knowledge economy, has made Asian languages education as a top priority in order to remain competitive globally (Orton, 2008). This initiative was first proposed in the early 1990s by Kevin Rudd who later became Australian Prime Minister from 2007 to 2009. Rudd (1994) claims that Asian languages and cultures are of great significance to development of Australia’s economy in the Asian-Pacific region, especially given China’s role in Australia’s export market.

Asian Language and Australia’s Economic Future (Rudd, 1994) emphasises that a national Asian languages and cultures strategy should be developed in the context of
second language education. To this end, four priority Asian languages were selected based on their economic significance to Australia for study in schools. The nominated languages were Chinese (Mandarin), Japanese, Indonesian and Korean.

Following Rudd’s report (1994), a number of educators have expressed their deep concern about the need to develop Asian languages in Australia in the last few decades. For example, Henderson (2008) provides the following statement in conclusion to her review of Rudd’s report on Asia literacy:

For Australia to remain competitive regionally and globally depends not on capital, resources and technology as before, but on whether future generations are educated and sufficiently skilled for Asian engagement (p. 190).

Even recently, the Australian Government released a White Paper entitled “Australia in the Asian Century “on 28th of October, 2012, drawing even more extensive and intensive interest and attention to Asian language teaching and learning for the educators and teachers. The then Australian Prime Minister, Ms Julia Gillard said, “The transformation of the Asian region into the economic powerhouse of the world is not only unstoppable, it is gathering pace (Australian Government’s White Paper, 2012, p. ii)”. The rise of the Asian countries is changing the whole world, and of course, it has changed and is still changing the “Australian’s economy, society and strategic environment” (Australian Government’s White Paper, 2012, p. 1). Therefore, how to face the challenge and shape the Australian future in the 21st Asian Century? One of the strategic plans Ms Gillard mentioned in the White Paper is encouraging all Australian school children to be able to learn an Asian language. In order to prepare the nation for the “Asian Century”, the four priority Asian languages are Chinese, Hindi, Japanese, and Indonesian.

Among these four languages, Chinese, in particular, obtains urgent and high-level attention at the national level and has been selected as part of an Australian national language curriculum (ACARA, 2011). This is because “Australia’s fate is likely to remain solidly bound up with its relationship with China” (Orton, 2008, p. 8). In Orton’s report “Chinese language education in Australian schools”, she outlines a
dense and wide-ranging linkage between Australia and China. She claims that in Australia, there is one country which is:

1) a regional neighbour  
2) its largest trading partner  
3) a rising world economic power  
4) a major source of immigrant workforce  
5) a major source of international students  
6) a major source of tourists to Australia  
7) a major destination for Australian tourists  
8) the source of its largest number of immigrant settlers  
9) a country with a long and prestigious culture  
10) home to 1 in 5 human beings on the earth (Orton, 2008, p. 8)

This country was China in 2008, and it is of even greater importance now. This situation has become much more obvious, witnessing China’s growing status all over the world. To achieve mutual benefits for both Australia and China economically and socially, it is important to further develop present positive Australia-China relationships by engaging with China at a greater linguistic and intellectual depth. Therefore, to understand China and to speak the Chinese language well is identified as vital to future Australian prosperity. However, there is a need for the “urgent development in the breadth and quality of Chinese teaching and learning in Australian schools” (Orton, 2008, p. 9), which is regarded as a matter of national strategic priority.

**1.4.3 Chinese language teaching and learning in Australia**

About 20 years ago, in order to better serve Australia’s economic development, the government initiated a drive to produce “Asia literate” (Orton, 2008, p. 25) graduates from Australia’s schools. Under that driving force, there were numerous programs established to promote and assist Chinese teaching and learning at every level of schooling. However, it did not last long. With the cessation of the National Asia Languages and Studies in Australian Schools (NALSAS) strategies in 2002 under the Liberal National Party Government, some of this momentum around Asia literacy was temporarily lost. Although the Rudd Government has strongly supported and encouraged Asia literacy since 2007 because of the growing significance of China in Australian life, some school principals were unwilling to provide and participate in
Chinese programs anymore. Their primary concern was that “Chinese, in particular, had proven too hard” (Orton, 2008, p. 25).

The difficulty of learning Chinese not only comes from the supposedly “difficult” nature of the language itself, but also from numerous challenges and obstacles that Chinese language teachers face, which hinder the Chinese teaching/learning both at national and school levels in Australia. There are issues concerning how to develop a Chinese language curriculum; what textbooks and other materials are suitable for Australian students; and what pedagogies are to be used for teaching this foreign language to Australia students in a totally different educational system. A summary of the problems and issues hindering the language programs in schools are presented below.

1.4.4 Problems and issues in Chinese language education

The first and key problem is the availability of qualified teachers, as this has largely constrained Chinese language education (Orton, 2008). In Zhang and Li’s (2010) report on Chinese language teaching in the UK, the same problem has been pointed out. They further state that “the lack of qualified and experienced teachers has become a bottleneck that constrains further development of Chinese teaching in UK” (Zhang and Li, 2010, p. 94).

Regarding teacher supply, “some 90% of teachers of Chinese in Australia are native Chinese speakers, with most by far coming from the Mainland; but there are also some from Taiwan and Southeast Asia” (Orton, 2008, p. 21). Interestingly, these teachers come from all walks of life. Many are not fully employed Chinese teachers. Some are qualified teachers in their own countries but in subjects other than Chinese, such as English. Some have transferred from other industries and begun to teach Chinese with no or little training. Therefore, being L1 teachers of Chinese who speak Chinese as a first language, they lack experience and knowledge of how to make Chinese learnable for English-speaking Australian school students. They often find difficulties in adapting into Australian school culture; relating well to Australian school students, colleagues and parents; applying contemporary Australian pedagogical approaches to teaching; employing the communication strategies and
modes of intercultural expression that are suitable for Australian students, and focusing on oral practice at the expense of character teaching (Orton, 2008). Most of them, therefore, are rejected as unsuitable, due to doubts about their capability to relate effectively to Australian students and successfully manage an Australian classroom. In addition, research shows that due to their various backgrounds, teachers for whom Chinese is their first language also face other major challenges which are summarised below.

1) Acculturation: this applies particularly to the educational environment where behavioural patterns and attitudes of students as well as interpersonal relationships among teaching staff differ greatly from those which a native teacher would have experienced in a Chinese learning environment.

2) Pronunciation: it seems to be a common phenomenon that native speakers whose mother tongue is other than the Mandarin dialect speak Mandarin with a pronounced accent, and some have great difficulty in mastering particular Mandarin sounds. In general, native speakers from Malaysia, Singapore, Hong Kong, and to a lesser degree, Taiwan, fall into this category.

3) Romanisation: Taiwanese, even those whose native tongue is Mandarin, would have no exposure to the Pinyin Romanisation system (Wang, 2009).

4) Language: the most important thing for the Chinese teachers when they are teaching in an Australian classroom is that they should use English fluently so that they can have a good communicative relationship with their students. However, most Chinese teachers complain that they find difficulties when explaining language features and giving instructions to Australian students. Therefore, communicative ability in language as the medium of instruction is as important as, if not more important than, proficiency in the target language (Scrimgeour, 2010).

A report on the future of Chinese language education in Australia schools (National Forum Report, 2008) highlights the same major deterrent to retention of classroom L2 learners of Chinese, that is, teachers are not trained to teach the Chinese language specifically to English-speaking students. In UK, some schools decide to give up shortly after starting to teaching Chinese, because the students have not had a good learning experience due to the teachers’ lack of experience and skills (Zhang and Li, 2010).

Therefore, L2 teachers of Chinese, whose first language is not Chinese, are keenly sought after by schools. However, their language proficiency level in almost all areas,
such as phonology, grammar, vocabulary, is often not at the desired level, which is not encouraging for L2 learners. In addition, it can sometime be a source of embarrassment for L2 teachers, when the class includes L1 speakers whose language proficiency is superior to them (Orton, 2008).

A second problem is the lack of an adequate syllabus and examination system for Chinese teaching and learning (Zhang and Li, 2010, p. 92). This has been identified as a key issue in UK, while in Australia such a curriculum is now being developed. In terms of syllabus, not many states in Australia have their own Chinese language syllabus, except NSW and Victoria. What they do is borrowing from other languages, especially European languages’ syllabus. However, it is found that they are all too difficult for beginning learners of Chinese. In terms of examination system, there is no systematic and localised system for different levels of learners, such as beginners, continuous, heritage and background speakers. There are a number of reasons for this, among which, the major reason is that Chinese entered the curriculum much later than other languages. Therefore, it is the right time to set up an adequate syllabus which meets the needs and objectives of overall curriculum requirements as well as reflecting on English speakers’ approaches in learning Chinese (Zhang and Li, 2010).

The third problem is the lack of adequate teaching/learning materials specifically designed for making Chinese learnable for English-speaking students (Zhang and Li, 2010). This is an increasingly acute issue as Chinese language teaching/learning has grown rapidly in the last few years in UK. It is also a key problem in Australia. While there are many textbooks and teaching materials available in the market, yet few of them are designed with regard to how English-speaking students learn Chinese in the local contexts. Zhang and Li (2010) argue that “most of the available teaching materials are designed from the point of view of the Chinese language itself rather than the needs of the learners and users” (p. 93). Therefore, L2 learners, especially beginners, find that Chinese is “inaccessible and impossible to learn” (Zhang & Li, 2010, p. 93), which damages the enthusiasm students have for learning the language. It also adversely affects the efficiency and results of learning and teaching of Chinese from teachers’ perspective. Therefore, in order to make Chinese as a main language in Modern Foreign Language (MFL) family, it is urgent to develop locally relevant teaching/learning materials in Chinese. However, the learning content needs
to be relevant to students’ everyday lives, and needs to incorporate socio-linguistic features known to beginning learners who speak English.

Apart from the above main problems, Orton (2008) also summarises other important issues existing in Chinese language education in Australian schools, such as (1) time on task; (2) background and non-background learners in the same class; (3) 94% attrition rate of L2 learners before the senior years. With 94% of non-background learners dropping of Chinese classes, it is an urgent issue for teachers and researchers to think about and find appropriate solutions for Chinese to remain one of the most important Asian languages for Australian school students to learn.

One of the strategies, which is also an urgent need, is to increase the number of appropriately qualified and experienced teachers of Chinese to work with beginning non-Chinese background learners. This is a major challenge. To a large extent, teachers are a decisive factor in the whole process of learning and teaching. Even with no adequate syllabus or suitable teaching materials, teachers who are appropriately educated can adapt existing materials or create their own suitable materials to meet the needs of students and the curriculum so as to engage students.

What is more, in order to increase the numbers of L2 learners of Chinese in Australia, it is of great importance to produce qualified and experienced teachers of Chinese who are capable of investigating and developing sound and innovative pedagogies for L2 language learners, so that they can reduce the cognitive load needed to enable students to be successful in learning Chinese.

### 1.5 Innovative theoretic-pedagogical framework

In order to make Chinese learnable for L2 language learners in Australia, this thesis reports on a study into an innovative theoretic-pedagogical framework. This framework combines the theoretic concepts, namely pedagogical content knowledge (PCK) and cross socio-linguistic interaction (CSLI). Brief definitions of these concepts are provided below.
1.5.1 Pedagogical content knowledge (PCK)

Pedagogical content knowledge (PCK) is the focus of this study. It was first proposed by Shulman (1987), who defines it as “a blending of content and pedagogy into an understanding of how particular topics, problems or issues are organised, represented and adapted to the diverse interests and abilities of learners, and presented for instruction” (p. 8). Here the learners are the primary focus for teachers’ decisions about content (e.g. what Chinese they will learn?) and pedagogy (e.g. how they might learn Chinese?).

Teaching in a socio-cultural school environment differs from that of China. I decided that it would be interesting and useful to investigate the problems and challenges that VTRs from China encountered in making Chinese learnable in English-speaking countries, Australia in this case. What proved to be of significance and necessity was to observe the way the VTRs deal with in making Chinese learnable for Australian students. In this case, PCK provided the concept through which I could analyse how the VTRs made use of knowledge of content and knowledge of pedagogy to make Chinese learnable for Australian students to meet their interests and abilities.

1.5.2 Cross socio-linguistic interaction

Language teaching and learning, to a large extent, is based on learners’ prior knowledge. By looking for the similarities that can be established between the new language and the language that learners have already known is a promising idea for facilitating the learning task to an extensive and intensive scale (Ringbom, 2007). This differs from making linguistic differences the primary instructional focus.

Ringbom’s (2007) study of cross-linguistic similarities among foreign languages helps us to better understand how the knowledge and proficiency in one language can be transferred to learning another language. However, the study of his research is on Swedish, Finnish and English. Nevertheless, his theoretical contribution opens up to exploration. Language teachers use this concept for teaching other languages, such as teaching Chinese to English speakers, and focus on how to make pedagogical use of this theoretical concept.
In this study, my main aim was to make Chinese learnable for English-speaking learners in Australia. Therefore, English was the main, or in some cases, the only language that L2 learners could use to establish any relationship with Chinese. The focus is on finding similarities between Chinese and English, rather than viewing languages as being different and belonging to different language systems. Looking for cross-linguistic similarities between Chinese and English was a key pedagogical starting point for this study. However, given that Chinese and English are distant languages with few linguistic similarities, this study also investigated the social and cultural similarities in these two languages. In addition, the process of looking for similarities linguistically, socially and culturally is a dynamic exploration and negotiation between teachers and students, especially in perceiving and assuming socio-cultural similarities between English and Chinese. In this way, teachers are able to make more appropriate pedagogical decisions on how to teach the specific content or topics to their students.

Therefore, the concept of ‘cross socio-linguistic interaction’ is investigated as a theoretic-pedagogical tool for its possibilities of making Chinese learnable for the Australian L2 learners. As the name indicates, this concept means having the L2 learners identify perceived similarities between English and Chinese in terms of linguistic aspects and socio-cultural understandings with the guidance of teachers.

In addition, it is argued that sometimes, languages other than L1 play an important role in learning a new language as well, if they are related to the target language (TL), and if they have been acquired to a high level of proficiency, especially in the early stage of learning (Ringbom, 2007). However, in this study, I mainly focused on what Chinese speaking VTRs saw as similarities between English and Chinese, even though students may know other languages apart from English.

1.6 Significance of this study

This study is of great significance for developing innovative teacher education programs for language teachers in general and for Chinese teachers in particular, as well as for beginning teachers’ personal and professional development. Four points of significance regarding this study are summarised below.
1.6.1 Significance for the field of teacher education

Language teacher education has often been historically dominant on imparting university-based academic knowledge, such as applied linguistics, teaching methods, language acquisition while overlooking the central part, that is, the teaching itself (Zeichner, 2011). The emphasising is more on theoretical areas rather than the teaching practice. This may create a knowledge foundation for the teacher-in-preparation, skirting the central issue of learning to teach. This study explored the development of beginning teachers’ PCK and decision-making skills through an innovative teacher education program, namely, a research-oriented school-engaged Partnership for developing teacher-researcher theorists (Singh, 2013). The particular study reported in this thesis analysed how beginning teachers constructed their professional knowledge through combining school-based teaching practice with university-based learning and research. This small-scale study thereby provides insights into new directions for teacher education as a response to the rapid social, economic and educational changes in the context of contemporary globalisation.

1.6.2 Significance for second language teachers’ professional development

As the global education market for teachers of Chinese to foreigners grows, the findings of this study have implications for education policymakers and course designers, who make decisions about teacher preparation and professional learning. This is especially important for NMEB, China and the NSW DEC in WSR when designing the professional education courses for second language teachers. As Freeman (1989) points out that “how we define language teaching will influence, to a large extent, how we educate people as language teachers” (p. 28). It is presumed that a specific knowledge base, including applied linguistics, research in second language acquisition, and methodology, all underpin the practice of teaching. However, this must not be confused with the language teaching practice itself. This is because the teaching itself, through interaction of the knowledge categories, plays an indispensable role in knowledge development and professional growth (Freeman, 1989). Therefore, by investigating a theoretic-pedagogical framework for teacher
professional development, one is better positioned to prepare student teachers for the teaching/learning task.

1.6.3 **Significance for beginning language teachers**

This study is designed to inform second language teachers who are in similar situations as those in this research, to be aware of knowledge development in order to understand professional change and gain status. As demonstrated in this thesis, they can benefit from knowing how to develop knowledge, skills, capability and understanding for teaching through rigorous self-reflection on practice. There are benefits also for future teacher-researchers recruited into the ROSETE Partnership. Over the next five years, there will be more students from Ningbo (China), coming to Western Sydney as VTRs. If they can learn the importance of knowledge development, they might be better prepared. When confronting the same questions, they might reflect on them more deeply and in more detail.

1.6.4 **Significance for addressing the gap in PCK and TPACK research**

Shulman’s (1987) concept of PCK has seldom been studied in relation to language teaching, especially in terms of making Chinese learnable. From an extensive literature review (Blömeke, 2011; Hanuscin, Lee & Akerson, 2011; Kind, 2009), it was found that there was a limited knowledge to provide a theoretic-pedagogical base for beginning language teachers to teach Chinese as a second/foreign language. Thus, this study contributes to filling this gap in current knowledge about PCK.

The advancement of technology in our life influences teachers’ decisions of pedagogies so as to make teaching and learning more effective (Mishra & Koehler, 2006). Most studies about technological use in classrooms focus on the advantages and disadvantages of interactive whiteboard (IWB) (Armstrong, Barnes, Sutherland, Curran, Mills & Thompson, 2005; Beauchamp, 2004; Beauchamp & Parkinson, 2005). However, this study provides insights into ‘Connected Classroom’ which is a new medium for language teaching, teaching Chinese in this case. Thus, this study contributes to filling in a second gap in the current research about technological PCK.
1.7 Research methodology

The research questions listed above (Section 1.2) aimed to explore what a prerequisite ‘knowledge base’ that beginning Chinese teachers might develop in order to support students’ learning of Chinese in Australia’s Western Sydney schools. Case study provided an appropriate means to investigate how I used PCK informed by CSLI to make Chinese learnable for Australian L2 learners. I decided to use case study method to collect and analyse data about this process, because other research strategies are not able to describe this process in a detailed and vivid way (Cohen, Manion & Morrison, 2007). Case study is a method that is suitable to answer questions of “what” and “how” (Yin, 2009, p. 9). Cohen et al. (2007) define a case study as follows:

A case study is a specific instance that is frequently designed to illustrate a more general principle. It is the study of an instance in action. It strives to portray ‘what it is like’ to be in a particular situation, to catch the close up reality and thick description of participants’ lived experiences of, thoughts about and feelings for a situation (2007, p. 253).

The ROSETE Partnership provides the specific instance to study how teacher-researcher education might facilitate beginning teachers’ professional learning. This three-year case study captures what has happened, changed and developed in terms of knowledge, skills, attitudes and awareness of VTRs in ROSETE Partnership. In other words, this thesis reports on a study of an on-going case in action. Each VTR teaches Chinese in local public schools in WSR, which provides particular sites for this case study. Insights are provided about the lively teaching experiences of each VTR, as well as a focus for detailed description is provided in this thesis. My purpose was to explore the VTRs’ development of teaching knowledge, and how they made use of that knowledge to make Chinese learnable. In doing so, this enriches the available insights into teaching Chinese as a second/foreign language. Thus, it is expected that the emergent general principles of knowledge development and language teaching can provide a platform for beginning teachers, educational researchers and education department to reflect on and refer to.
The main purpose of this study was to investigate a localised way to teach Chinese and make it learnable for Australian L2 learners. Based on the primary evidence presented in this thesis, it argues that a prerequisite ‘knowledge base’ is necessary for beginning VTRs to inform their beginning teaching journey. Once such knowledge base is established, and then it is important for them to make full advantage of this knowledge base for effective teaching/learning. Teachers’ pedagogical content knowledge (PCK) (Shulman, 1987) is demonstrable through teacher-researchers’ application of it into Chinese language teaching. This is informed and modified by the concept of cross-linguistic similarities (Ringbom, 2007) to establish relationships of similarities between English and Chinese. However, I argue that similarities among languages come from not only linguistic perspectives, but also more importantly from the socio-cultural aspects. This process of perceiving similarities is an on-going discussion between teachers and students. Therefore, the concept of cross socio-linguistic interaction (CSLI) is used as a pedagogical decision-making tool for VTRs to make Chinese learnable for Australian L2 learners. In addition, the techniques, skills and knowledge that VTRs used, changed and developed through contextualised teaching practice provide a platform for teachers and researchers to reflect on and refer to.

This study also explored the relationship between technologies and PCK, and more importantly how teacher-researchers made pedagogical decisions about technological issues in order to make Chinese learnable for Australian L2 learners. This study reported on a pilot ‘Connected Classroom’ project for teaching and learning Chinese using video conference facilities. It argues that ‘Connected Classroom’ provides a new medium for language teaching and learning. However, the problems and issues present major challenges for teacher-researchers to use it as a powerful pedagogical tool. It also finds that working on ‘Connected Classroom’ requires teachers to understand the relationships between each constitute of technological pedagogical content knowledge (TPACK), and use them flexibly based on their knowledge of content, pedagogy, students and teaching contexts.
1.9 Outline of the thesis

When deciding the structure of this thesis, I faced a dilemma. First, this PhD was upgraded from my Masters study, which made it difficult for me to re-design the research plan. My worries were: Where to put the data from the Masters study? How to connect the old data with new data? How many participants did I need to include? There were so many questions and uncertainties in my mind. Second, the teaching contexts changed. In my Masters study, I taught Chinese in the normal classroom context. While in my PhD study, I was asked to work on the innovative “Connected Classroom” project, which is a way to deliver language lessons through video conferencing. Then my worries were: which one should be my focus, namely, the development of PCK in the normal classroom or that of technological PCK (TPACK) through ‘Connected Classroom’? As the study went on, I gradually found an appropriate structure for this thesis, which incorporated both elements. After a discussion with my principal supervisor, I decided to record my teaching journey in Australia through a ‘three-step story’ which is shown in Figure 1.1 below as an up-side-down triangle.

![Figure 1.1: Three-step story for thesis’s structure](image)

Therefore, this thesis is constructed in the following order. It moves from the general teachers’ knowledge base (Chapter 5), to the more specific knowledge for teaching, namely, pedagogical content knowledge (PCK) (Chapter 6). It then moves to a different teaching context of ‘Connected Classroom’, exploring the use of technology.
as a potential medium for language teaching (Chapter 7 and 8). In other words, it explores my use of TPACK to make Chinese learnable for Australian L2 learners. This structure helps me to clarify my argument, and also illustrates the integrated focus of research while giving direction for future study. Thus, the thesis is developed through the following chapters.

Chapter 1 describes the background and intellectual context for this study, as well as introduces the research questions and methodology. It also provides the theoretic-pedagogical framework explored in this study, followed by an explanation of the significance of the study. It also outlines the thesis statement and discusses the structure of the thesis.

Chapter 2 reviews the literature on the teachers’ knowledge, pedagogical content knowledge (PCK), and technological pedagogical content knowledge (TPACK). It emphasises the importance of teachers’ knowledge for students’ learning. Shulman’s (1987) concept of PCK is a key concept for this research. The subsequent discussion moves to a review of the research-based development of PCK and TPACK by different researchers (Thompson & Mishra, 2007; Angeli & Valanides, 2005; Mishra & Koehler, 2006; Chai, Koh, Tsai & Tan, 2011). Following this, I argue the importance of investigating PCK and TPACK in relation to the teaching/learning of Chinese. Finally, I propose an extended knowledge base of PCK to provide the theoretic-pedagogical framework for this study.

Chapter 3 reviews Ringbom’s (2007) concept of cross-linguistic similarity. The main concepts that are important for this study draw attention to the similar relation, contrast relation and zero relation between Chinese and English. For instance, there are actual sound similarities between English and Chinese, such as ‘knee’ and ‘nǐ’, and ‘eye’ and ‘ài’. While the contrast relation might be tones and zero relation might be meanings or Hanzi (characters). This chapter also discusses the three similarities, namely, actual similarities, perceived similarities and assumed similarities. This provides concepts of what types of similarities teachers and learners can make among languages. For example, linguistically, the sound similarity between ‘knee’ and ‘nǐ’ is actually similarity. Following this, the discussion moves into the concepts
of transfer and areas for transfer. After that, I propose importance of similarities form socio-cultural perspectives when linguistic similarities are difficult to find. In this study, I mainly focused on what I as a Chinese speaker assumed to be similarities with English linguistically, socially and culturally. It is more important for teacher-researchers to learn to work with English-speaking students, and find out assumed and perceived similarities between their L1 (English) and Chinese. Therefore, ‘cross socio-linguistic interaction’ (CSLI) is a new concept I proposed for this study.

Chapter 4 explains and justifies the theoretical or methodological basis of this case study, and includes details about validity, ethics and generalisation. The research design includes reference to sampling and participation, data collection and analysis. I paid particular attention to ethical issues when conducting this research.

Chapter 5 analyses evidence of VTRs’ knowledge development while teaching in Western Sydney schools. I used Teacher 红 (Hóng) as an example to illustrate this learning process. This chapter begins with a brief introduction about the Teacher 红 (Hóng)’s background and how her family and educational background influence her orientation to teaching Chinese in WSR. Then it analyses her journey to be a more engaged teacher. Finally, the key knowledge which she believed necessary to be successful in making Chinese learnable for English-speaking students is presented.

Chapter 6 presents evidence of my PCK development in terms of making Chinese learnable for English-speaking learners. I used myself as a case. The case begins with the teaching context in which I was situated, including background information about both the school and my mentor. Much of the evidence is based on my teaching journey within one class and what teaching skills and knowledge I developed with the help of my mentor. Following that, I detail the knowledge that I perceive to be important in order to conduct effective lessons in Western Sydney schools. The case ends with a consideration of the importance of reflection for beginning teachers’ professional development.
Chapter 7 analyses evidence of the use of a brand new technology application in Chinese language education. It explains what is meant by the idea of a ‘Connected Classroom’, how to use it, and how it has been developed so far in Western Sydney schools.

Chapter 8 analyses evidence of the challenges and problems that I encountered in the “Connected Classroom”. In using this teaching/learning medium, I developed a range of pedagogies to cope with these issues. This chapter presents insights into the use of TPACK for making Chinese learnable.

Chapter 9 summarises and discusses the main findings of the research reported in this thesis. It also provides recommendations to policy makers and for further studies. Further, an epilogue records my reflection on becoming and being a teacher-researcher through the work undertaken for this PhD study.
2.1 Introduction

As indicated in the previous chapter, the primary purpose of this study is to explore what general categories of knowledge beginning teacher-researchers use and develop in order to support their Chinese teaching in Western Sydney schools. More importantly, this study reports on how VTRs use such knowledge to obtain a better understanding of PCK so as to make pedagogical decisions in making Chinese learnable for English-speaking learners. This chapter reviews the literature on teachers’ knowledge in general, and subject matter knowledge and pedagogical knowledge in particular. Then, research relating to Shulman’s (1986, 1987) concept of pedagogy content knowledge (PCK) is reviewed, including its definition, development, and key features. After that, a review of TPCK (Pierson, 2001)/TPACK (Thompson & Mishra, 2007) is conducted, illustrating the relation between PCK and TPACK, as well as the potential, problems and challenges of using new technologies in language education. Later, I explain the reason and importance of researching PCK and TPACK in the teaching and learning of Chinese in particular. This section of literature review aims to better understand the possibility by using PCK as a theoretic-pedagogical framework to guide, support and understand the teaching and learning of Chinese in English-speaking countries, such as Australia. This study makes original contribution to the development of TPACK in language education, because ‘Connected Classroom’ is a brand new medium in terms of technology for language teaching/learning.

2.2 Teachers’ knowledge is important for students’ learning

Teachers are influential in children’s learning (Fennema & Franke, 1992; Van Driel, Beijaard, & Verloop, 2001). More studies show that students’ learning outcomes can
be attributed in large part to the teachers (Rowan, Correnti, & Miller, 2002; Kersting, Givvin, Sotelo, & Stigler, 2010). Therefore, much of the current debates about the improvement of teaching/learning and upgrading the professional status of teachers place a great deal of emphasis on teachers’ knowledge (Park & Oliver, 2008; Kersting, Givvin, Sotelo, & Stigler, 2010).

2.2.1 A knowledge base

It seems obvious that a teacher cannot teach if s/he does not know, but the question is: What teacher knowledge is critical to students’ learning? This question has received much attention over the decades (Tamir, 1988; Fennema & Franke, 1992; Kersting, Givvin, Sotelo, & Stigler, 2010). In order to select and organise various types of knowledge appropriate for teachers’ education, a number of scholars have tried to identify the knowledge base for teaching (e.g. Reynolds, 1989; Shulman, 1986; Ben-Peretz, 2011). This study is based on the assumption that specific knowledge underpins the practice of teaching and learning. Therefore, by defining this knowledge base, a teacher is in a better position to prepare and focus on the task of improving students’ learning (Calderhead, 1991).

The first concept that needs explanation before going further is the definition of ‘knowledge base’. Shulman and Sykes (1986, p. 5) define the knowledge base as “that body of understanding and skill, of dispositions and values, of character and performance that together underlie the capacity to teach”. This means that a knowledge base consists of a group of elements, including a teachers’ understanding of the content for teaching; a teacher’s skill to present that content for students’ learning; a teacher’s passion about teaching; a teacher’s value and beliefs of education and teaching/learning; and a teacher’s presence in public. These capacities are said to be inter-dependently synthesised to form a personal knowledge base. Losing one edge of this knowledge base, a teacher is not able to teach effectively.

However, shortly afterwards, Shulman (1987) re-define “knowledge base” as “a codified or codifiable aggregation of knowledge, skill, understanding and technology of ethics and disposition of collective responsibility as well as a means for representing and communicating it” (p. 4). This definition expanded the one above by
identifying two features of knowledge base. First, knowledge is changeable, and so is the knowledge base. Good teachers reflect on their own skills, understanding and knowledge through everyday activities. This can make their craft knowledge polished and exquisite, making more sense for teaching and learning. This dynamic nature of knowledge leads to the growth of teachers’ knowledge base. Second, a knowledge base is a collective fruit. Teachers, with different ethnic backgrounds and various teaching experiences, talk, share, discuss and negotiate their expertise in their own subjects. This communicative nature of knowledge also results in development of their knowledge base.

If teachers’ knowledge and knowledge base grow, my next questions are: Is a knowledge base visible? What does a knowledge base look like? If teachers’ knowledge base could be organised into a format for arraying various types of knowledge, this might give beginning teachers, like me, a road map guiding our professional development. Perhaps the earliest efforts to build a ‘knowledge base’ for teacher education dates back to 1980s when Shulman (1986) and other educators (Grossman, 1987, Howey & Grossman, 1989; Marks, 1990; Silberstein & Tamir, 1991; Cochran, King, & DeRuiter, 1993; Meredith, 1995; Banks, Leach, & Moon, 1996; Turner-Bisset, 1999; Hiebert, Gallimore, & Stigler, 2002) constructed their knowledge framework. The framework they constructed includes eight categories of knowledge, namely, “1) content knowledge, 2) belief about the subject; 3) general pedagogical knowledge, 4) curriculum knowledge, 5) pedagogical content knowledge, 6) knowledge of learners and their characteristics, 7) knowledge of educational context, and 8) knowledge of educational ends, purposes and values” (Shulman, 1987, p. 8; Turner-Bisset, 1999, pp. 48-51). Table 2.1 explains each type of knowledge.

Table 2.1: Categories of the knowledge base

<table>
<thead>
<tr>
<th>Categories</th>
<th>Understanding</th>
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<tbody>
<tr>
<td>Content knowledge</td>
<td>Including knowledge of the content of one’s subject area, including major concepts of the field and the relationship among concepts. Including an understanding of the various ways a subject can be organised or understood, as well as the knowledge of the ways by</td>
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</table>
which a subject evaluates and accepts new knowledge.

<table>
<thead>
<tr>
<th>Beliefs about the subject</th>
<th>Nature of subject.</th>
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<tbody>
<tr>
<td>General pedagogical knowledge</td>
<td>Including knowledge of various theories and philosophies of education and learning, general principles of instruction, general knowledge about learners, and knowledge of the broad principles, strategies and techniques of classroom management, and organisation that appear to transcend subject matter.</td>
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<tr>
<td>Curriculum knowledge</td>
<td>Understanding of the materials and programs that serve as tools of the trade for teachers.</td>
</tr>
<tr>
<td>Pedagogical content knowledge</td>
<td>Amalgam of content and pedagogy that is uniquely the province of teachers, their own special form of professional understanding.</td>
</tr>
<tr>
<td>Knowledge of learners and their characteristics</td>
<td>Including knowledge about students, their differences in age range, behaviours, interests, motivation, aspirations, learning styles, cultural and linguistic backgrounds. Including how they learn and develop. Teachers should be expected to know the prior understanding which students of given ages and backgrounds bring with them to the study of particular topics.</td>
</tr>
<tr>
<td>Knowledge of educational context</td>
<td>Including department and schools’ objectives and requirements, governance and financing of school district, classroom setting and students background.</td>
</tr>
<tr>
<td>Knowledge of educational ends, purposes and values</td>
<td>The philosophical and historical grounds of education</td>
</tr>
</tbody>
</table>

(Adapted from Shulman, 1987, p. 8; Grossman & Richert, 1988, p. 54; Shulman & Sykes, 1986, p. 11).

### 2.2.2 Content and pedagogical knowledge

Among the above categories of knowledge, knowledge of pedagogy has attracted considerable attention for the past few decades (Segall, 2004). For example, Nilsson (2008) claims the importance and effectiveness of general pedagogical methods independent of subject matter, even though content knowledge develops at the same
time. This leads to asking the following pedagogical questions: How do teachers use questions to informally assess students’ understanding and inspire their higher-order thinking? How do teachers design assignments and curriculum, either for the short or long term? How do teachers evaluate students’ performance and learning outcomes both formally and informally? Nilsson (2008) reveals that a significant number of pedagogical strategies are important for students to achieve learning outcomes, such as wait time, pre-instructional strategies, the use of concrete examples and explanations, and formative assessment. However, Nilsson’s (2008) research was conducted in the general classroom contexts, with no regard to the specific content. He included content which served primarily as a control variable rather than a specific topic for investigating teachers’ knowledge base.

Recently, there has been renewed recognition of the significance of teachers’ content knowledge, because teachers are expected to have students learn that material, so they ought to understand it thoroughly (Kersting, Givvin, Sotelo, & Stigler, 2010). This area has spurred research after Shulman pointed out the lack of attention to content as the “missing paradigm” (Shulman, as cited in Even & Tirosh, 1995, p. 2). There are two elements of the subject-related content that teachers need to know, namely, ‘knowing that’ and ‘knowing why’. ‘Knowing that’ means teachers need to have a flexible and sophisticated understanding of the subject they are going to teach, otherwise, it is difficult for them to find ways of presenting and formulating the content so as to enhance students’ understanding. Usually, if teachers have limited knowledge of their subjects, they are more likely to avoid teaching complex aspects and to teach in a didactic manner. Such teachers avoid students’ active participation and questioning, and fail to draw upon students’ prior knowledge (McNamara, 1991). ‘Knowing why’ means that teachers need to reason why they make such decisions to presenting the content to the students. Although, ‘knowing why’ is equally important as ‘knowing that’, McNamara (1991) emphasises the “knowing that” aspect as this helps teachers to make better pedagogical decisions, such as evaluating text books, applying computer software and other teaching aids and media for teaching and learning.

In summary, teachers’ knowledge of content/subject matter plays a significant role in deepening students’ understanding of the subject, promoting teachers’ representation
of the subject, improving students’ learning efficiency, and leading teachers’ to better organise the content. At the same time, teachers’ knowledge of pedagogy is equally important, because it provides a repertoire of strategies, forms and ways of instruction for presenting the content. However, the move from their separate research to the integration of these two types of knowledge and interaction with other knowledge better serves students’ learning. This is illustrated in the literature reviewed in the section 2.3.

### 2.2.3 The features of knowledge

**Knowledge is developing**

Teaching is a conceptually rich practice combining knowledge and action (Hiebert, Gallimore& Stigler, 2002). It is a never-ending journey of life-long learning. Some teachers learn new knowledge and action some of the time, and some learn new knowledge and action much of the time. When teachers do learn new knowledge and action from their experience, what do they learn and why do they think such learning is important for their teaching and students’ learning? To answer these questions, Lampert’s (cited in Ball, 2000) concept of teaching as “a thinking practice” (p. 246) is useful for teacher-researchers who need to consistently reflect on our teaching, and reason what and why we can learn from our everyday’s lessons.

The developing nature of knowledge is acknowledged by numerous educational researchers, but they name it differently, reflecting the considerably debates in this field. Some call it as “practitioner knowledge” (Hiebert, Gallimore, & Stigler, 2002. p. 4), or “practical knowledge” (Van Driel, Beijaard, & Verloop, 2001, p. 142), because such knowledge is linked with practice or experience. Others call it “craft knowledge” (Grimmett & MacKinnon, 1992, p. 427), emphasising the teachers’ capability to polish it. After each lesson, I actively reflected on my knowledge and action in the lesson, and shared my ideas with my mentor-太阳花 (Tài Yáng Huā) and research panel at the university. For example, in one lesson, I designed a Smartboard activity for the whole class to consolidate their learning. I asked a volunteer, a male student to work on the interactive whiteboard, while others observed him. It took time to finish this activity. Then I suddenly found some students felt disappointed and restless.
because there was not enough participation in this activity for the rest of students. What should I do to involve whole class participation? After discussion, I decided to print out the Smartboard worksheet, so that other students could work on their own paper. Therefore, reflection on specific problems of practice enables me to create “detailed, concrete and specific” (Hiebert, Gallimore, & Stigler, 2002. p. 6) knowledge that I can use in a similar context next time. Such so-called “accumulated wisdom” (Van Driel, Beijaard, & Verloop, 2001, p. 142) is connected to the process of teaching and learning that actually happens in my classroom. Other teachers could directly apply the knowledge I shared with them if they faced the same problem in a similar situation.

Knowledge is integrated

Another feature of teacher-researchers’ knowledge is that it is integrated and organised around different categories of knowledge (Hiebert, Gallimore, & Stigler, 2002; Van Driel, Beijaard, & Verloop, 2001). Whereas researchers, such as Shulman (1986) and Turner-Bisset (1999) are interested in making distinctions among types of knowledge, good teacher-researchers are often interested in making connections. As illustrated above, researchers have identified many types of teacher knowledge, such as knowledge of content, knowledge of pedagogy and knowledge of student (Shulman & Sykes, 1986; Shulman, 1986; Grossman & Richert, 1988; Turner-Bisset, 1999). In reality, it is difficult for me to distinguish one from the other since they are intertwined. As a teacher-researcher, I need to make cohesive decisions that accord with the complex problems this knowledge intended to address. Although it might be possible to analyse my example stated above as knowledge deficiency in lesson preparation or knowledge of pedagogy, it is not helpful to do so if the goal is to improve the learning of Chinese. Different types of knowledge that are traditionally separated must be tightly integrated by teacher-researchers, so as to conduct more effective lesson (Hiebert, Gallimore, & Stigler, 2002). That is why this study is important, because PCK which is explained in the next section was investigated in order to establish the importance of subject teachers teaching of their practical knowledge using a cohesively integrated knowledge base.
2.3 Shulman’s concept of pedagogical content knowledge (PCK)

Good teachers require not only a detailed understanding of their subject matter, but also a subtle knowledge of pedagogies for having students to learn (Shulman, 1986, 1987). Although every category of knowledge as listed in the above knowledge base (Table 2.1) may be relevant for teaching and learning, what matters more are the types of knowledge which actually guide the teachers’ behaviours during the classroom lessons. This knowledge is PCK, a concept that sees content and pedagogy as intertwined.

The growing body of research into the complex relationship between subject knowledge and pedagogy dates back to the mid-1980s (Shulman, 1986; Shulman & Sykes, 1986; Wilson, Shulman, & Richerd, 1987; McNamara, 1991). Shulman’s original work in this field has been an obvious starting point, arising from the pertinent question, “How does the successful university students transform their expertise into the subject matter form that high school students can comprehend” (Shulman, 1986, p. 5)? This question was similar to my worries when I started teaching Chinese in Australia. My main worry was: How do I as a fresh graduate from China without any teaching experience transform my knowledge of language (Mandarin) and culture (Chinese) into a way that Australian second/foreign language learners can learn, and importantly, be willing to continue learning Chinese.

2.3.1 The definition of PCK

Shulman (1986, 1987) suggests that teaching expertise can be described and evaluated in terms of pedagogical content knowledge (PCK) or subject-matter specific pedagogical knowledge. This more specialised body of knowledge concerns the manner in which teachers relate their pedagogical knowledge (what they know about teaching and learning) to their subject matter knowledge (what they know about what they teach) and how students can learn, in the school context for the teaching of specific students. PCK is the integration or the synthesis of teachers’ pedagogical knowledge, their subject matter knowledge, knowledge of students, and their school communities. This theoretical concept represents a useful perspective for better understanding of how particular topics, problems, or issues within a subject are
organised, represented, and adapted to the diverse interests and abilities of learners, and presented for teaching and learning. It goes beyond knowledge of subject matter per se to the dimension of what it means to teach particular subject-matter knowledge to students. Shulman (1986) provides the following detailed explanation of PCK:

…embodies the aspects of content most germane to its teachability. Within the category of pedagogical content knowledge I include, for the most regularly taught topics on one’s subject area, the most useful forms of representations of those ideas, the most powerful analogies, illustrations, examples, explanations, and demonstrations—in a word, the ways of representing and formulating the subject that make it comprehensible to others…[it] also includes an understanding of what makes the learning of specific concepts easy or difficult: the conceptions and preconceptions that students of different ages and backgrounds bring with them to the learning of those most frequently taught topics and lessons (Shulman, 1986, p. 9).

According to this definition, PCK is associated with the most frequently taught topics in one subject area. The key elements of PCK are: (a) knowledge of representations of subject matter using a variety of analogies, illustrations, examples, explanations, and demonstrations; (b) knowledge of student learning difficulties, conceptions and misconceptions, and strategies to deal with them. While these two elements are intertwined, they can be used in a flexible manner. The more modes of presentations teachers have at their disposal and the better they recognise students’ learning difficulties, the more effectively they can deploy their PCK, and vice versa.

2.3.2 The development of PCK

Since PCK was introduced by Shulman (1986, 1987), a growing number of scholars, researchers, teacher educators and teachers have worked on this theoretical concept (e.g., Grossman, 1990; Marks, 1990; Geddis, Onslow, Beynon, & Oesch, 1993; Van Driel, Verloop, & De Vos, 1998; Magnusson, Krajcik, & Borko, 1999; Hashweh, 2005; Loughran, Berry, & Mulhall, 2006). There are three main strands of research into PCK.

The first strand, which is perhaps the most common, is to contest and thereby modify the definition of PCK. For example, Carter (1990) defines PCK as what teachers know
about their subject matter and how they transform that knowledge into classroom curricular events. Geddis et al. (1993) view PCK as a kind of knowledge which is of importance in transforming subject matter into forms that are more accessible to students. Compared to Shulman’s definition, there is little difference, and all emphasise the importance of knowledge of subject matter, the way of transforming the content (knowledge of pedagogy), students understanding and the teaching contexts.

Taking these various definitions into consideration, PCK might be defined as a process of transforming subject matter knowledge for the purpose of teaching and learning. This transformation occurs when teacher-researchers critically reflect on and interpret the subject matter through teaching/learning practice, so that they are able to find multiple ways (analogies, metaphors, examples, problems, demonstrations, and classroom activities) to represent the regularly taught topics to specific students with different abilities, genders and prior knowledge. PCK is a process of theoretical reasoning and decision-making. Gudmundsdottir (1987a, b) describes this transformation process as a continual re-construction of subject matter knowledge for the purpose of teaching/learning. Buchman (1982) discusses the notion that good teachers must maintain a “flexible understanding” (p. 21) of their subject knowledge. Here flexible means that depending on the teachers’ knowledge of students’ needs and abilities, so that teachers are able to use different ways to explain the same concept.

Different educators use different terms to describe the whole process of transferring subject knowledge from teachers to students, contributing to productive debates in this field. Apart from ‘transformation’ used by Shulman, Dewey (1902/1983) labels this process as ‘psychologising’, Ball (1988) terms it ‘representation’, Veal and MaKinster (1999) name it ‘translation’, and Bullough (2001) calls it ‘professionalising’. I favour ‘transformation’ as it simply explains the process of transferring knowledge from teachers to students in an understandable way.

It is important to note that a teacher’s transformation of subject matter knowledge occurs in the context of two other important components of teachers’ knowledge which differentiate teachers from subject matter experts. One is a teacher’s knowledge of students, including their abilities and learning strategies, ages and development levels, attitudes, motivations, and their prior knowledge of the concepts to be taught.
This knowledge of students is necessary, so that teachers are able to find content-related teaching/learning difficulties, and to search for coherent explanations which make sense to students. In this respect, it is necessary to discriminate “knowing from understanding” (Parker & Heywood, 2000, p. 89). The other component is teachers’ understanding of the social, political, cultural and physical environment of the schools where teaching and learning primarily occur. Such contexts provide prior knowledge that teachers can link to the teaching/learning of specific content.

The second strand which is necessary for conceptualising PCK is the identification of the components constituting PCK and mapping the integration of those components. For example, Grossman (1990), in a study of high school English teachers, contests and thereby expands the definition of pedagogical content knowledge. He adds two other components to PCK, in addition to the two key elements, namely, knowledge of strategies and representations for teaching particular topics and knowledge of students’ understanding, conceptions, misconceptions and difficulties with these topics. These are teachers’ beliefs or philosophies about the purposes for teaching/learning particular topics and their knowledge of curriculum materials available for teaching/learning. These components which are considered by Shulman (1986, 1987) as separate categories in his understanding of PCK are included in the concept of PCK.

Marks (1990) also broadens Shulman’s model by including knowledge of subject matter per se as part of PCK as well as knowledge for media instruction, but neglects Grossman’s inclusion of purposes. Marks (1990) perceives the development of PCK as an integrative process revolving around the interpretation of subject-matter knowledge and the specification of general pedagogical knowledge. Focusing on Shulman’ two key elements, Marks discusses some ambiguities, noting that it is impossible to distinguish PCK from either subject-matter knowledge or general pedagogical knowledge.

The idea of integration of knowledge components is also central in the conceptualisation of PCK by Fernández-Balboa and Stiehl (1995). These researchers identify five knowledge components of PCK, namely, subject matter, the students, instructional strategies, the teaching contexts, and teachers’ teaching purposes.
However, Turner-Bisset (1999) adds to this debate, arguing that PCK is an overarching knowledge base comprising eleven categories, specifically, subject knowledge (substantive and syntactic), beliefs about the subject, curriculum knowledge, general pedagogy knowledge, knowledge/models of teaching, knowledge of learners (cognitive and empirical), knowledge of self, knowledge of educational contexts, and knowledge of educational ends. In this model for expert teachers’ PCK, each category of knowledge is represented as a set. Here PCK is the core set which contains all of the other sets. This is perhaps the most complete example of PCK, in which all types of knowledge are presented as an amalgam.

The preceding discussion of the research literature is not meant to be exhaustive. Instead, I have tried to demonstrate that there is no universally accepted conceptualisation of PCK. Among scholars, differences debated with respect to the elements they include or integrate in PCK based on their beliefs or the findings from empirical studies. The specific labels or descriptions they attach to these components are also contested. Yet, I suggest that all scholars agree on Shulman’s (1986, 1987) two key components of PCK, namely, (a) knowledge of instructional strategies to represent subject matter and to response to students’ learning difficulties; (b) students’ understanding with respect to that subject. Based on this literature review, Table 2.2 provides a summary of these scholars’ different conceptualisations of PCK.

**Table 2.2: Components of PCK from different conceptualisations**

<table>
<thead>
<tr>
<th>Scholars</th>
<th>Knowledge of Purpose/beliefs for teaching a subject</th>
<th>Student understanding</th>
<th>Curriculum</th>
<th>Instructional strategies and representations</th>
<th>Media</th>
<th>Assessment</th>
<th>Subject</th>
<th>Context</th>
<th>Pedagogy</th>
<th>Self</th>
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<tbody>
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<td>Shulman (1987)</td>
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<td>Smith and Neale (1989)</td>
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<td>Grossman (1990)</td>
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<td>Marks (1990)</td>
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<td>Cochran et al. (1993)</td>
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<td>Fernandez-Boulbcou and Stehil (1995)</td>
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<td>Magnusson et al. (1999)</td>
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<td>Turner-Bisset (1999)</td>
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<td>Loughran et al. (2006)</td>
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</table>

(Source: adapted from Park & Oliver, 2008)
The third strand of literature I focus upon here is the dynamic characteristic of PCK. An important contribution here is the developmental model called PCKg (Pedagogical Content Knowing), that is “...teacher’s integrated understanding of four components of pedagogy, subject matter content, student characteristics, and the environmental context of learning” (Cochran, King, & DeRuiter, 1993, p. 266). Cochran, King, & DeRuiter (1993) point to PCKg as being more a knowing in action, that is, an active process rather than a static set of knowledge base in combination. PCKg stresses the interrelated and dynamic characteristics of each element. In addition, Cochran, King, & DeRuiter’s concept of PCKg is based on an explicit constructivist view of teaching/learning, which now plays an influential role in teaching and teacher education. Ideally, PCKg is a synthesis of these four components.

These three strands of literature on PCK illustrate that there is much debate over the conceptualisation of PCK. The different positions held by different scholars contribute to changes to research and development in PCK. This debate raises questions about the definition of PCK, the components of PCK, the type of knowledge it represents, its generality or topic-specificity, and its development. Therefore, to facilitate the conduct of this study, a comprehensive working definition of PCK is formulated based on my review of this literature. For the purpose of this study, PCK is defined from a constructivist perspective as follows: PCK is a repertoire of private and personal teachers’ knowledge that is made possible about how to help specific students understand specific subject matter using multiple instructional strategies, representations, and assessments while working within the contextual, cultural, and social bounded learning environment. PCK is accumulated and developed as a result of repeated planning, teaching of and reflection on the most regularly taught topics. In the next section, I focus on the features of PCK.

### 2.3.3 Features of PCK

**PCK distinguishes teachers from subject experts**

It is claimed that PCK is a type of knowledge that is unique to teachers, and it is what teaching/learning are all about (Cochran, King, & DeRuiter, 1993). It distinguishes teachers from subject area specialists (Gudmundsdottir, 1987a, b; Shulman, 1987), such as linguists, biologists, historians, writers, or educational researchers, from that
of the “pedagogue” (Shulman, 1987, p. 8) who is the expert teacher in a subject area using a variety of pedagogies based on their knowledge of students so as to make learning understandable. The differences are not necessarily in the quality or quantity of their subject matter knowledge, but in how that knowledge is organised and used for teaching and learning. For example, an experienced language teacher’s knowledge of Chinese is structured from a teaching/learning perspective, which is used as a basis for making Chinese learnable for students. A linguist’s knowledge, on the other hand, is structured from a linguistic perspective and is used as a basis for the construction of knowledge about Chinese as a language, and not from a primary contribution of how to make Chinese learnable.

**PCK is topic specific**

PCK has topic specificity (Van Driel, Verloop, & De Vos, 1998), that is, it refers to the knowledge that the teacher develops and accumulates in relation to teaching the specific topics. This means that I, as a teacher-researcher focusing on how to make Chinese learnable, might use different pedagogies for the topics ‘how are you?’ and ‘what is your name?’. To consolidate students’ learning, I might decide to design listening and reading activities. I might consider using different Smartboard activities to achieve the same goal. For the former, I might use a *match up* Smartboard activity, while for the latter, I might use a *balloon pop up* Smartboard activity. Although this is an open option, based on my experience, these activities are suitable for these topics, and I would not change the *balloon pop up* activity to ‘how are you?’ topic. Topic specificity also means that students might have grammar difficulty with the ‘how are you?’ topic, but not necessarily with the ‘what is your name?’ topic. In other words, different topics require different presentations and create different learning difficulties or misconceptions, which teachers are responsible for addressing.

**PCK distinguishes experienced teachers from beginning teachers**

Beginning teachers have incomplete and superficial levels of PCK (Carpenter, Fennema, Petersen, & Carey, 1988; Feiman-Nemser & Parker, 1990; Gudmundsdottir & Shulman, 1987; Shulman, 1987). They often rely on unmodified subject matter knowledge most often directly extracted from textbooks or other curriculum materials. They may not have coherent theoretic-pedagogical framework to present content
knowledge. They also tend to take broad pedagogical decisions such as whether or not to use communication-oriented approach in language classroom without assessing students’ prior knowledge, ability levels and learning strategies (Cochran, King & DeRuiter, 1993).

Studies indicate that beginning teachers have major concerns about PCK and struggle to transform and represent subject matter in ways that make sense to the students they are teaching (Feiman-Nemser & Parker, 1990; Wilson, Shulman, & Richert, 1987). This is especially true for the teaching of Chinese (Zhang & Li, 2010). Grossman (1989) suggests that this concern is present even in new teachers with substantial subject matter knowledge from a Master’s degree program in a specific subject matter area, in this case, in English. She also found that first-year teachers with Master’s degrees with no formal teacher education were less prepared to deal with students’ needs than first-year teachers with strong subject matter content. The former group realised that they should consider students’ needs and prior knowledge but had difficulties in making decisions about the best instructional strategies to take. They were not sure how to effectively adjust their teaching pedagogies to students’ diversified needs, and they were not prepared to engage students’ preconceptions and challenging questions. In other words, this would mean that they were not prepared to make Chinese learnable. Therefore, sometimes, they inappropriately attributed students’ lack of understanding to their levels of motivation and ability, and not their own capabilities for making the content learnable (Cochran, King, & DeRuiter, 1993).

An important factor in the development of PCK is teaching experience. For instance, Clermont, Borko and Krajcik (1994) found that experienced teachers of chemistry possessed a greater repertoire of presentation strategies for particular topics than novices. Moreover, these experienced teachers were able to use certain demonstrations for various purposes, and were more successful in relating their demonstrations to make Chemistry learnable for their students.

**PCK is tied directly to subject matter knowledge**

In Cochran, King and DeRuiter’s (1993) research, they used Hashweh’s (1985) study as an example to illustrate this characteristic of PCK. Hashweh (1985) conducted an
extensive study of the knowledge of science of three teachers of physics and three teachers of biology, and the impact of the knowledge on their teaching. All six teachers were asked about their subject matter knowledge in both physics and biology, and then to plan an instructional unit in both areas. In their own fields, the teachers knew the pre-conceptions that students likely bring to the classroom, could identify which ideas were likely to be difficult for students, and were more likely to adequately deal with those concepts and pre-conceptions during their instructions. Outside their fields, they often showed a less organised understanding of the information and held misconceptions about teaching the content. The teachers in both fields used a similar numbers of examples and analogies when planning their instruction, but the examples and analogies were more accurate and relevant in their fields of teaching expertise. This research indicates that PCK is tied directly to subject matter concepts but is much more than just subject matter knowledge. Furthermore, PCK develops over time as a result of experience in many classroom settings with many students (Cochran, King, & DeRuiter, 1993).

**PCK is an indicator of a good teacher**

Research on students’ perceptions of teachers’ teaching includes effective teaching, perception of mastery learning and cooperative learning (Turley, 1994). Olson and Moore (1984) revealed that from the students’ perspective, a good teacher knows the subject well, explains things clearly, makes the subject interesting, gives regular feedback, gives extra help to students, has a good sense of humor, and is fair and consistent. According to Lloyd and Lloyd (1986), students expect teachers to provide a sense of how the constituent parts of a subject fit together, to have strong content knowledge, and to be able to teach this content knowledge to their understanding level. Similarly, Turley (1994) found that students’ perceptions of effective teaching were a combination of methods, context, student effort, and teacher commitment. Students think effective teachers are those who know their subject, show evidence of thoughtful planning, use appropriate teaching methods, strategy repertoires and delivery skills, and give adequate structure and direction. In brief, research on students’ perceptions of teachers’ teaching reveals that students expect teachers to have strong content knowledge and use effective instructional methods. In other words, students expect teachers to have good pedagogical content knowledge (Tuan, Chang, Wang, &
This provides credence to Shulman’s (1986) argument that a characteristic of good teachers is that “they have a powerful armory of analogies, illustrations, examples, explanations, and demonstrations for representing and formulating a subject so as to make it comprehensible to others” (p. 9).

2.3.4 Re-thinking Shulman’s concept of PCK

Whilst my exploration of professional knowledge has acknowledged Shulman’s (1987, 1987) analysis as an important and fruitful starting point, it has offered only a partial insight into the complex nature of teachers’ knowledge. I am critical in particular of Shulman’s emphasis on professional knowledge as “a static body of content” (Banks, Leach & Moon, 2005, p. 333) somehow lodged once and forever in the minds of teachers.

PCK, as defined by Shulman (1986), requires teachers to know “the most useful forms of analogies, illustrations, examples, explanations, and demonstrations. In a word, the ways of representing and formulating the subject in order to make it comprehensible to others” (p. 6). From this perspective, Shulman’s work leads to “a theory of cognition that views knowledge as a contained, fixed and external body of information” (Banks, Leach, & Moon, 2005, p. 333). Equally worrying is that Shulman’s idea provides a teacher-centred pedagogy which focuses primarily on the skills and knowledge that the teacher processes, rather than on the process of learning (Banks, Leach, & Moon, 2005).

2.4 Pioneering studies of PCK

Stengel (1997) maintains that to get at pedagogical knowing conceptually and substantively requires attending to teachers’ knowledge. It is in the work of teaching and learning that knowing resides, and is revealed. PCK is regarded as a distinctive body of knowledge for teaching. It is claimed to be a benchmark for a teacher to be professional. Therefore, PCK is researched in different subject areas.

The majority of studies concerning PCK are mainly in the teaching of mathematics, science and chemistry (e.g. Nilsson, 2008; Park and Oliver, 2008; Van Driel& Verloop,
2005). For example, Nilsson (2008) explores the development of PCK based on four student-teachers in mathematics and science during their pre-service education. Park and Oliver (2008) use PCK as a conceptual tool in order to understand science teachers as professionals.

Van Driel, Beijaard and Verloop’s (2001) study of science teachers emphasise the importance of teachers’ understanding of subject matter, which appears to function as a prerequisite to the development of PCK. This result agrees with the findings from Smith and Neale (1989). They study the effects of an in-service workshop for elementary teachers, and conclude that this program was successful in terms of promoting teachers’ knowledge of specific contents. They conclude that unless teachers have acquired a “deeply principled conceptual knowledge of the content” (Smith & Neale, 1989, p. 17), the development of PCK is unlikely to occur.

Van Driel and Verloop (2005) investigate the development of PCK within a group of twelve pre-service chemistry teachers, who are required to use the particle models to help secondary school students understand the relationship between phenomenon and corpuscular entities. The study reveals the importance of authentic teaching experiences along with university workshop. This is because through teaching, pre-service teachers are able to demonstrate a deeper understanding of their students’ specific learning difficulties, and to find the possibilities and limitations of using particle models as pedagogies in specific teaching situations. In a word, through learning from teaching, the pre-service teachers further develop their PCK, although this development could vary among individual pre-service teachers.

The development of technology affects the design and instruction of teachers’ classroom teaching and students’ learning. As a result, teachers are required to be equipped with the ability to integrate technology into curriculum design and innovative teaching (Jang & Chen, 2010). Thus, technological PCK attracts much of the research (e.g. Angeli & Valanides, 2008; Van Olphen, 2008; Niess, 2011; Banister, & Reinhart, 2011), investigating its efficaciousness for teaching/learning, as well as its extra requirements for teachers’ professional development.
Technology relating to PCK

Technology is re-shaping teaching and learning by supporting, expanding and enhancing course content, learning activities, and teacher-student interaction (Abdous, Camarena & Facer, 2009). For example, personal computers and mobile phone technologies have become more readily available in the classroom in many countries as pedagogical choices.

However, teachers’ use of information and communication technology (ICT) in classrooms tends to be infrequent (Harris, Mishra, & Koehler, 2009; Gao, Choy, Wong, & Wu, 2009; Sang, Valcke, Braak, & Tondeur, 2010; Chai, Koh, Tsai & Tan, 2011). When they all use ICTs, it is for “information transmission rather the facilitation of students’ knowledge construction” (Chai et al., 2011, p. 1184). These observations have led to more emphasis on teaching teachers the ways of integrating ICT to their teaching and students’ learning.

Mishra, Koehler and Kereluik (2009) argue that these non uses of ICTs are not because technologies do not offer possibilities for new instructional strategies, or even because the technologies are not available. They offer three reasons for technology being undervalued and underused in classrooms. First, using newest technologies requires specific knowledge of how the technology can be used for pedagogical purposes. Teachers complain that they cannot learn so many available technologies. Educators find some difficulty in instructing teachers on how to use certain technologies. Therefore, it takes long time for teachers to learn one new technology, and then the availability of another newer technology triggers changes in their pedagogical practice (Whyte, 2011). The ever-increasing pace of technological development increases pressure on teachers.

Second, some teachers believe that technology can do “more harm than good” (Mishra, Koehler and Kereluik, 2009, p. 49). For example, Socrates argues the threat of internet for developing people’s writing skills:

If men learn this (writing), it will implant forgetfulness in their souls; they will cease to exercise memory because they rely on that which is written, calling things to remembrance no longer from within
themselves, but by means of external marks (as cited in Mishra, Koehler, & Kereluik, 2009, p. 49).

It is difficult to criticise the fascinating development of technology for teaching and learning. However, Socrates’s concern is right, to some degree, as internet has changed and will change our way of thinking and the way of doing things, reading and writing in this case. If we ask ourselves this question: How many times we rely on spelling check tool, so that we forget how to correctly write the words on paper? The answer is obvious.

Third, and this may be the most important issue, teachers believe that most innovative technologies do not solve the issue of “how to approach teaching subject matter with these technologies” (Mishra, Koehler, & Kereluik, 2009, p. 49). As a teacher-researcher, I need to develop flexible and robust knowledge frameworks that are not rely on the affordance of a particular technology, but rather integrate technology into my pedagogical approach for making Chinese learnable.

The Technology, Pedagogical and Content Knowledge (TPACK) framework (Thompson & Mishra, 2007; Angeli & Valanides, 2005; Mishra & Koehler, 2006; Chai et al., 2011) is a step towards understanding what makes a technology an educational tool. The emphasis in TPACK is that educational technology exists in the interplay between pedagogical knowledge, content knowledge, and technological knowledge. TPACK was introduced by Thompson and Mishra (2007) with considerable exuberance as the “Total PACKage” (p. 38) for effective teaching with technology.

Thompson and Mishra (2007) were not the first ones to investigate the knowledge base for effective teaching using technology. Prior to this, Pierson (2001) had used the term technological pedagogical content knowledge (TPCK) to define teachers’ integration of technology in their classrooms. Likewise, Koehler and Mishra (2005) had used the same term as a conceptual framework for teachers solving the problems associated the integrating ICT into their classroom teaching and students’ learning. Others used similar terms, such as information and communication technology (ICT)-related PCK (Angeli & Valanides, 2005) or technology-enhanced PCK (Niess, 2005).
Both TPCK and TPACK are derived from Shulman’s (1986, 1987) well-known work on PCK (see section 2.3). PCK is considered as a unique feature that qualifies teaching as a profession. TPCK and TPACK have similar ambitions, as they regard technological knowledge (TK) as an indispensable part of the teaching profession (Voogt, Fisser, Roblin, Tondeur, & Braak, 2013).

TPCK and TPACK are used interchangeably, but I personally prefer the latter. This is because it better reflects the interdependence of the three contributing knowledge domains, that is, content knowledge, pedagogical knowledge and technological knowledge (Mishra & Koehler, 2006, Koehler & Mishra, 2008; Mishra, Koehler, & Kereluik, 2009; Voogt, et al., 2013). It also views the knowledge as integration and interaction, which means that teachers need to develop a cohesive package of each component of TPACK and other related knowledge and skills, so that they can effectively use technology in the classrooms for students’ learning. Moreover, it addresses the necessity to look past the technical aspects of technology to the educational issues at state.

Mishra and Koehler (2006) agree with my contest of integrative characteristic of TPACK, contending that for teachers to integrate ICT into their teaching, their technological knowledge, pedagogical knowledge, and content knowledge should be synthesised to form TPACK. They also postulate that three other sources of knowledge can also be derived from the interactions among technological knowledge, pedagogical knowledge, and content knowledge, namely, Technological Content Knowledge (TCK), Technological Pedagogical Knowledge (TPK), as well as Shulman’s (1986) Pedagogical Content Knowledge (PCK). These seven theoretical constructs capture the different types of teachers’ expertise needed for effective technology integration. For the ease of comprehension, based on literature reviewed here, the seven constructs are explained in Table 2.3 (Cox & Graham, 2009; Mishra and Koehler, 2006; Shulman, 1986; Chai, et al., 2011) and Figure 2.1 (Koehler & Mishra, 2009, p. 63):
Table 2.3: Seven constructs in relating to TPACK

<table>
<thead>
<tr>
<th>Seven constructs</th>
<th>Understanding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technological knowledge (TK)</td>
<td>Knowledge of how to operate computers and relevant software.</td>
</tr>
<tr>
<td>Pedagogical knowledge (PK)</td>
<td>Knowledge of how to plan instructions, deliver lessons, manage students, and address individual differences.</td>
</tr>
<tr>
<td>Content knowledge (CK)</td>
<td>Subject matter knowledge such as knowledge about languages, Mathematics, Sciences, etc.</td>
</tr>
<tr>
<td>Technological Content Knowledge (TCK)</td>
<td>Knowledge of how content can be researched or represented by technology such as using computer animation software to represent how Chinese characters are written stroke by stroke.</td>
</tr>
<tr>
<td>Pedagogical Content Knowledge (PCK)</td>
<td>Knowledge of “the ways of representing and formulating the subject that make comprehensible to others” (Shulman, 1986, p. 9)</td>
</tr>
<tr>
<td>Technological Pedagogical Knowledge (TPK)</td>
<td>Knowledge of how technology can facilitate pedagogical approaches such as using mobile technology to survey students’ prior knowledge on a web-based discussion forum.</td>
</tr>
<tr>
<td>Technological Pedagogical Content Knowledge (TPACK)</td>
<td>Knowledge of facilitating students’ learning of a specific content through appropriate pedagogy and technology. The expertise to bridge students’ learning difficulties about the subject matter with appropriate pedagogies supported by technologies is in essence the focus of the TPACK framework</td>
</tr>
</tbody>
</table>
Figure 2.1: Seven constructs in relating to TPACK

How does the TPACK framework offer a new way of thinking about educational technology? This framework may help teacher-researchers reason and theorise about which technologies are worth learning, instead of learning every technology and then figuring out how to apply it (Mishra, Koehler, & Kereluik, 2009). It means that teacher-researchers might need to develop skills to quickly evaluate new technologies in terms of how they can make Chinese learnable.

2.5.1 Interactive whiteboard technology

One of the technologies that is currently popular for teaching and learning is interactive whiteboards (IWB). International findings on the use of an interactive whiteboard as a tool for teaching/learning are emerging (e.g. Armstrong, Barnes, Sutherland, Curran, Mills, & Thompson, 2005; Smith, Higgins, Wall, & Miller, 2005; Kennewell & Beauchamp, 2007; Warwick, Mercer, Kershner, & Staarman, 2010).
Some of the studies show that students find learning more engaging and effective when their teachers use interactive whiteboard in their classroom (Green & Hannon, 2007). For example, Coyle, Yañez and Verdú (2010) investigated the impact of interactive whiteboard on the students’ language use in an English classroom. They found that IWB helped to focus students’ attention on the lesson content, allowing them to visualise the task on the whiteboard and making their errors more easily identifiable. They conclude that IWB has the potential to support students’ comprehension and promote learning outcomes in language classrooms. In line with this, Higgins, Falzon, Hall, Moseley, Smith, Smith and Wall (2005) found that when IWB was used by teachers in some British schools, it improved students’ learning outcomes in numeracy at least in the short term.

However, IWB does not always win favour from teachers and students. For example, Xu and Moloney (2011) conducted a study of the perception and the use of IWB in teaching and learning Chinese. Some students stated that IWB was not effective in facilitating mastery and confidence in speaking skills. In particular, Year 12 students were less interested and engaged in IBW compared to young students, because they wanted to develop specific examination related knowledge and skills, rather than engage in games or other animated activities. However, this study confirms that IWB is an effective complementary pedagogical tool for some students. More importantly, teachers need to take students’ ages and different learning needs into consideration when making pedagogical decisions about the use of IWB.

Across some of the findings, Hennessy, Deaney, Ruthven and Winterbottom (2007) note a recurring question associated with the use of IWB technology. This concerns the degree to which the whiteboard is used whether to simply repeat existing practice, or if it can provide greater opportunities for students’ interactions with other students and existing resources. At the same time the use of video conferencing as a tool for distance education is attracting research attention (Martin, 2005).

2.5.2 **Video conferencing technology**

We are all aware of the seemingly unbounded world that we live in. we are connected by internet cables and satellites that enable widespread access to virtually anyone,
anywhere, and to the vast array of human knowledge (Mishra, Koehler, & Kereluik, 2009). That is the result of our rapidly changing technology. Video-conferencing is a new product of educational technology.

Video conferencing (VC) technology for language teaching and learning is relatively new, and little research has been conducted in this area (Whyte, 2011). Passig (as cited in Mishra, Koehler, & Kereluik, 2009, p. 52) argues that teachers need to develop “the competence to borrow a concept from a field of knowledge supposedly far removed from his or her domain, and adopt it to a pressing challenge in an area of personal knowledge or interest.” I suppose this might encourage the use of the VC to support language teaching and learning. Educators, researchers, and teachers experiment with VC and a vast array of other technologies to meet their specific educational needs (Mishra, Koehler, & Kereluik, 2009).

VC is mainly used for distant education, seeking the variety of learning opportunities. For example, Anastasiades, Filippousis, Karvunis, Siakas, Tomazinakis, Giza and Mastoraki (2010) worked on a VC project involving two Greek primary schools on an environmental topic. This study showed a high level of participant satisfaction as VC provided a new collaborative synchronous learning opportunity at a distance. But they also concluded that other forms of asynchronous communication, such as face-to-face teaching/learning activities might help consolidate links between classes.

VC provides an alternative medium for teaching and learning, and it also offers an opportunity for teachers from different schools which mostly are in distant areas, to share their teaching experiences and learn from each other. Whyte (2011) investigated the relationship between learning opportunities and teacher cognition in the context of a videoconferencing project. Six French primary teachers participated in this initiative, pairing experienced and novice Foreign Language (FL) and their classes. These teachers viewed VC as a good tool to display memorised language, but the spontaneous interaction between teachers and learners was limited. Through learning to design and implement effective activities through VC, they highlighted the demanding requirements for teachers to make appropriate pedagogical and technological decisions for teaching and learning.
In short, VC is gradually becoming a new teaching and learning tool, as well as a teacher education medium. However, how to use VC as tool for language teaching/learning, in this case, teaching Chinese for English-speaking leaners is not much researched. This points to the significance of the study presented in this thesis, which is presented in the next section.

2.6 Chinese teaching/learning informed by TPACK

2.6.1 ‘Connected Classroom’ initiative in Australia

In Australia, the key education documents, for example, the Melbourne Declaration on Educational Goals for Young Australians (MCEETYA, 2008a, 2008b) states that technology is a key tool for effective learning for Australian students. The Australian Government is also committed to “turn every secondary school in Australia into a digital school” (MCEETYA, 2008b, p. 5)

One of the initiatives to enhance educational technology in Australia is NSW DEC ‘Connected Classroom’ program with a commitment of A$158 million (Mitchell, Hunter & Mockler, 2010). This is four year program, which includes “increasing current bandwidth, various new Web 2.0 learning applications for teachers and students, and a ‘connected classroom’ for 2,200 schools sites” (Mitchell, Hunter & Mockler, 2010, p. 466). In the ‘Connected Classroom’, the facilities include an interactive whiteboard, laptop, and Bridgit desktop sharing software and video conference equipment including LCD screen, video camera, and microphones. In May 2010, more than 1500 ‘Connected Classrooms’ were installed across NSW. This provides the possibility to connect physically separated schools for educational purposes.

Mitchell, Hunter and Mockler (2010) reported a study of e² (Extending Education) program, which is a collaboration between five schools in the NSW Western Region. They investigated features of teachers’ practice in the ‘Connected Classroom’ environment. Their study details how teachers use interactive whiteboard alongside video-conferencing facility to teach Year 11 and 12 legal studies, geography, and physics. The specific sets of pedagogical practice employed offer insights into how
technology can be innovatively used for distant schools so as to extend students’ curriculum options.

My study presented in this thesis adds to this investigation into educational initiative of using interactive whiteboard, desktop sharing and video-conferencing technologies as a means to make Chinese learnable for students across sites in Western Sydney Region (WSR), Australia.

2.6.2 Why investigating PCK and TPACK in the teaching/learning of Chinese

Since there is a lack of research literature concerning how PCK is presented and applied in making Chinese learnable, it is necessary to explore how beginning teacher-researchers construct and develop their personal pedagogical content knowledge through their teaching practice. Therefore, in this study, PCK was used as a theoretical tool to analyse how I worked to make Chinese learnable for Australian non-background students in a pedagogical powerful way. To be specific, I analysed the difficulties I encountered when teaching Chinese in Australian teaching and learning environment. The key questions were: What problems do non-background students bring with them when they learn Chinese as a second/foreign language, and how I should cope with them? How do I construct my personal PCK through accumulated teaching practices, and what are the factors influencing my development? This study is of interest and importance because of the following reasons:

1) PCK distinguishes between expert teachers and novice teachers, because beginning teachers are often concerned with their own survival rather than students’ learning (Turner-Bisset, 1999). Is this true? Experienced teachers possess such knowledge and the capabilities to transform the content knowledge they possess into forms that are pedagogically powerful and adaptive to the variations in the abilities and backgrounds of their students (Turner-Bisset, 1999). However, there is a noticeable lack of research literature concerning how PCK is presented and applied as beginning teacher-researchers. This applies in particular to the teaching and learning of Chinese as a second/foreign language. Therefore, it is worthwhile to explore how beginning teacher-researchers construct and develop their PCK for
making Chinese learnable through their research-oriented school-engaged teaching practice. What is the manifestation of PCK for beginning teacher-researchers? How do beginning teacher-researchers develop PCK?

2) Although the above studies (e.g. Grossman, 1990; Fernández-Balboa &Stiehl, 1995; Turner-Bisset, 1999; Hasweh, 2005; Loughran et al., 2006) represent re-formulations of the concept of PCK, it is still in the theoretical stage. There are few studies which further justify how it works and is represented in teaching. Hence, this study aims to bridge this gap by employing PCK into teaching Chinese by focusing on teacher-researchers and what they do in the classroom. Shulman (2002) is against asking how do teachers think and make decisions, and prefers to ask what do teachers know and how do they use what they know? That is to say, how do teacher-researchers who already know and understand their subjects (Chinese) in particular ways learn to transform their knowledge into presentations that make Chinese learnable for their students? This study attempts to get at and explain how beginning teacher-researchers use PCK in their Chinese classrooms.

3) The concept of PCK is a complicated idea (Gess-Newsome, 2002), and much debate has mainly been researched in the fields of mathematics, science and chemistry (e.g. Van Driel & Verloop, 2005; Nilsson, 2008; Park & Oliver, 2008). A small number of studies have looked at English and social studies (e.g. Gudmundsdottir & Shulman, 1987; Howey & Grossman, 1989; Gudmundsdottir, 1991), but geography and history are hardly represented. There seems to be no work in art, drama, and music. There is also a narrow focus age range with the vast majority of studies concentrating upon teaching in the primary years (e.g. Appleton, 2006; Nilsson, 2008; Appleton, 2008). Therefore, this study aims to bridge this research gap, that is, how is PCK being presented and developed in teaching Chinese as a second/foreign language to non-background secondary school students?

4) The technological aspect of PCK is also a new direction for Chinese language teaching and learning. ‘Connected Classroom’ using video-conferencing and interactive whiteboard technology have created specific sets of pedagogical
practices for my teaching of Chinese. How does ‘Connected Classroom’, consisting of interactive whiteboard, internet access and VC technology produce the affordance necessary to integrate technology to make Chinese learnable? How do these technologies change face-to-face pedagogies? What are the relationships among the seven TPACK constructs (Mishra & Koehler, 2006) as manifested in teaching Chinese? Much research is needed to investigate TPACK. This study makes a modest contribution to original knowledge about TPACK through working in ‘Connected Classroom’ environment.

This thesis documents and analyses my core teaching practices developed and employed in the traditional face-to-face classroom and ‘Connected Classroom’ environment. It proved interesting to investigate changes in my pedagogical decisions in these two teaching contexts. Through this study, I witnessed my professional growth in understanding and implementing PCK and TPACK in making Chinese learnable for Australian learners.

2.6.3 Possible PCK and TPACK frameworks for this study

Let me reiterate my working definition of PCK as used in this study: PCK is a repertoire of private and personal teachers’ knowledge that is made possible about how to help specific students understand specific subject matter using multiple instructional strategies, representations, and assessments while working within the contextual, cultural, and social bounded learning environment. It is accumulated and developed as a result of repeated planning, teaching and reflection on the most regularly taught topics. Figure 2.2 illustrates the meaning of this concept.
In this PCK framework, I include four elements, namely, subject-matter knowledge, pedagogical knowledge, knowledge of students and knowledge of contexts. For teacher-researchers to teach Chinese for beginning English-speaking learners, it is obvious that they need to know what they teach (subject matter knowledge) and general pedagogies to present the content to students. In this study, I argue that teacher-researchers’ development of their pedagogical knowledge and subject matter knowledge needs to be in the context of two other components of teachers’ knowledge,

The first component is knowledge of students. This is because in order to make the Chinese acceptable, understandable and learnable for Australian students, I need to know them, including their abilities and learning strategies, ages, and developmental levels, attitudes, motivations and prior conceptions of Mandarin and Chinese culture. Moreover, it is the students who decide whether or not the understanding constructed in the classroom is viable. This also contributes to my understanding of Shulman’s (1986, 1987) one element of PCK, that is, knowledge of student learning difficulties, conceptions and misconceptions, and strategies to deal with them. In a word, without this knowledge of students, it is meaningless to talk about subject matter knowledge or pedagogical knowledge in general sense.

The second component is the social, political, cultural and physical environmental context in which learning and teaching occur, such as school context and students’ family background, and their social, economic, and cultural status. These factors might
influence my decision-making in relating to choosing learning topics and content, scaffolding for students’ learning and expectations for learning outcomes.

These four individual categories of knowledge have their general meanings by its own. However, it is the individual teachers’ task to construct their inter-relations through day-by-day reflection on their teaching and students’ learning. On the one hand, this means that PCK is a personal constructing process. It is influenced by each teacher’s previous knowledge, experiences of learning, a personal view of what constitutes ‘good’ teaching and a belief in the purposes of the subject. Because of these outside factors, PCK becomes very individual characteristic. This means that every teacher-researcher has the capability to construct their own PCK, which is usually different from others.

On the other hand, I argue that the development of PCK is dynamic, and emphsises on knowing and understanding as an active process. Whyte (2011) argues that teacher education needs to “shift the conception of teaching from a behavioral view of what people do when they teach languages to a constructivist view of how people learn to teach”(p. 272). This means that school and classroom need to be regarded as teaching and learning contexts for the development of PCK. Therefore, I adopt the concept of PCKg (Pedagogical Content Knowing) (Cochran, DeRuiter and King, 1993), emphasising the interaction and inter-relationships among these four elements, so as to simulate the development of all aspects of knowing how to teach, and contribute to the growth of PCK. This also means that through increasing PCK via reflection and understanding, teacher-researchers are able to use their understanding to create teaching strategies for making Chinese learnable for English-speaking leaners. I see all of these as underpinning for teacher-researchers’ professional knowledge.

In terms of TPACK, I investigated three questions in relation to PCK, namely, 1) What is the relationship between technology and PCK in teaching/learning Chinese? 2) What does technology mean for teaching Chinese for English-speaking learners in Australia? 3) How do VTRs construct their personal TPACK?
Figure 2.3: TPACK theoretic-pedagogical framework

2.7 Summary

In summary, this literature review indicates that to teach a subject, such as Chinese effectively, teacher-researchers need a combination of knowledge. Shulman’s (1986, 1987) concept of PCK has provided a debatable framework for analysing teachers’ knowledge. Since PCK is mainly used in studies in Maths, science, and chemistry (e.g. Van Driel & Verloop, 2005; Nilsson, 2008; Park and Oliver, 2008), this study uses PCK as a conceptual tool to investigate how beginning Chinese teachers construct and develop their knowledge, PCK in particular, through teaching practices and doing research based on their own teaching. This chapter also looked at the technological aspect of PCK and inter-relationships. TPACK framework is used in this study to investigate ‘Connected Classroom’ technology into Chinese language classroom. The findings from this study are intended to contribute to teacher education in general, and to the education of language teachers and teachers of Chinese in particular.
CHAPTER THREE

MAKING CHINESE LEARNABLE FOR BEGINNING SECOND/FOREIGN LANGUAGE LEARNERS:
A THEREOTIC-PEDAGOGICAL FRAMEWORK

3.1 Introduction: Research problems

Chinese is believed to be a difficult language for English-speaking learners, and it is less rewarding to learn (Zhang & Li, 2010). However, due to the increasingly powerful status of China socially, culturally and economically, learning Chinese has become a popular and an urgent task for school students, businessmen, and others in all walks of life in English-speaking countries, such as Australia. Thus, the question arises how to make Chinese learnable for language learners who speak English as their first language? This study involves Australian public school students in Year 7 and 8 (N=45), most of whom speak English as their first language. However, some of whom may know languages other than English, such as French, Japanese, and Indian. But English is the main focus in this study in serving as a bridge for making cross-language links between English and Chinese. In this way, this study aims to investigate ways of making Chinese learnable for beginning language learners in Australia through building on their prior socio-linguistic knowledge, that is what they know in English.

This chapter begins with a debate on the instructional language used in the language classroom. Two viewpoints stand out, namely, the monolingual principle and the bilingual principle. This study supports the bilingual principles, emphasising the use of students’ L1 and other languages they know in order to help them learn Chinese. Thus, Ringbom’s concept of cross-linguistic similarities is discussed, including the importance of students’ prior linguistic knowledge, three types of cross-linguistic similarity relations (similar, contrast and zero relation) from linguists’ perspective, and three types of similarities from learners’ perspective (actual, perceived and assumed similarities). After that, the discussion moves into the concept of transfer, including its definition and areas for transfer. Finally, a new concept of ‘cross
socio-linguistic interaction’ (CSLI) is developed as a theoretic-pedagogical framework for this study, aiming to make Chinese learnable for English-speaking learners in Australia.

3.2 Instructional language in classroom teaching

3.2.1 The monolingual principle

When discussing language teaching and education, three inter-related assumptions continue to dominate debate about classroom instruction. The first assumption is that the target language (TL) should be used exclusively for instruction purposes without recourse to students’ first language (L1). Cummins (2007) terms this as the “direct method” (p. 222) assumption. A second assumption is that translation between L1 and TL has no place in the language classroom. This is the “no translation” (Cummins, 2007, p. 222) assumption. The third assumption is that L1 and target TL should be kept rigidly separate, which is known as “two solitudes” (Cummins, 2007, p. 223) assumption. These three inter-related assumptions emphasise the maximal instructional use of the TL with minimal reference to students’ L1. Teachers are meant to focus on one language, the TL, and to neglect the students’ L1. These three assumptions constitute the “monolingual principle” (Cummins, 2007, p. 223), which dominate the language education.

These three assumptions give a sense of reasonableness to the “monolingual principle” (Cummins, 2007, p. 223). For example, Turnbull (2001) asserts that “it is crucial for teachers to use the TL as much as possible in contexts in which students spend only short periods of time in class on a daily basis, and when they have little contact with the TL outside the classroom” (p. 535). This means that if students rely only on the classroom time to learn the TL, then teachers need to use this TL as much as possible. According to the “monolingual principle” (Cummins, 2007, p. 223), students are expected to make full use of the classroom time to develop their listening comprehension and speaking ability, and to “correct pronunciation and inductively acquire grammatical knowledge” (Yu, 2000, p. 176).
However, there are disadvantages with the “monolingual principle” (Cummins, 2007, p. 223) for learning a new language. A major disadvantage with the “direct method” (Cummins, 2007, p. 222) assumption is that while developing students’ listening and speaking capabilities, their reading and writing skills cannot be developed at the same time. In addition, in some circumstances, teachers find it ineffective to explain grammatical concept if they are restricted to only using the TL (Turnbull, 2001). The questionable assumption of “no translation” (Cummins, 2007, p. 222) follows from the contested assumption of “direct method” (Cummins, 2007, p. 222). If students’ L1 is excluded from the language lessons, then translation from L1 to TL or from TL to L1 has no place. Consequently, those operating on the “monolingual principle” (Cummins, 2007, p. 223) have undertaken minimal research into the potential instructional use of translation in language lessons. The studies that have been done focus on the disadvantages of this method. For example, in the context of language teaching, the use of translation is typically undervalued because it aims to teach languages primarily by means of using translated texts and the learning of grammatical rules, which changes the focus of language learning (Cummins, 2008). The questionable claim is that the use of translation as an instructional strategy results in students relying on their stronger language (L1) and consequently learning very little of TL (Cummins, 2007). Recently, the “two solitudes” (Cummins, 2007, p. 223) assumption, which means a rigid separation of TL and L1 has been the focus of heated discussion. Cummins (2007) has argued for the contrasting educational philosophy of ‘bilingual principle’ (Boey, 1970; Brooks-Lewis, 2009; Creese & Blackledge, 2010; Littlewood & Yu, 2011; Hornberger & Link, 2012), which is presented in the next section.

### 3.2.2 The bilingual principle

It may seem reasonable to separate students’ L1 and TL in language lessons according to the reasons outlined above, such as promoting extensive input of TL. However, there is increasing research (e.g. Brooks-Lewis, 2009; Littlewood & Yu, 2011) arguing the importance of creating a shared or interdependent space for the “promotion of language awareness and cross-language cognitive processing” (Cummins, 2007, p. 229).
Cummins (2007) reviewed a research on a French immersion program where teachers separated French and English for instruction purposes. Interestingly, they found that students themselves were engaged in comparing various aspects of French and English in order to learn the TL. The students used their ability to make cross-linguistic connections as a means of learning the TL. Therefore, Cummins (2007) argues that if students in bilingual/immersion educational programs spontaneously focus on the similarities between their L1 and the TL, then pedagogies that help this comparison happen are more likely to develop students’ proficiency in the TL.

Similar, the importance of bilingual principle in language learning demonstrates the importance of incorporating learners’ L1 into their learning of TL (Brooks-Lewis, 2009). Since students benefit from making cross-linguistic connections between the new language and the language they know (that is their prior socio-linguistic knowledge), nurturing this learning strategy is likely to help students to apply it more efficiently. The brief discussion of the debate over the monolingual and bilingual principles provides necessary concepts for this study. My study investigated the possibilities of using the bilingual principle to make Chinese learnable. I compared Chinese and English as a way of making Chinese learnable for Australian schools learners.

3.3 Cross-linguistic similarities in language teaching/learning

3.3.1 The importance of learners’ prior linguistic knowledge

What is the most important consideration in teaching and learning? Ausubel (as cited in Ringbom, 2007, p. 2) says, “the most important single factor influencing learning is what the learners already knows. Ascertain this and teach them accordingly.” Thus, to learn Chinese, it is important to build on students’ socio-linguistic knowledge of English. Neuner (as cited in Ringbom, 2007, p. 2) makes the same argument, “in any kind of learning, we associate new elements, items and structures with elements, items and structures already stored in our memory.” In other words, when learning the new elements of Chinese, students need and should be encouraged to connect to the related elements of what they know in English. If teacher-researchers use
students’ prior socio-linguistic knowledge that they bring to learning Chinese, then teaching is likely to result in more rewarding and successful learning. Or at least this is the assumption. A Chinese metaphor for this is 事半功倍 (Shì Bàn Gōng Bèi), which means ‘half the work done with double results’. In contrast, if teacher-researchers neglect the knowledge learners bring to the learning task, the process of teaching and learning is unlikely to be as successful and efficient as expected. Here the Chinese metaphor 事倍功半 (Shì Bèi Gōng Bàn) means ‘getting half the result with twice the effort’. Through these Chinese metaphors, I demonstrate the potential for relating what I know in Chinese, my L1, to what I am learning in English, my TL. In teaching Chinese to English speakers, my focus is to do the same, but in reverse. In other words, these two contrastive Chinese metaphors remind teachers that teaching anything new benefits from relating to learners’ existing knowledge and skills.

Accordingly, language learning is largely based on what students already know about their L1 and other languages, because of their use of these languages in learning the new language. Ringbom (2007) has explored the bilingual principle in language learning. He researches the cross-linguistic influences of Finnish and Swedish on their learning of English, and argues that cross-linguistic similarities between these languages facilitate learning the TL. Therefore, it is important for teachers and learners to search for similarities between the languages they already know and the TL.

Second language research has tended to concentrate on analysing the differences between languages and the linguistic variations among languages (Ringbom, 2007). Researchers investigating L1/TL similarities argue that their point of view differ markedly from that of monolingual focused researchers. Language learners look for similarities wherever they can find them, amidst the apparent and actual differences. When learning a new language, they try to connect the new elements to whatever prior socio-linguistic knowledge they have. It seems that similarities have a much more direct effect on language learning and performance than differences do. Therefore, as a teacher-researcher, I decided to explore the similarities between languages given that this is something language learners naturally do.
In terms of linguistic similarities between languages, Ringbom (2007) argues that both intra-linguistic and cross-linguistic knowledge are relevant to the learning of a new language. However, they play different roles in the early stage of the learning process. In the beginning when learners’ TL knowledge is limited, their L1 is the main source for perceiving linguistic similarities. Therefore, cross-linguistic similarities play a substantial role for beginners in language learning; thus, students learning Chinese in Australia fit into this category. This makes teachers to teach L1/TL (English/Chinese) transfer, which is centred to making Chinese learnable in Western Sydney schools. Intra-linguistic similarities become important for those students who have already successfully finished the beginners’ course in the TL (Ringbom and Jarvis, 2009). At this stage, intra-linguistic similarities are not as important as it is for beginning language learners, but they increase in importance as learning progresses into advanced stages of learning (Ringbom, 2007).

Ringbom (2007) further states that whether cross-linguistic knowledge can facilitate language learning depends on the relationship between the TL and L1. That is to say, if a new language is closely related to learners’ L1, their prior cross-linguistic knowledge is extremely useful. By using such similarities, learners tend to take less time and effort to learn this new language. The issue here is what does this mean for using cross-linguistic similarities between English and Chinese to make the latter learnable.

In a summary, making use of perceived cross-linguistic similarities for beginners and intra-linguistic similarities for advanced learners is expected to facilitate language learning. This proposition needs to be investigated as it relates to Chinese and English. This study focuses on what cross-linguistic knowledge can be found by me as a Chinese speaker to make Chinese learnable for Australian students. I sometimes draw upon my students’ perceived and assumed similarities between English and Chinese, but that is not the main focus of this study.

3.3.2 Three important concepts

Ringbom (2007) states that sometime, languages other than L1 play an important role in learning a new language if they are related to the TL, and if they have been
acquired to a high level of proficiency during the early stage of learning. This means that learners tend to make productive use of their more familiar languages rather than L1 in such circumstances. Ringbom (2007) emphasises that this is especially true for Asian students who have learnt English and now begin learning French. Learners use their knowledge of a Second Language (L2), English in this example, and make connections with the TL (French). However, their L1 (Chinese) does not seem to be related to French. There is no doubt that perceiving and making good use of cross-linguistic similarities, whether they come from L1 or other languages provide an aid, not a troublesome obstacle for learning a new language. Therefore, in some circumstances, teachers need to be aware of students’ different backgrounds and their language abilities. Importantly, such language varieties should also be taken into account and put into good use as much as possible to facilitate students’ learning a new language.

This is especially important in Australia, which is a multi-cultural country with thousands of multi-language citizens, including school students. This means that I need to be aware of students’ different language abilities; not all speak English as their L1. The primary participants in this study are Year 7 and 8 students (N=45). Although they speak English at school, some speak other languages at home, and some have studied other languages, such as French and Italian previously. These languages can be used for two purposes. First, they can provide an extra option for teachers to make use of learners’ cross-linguistic knowledge with Chinese in addition to English. Second, when assessing students’ learning outcomes, their knowledge of other languages apart from English can be valued in a drive towards post-monolingual education in Australia. However, in this study, I mainly focus on the cross-linguistic relations between Chinese and English, although I value students’ abilities and knowledge in other languages.

In this context, it is necessary to consider the distinction between three key concepts, namely second language learning/learners, foreign language learning/learners, and local language learning/learners.
Second language learning/learners

A second language (L2) is any language learned after people have already learned their First Language (L1) (Saville-Troike, 2012). According to some researchers, the defining difference between L1 and L2 is the age the person learned the language (Saville-Troike, 2012; Myles & Mitchell, 2014). A person’s L1 is not necessarily their dominant language, which is the one that they use most or are most comfortable with. What is more, in a L2 teaching/learning situation, learners are usually exposed to the Target Language (TL) outside of the classroom in a variety of settings.

Foreign language learning/learners

A foreign language (FL) is a language that is from a country other than one’s native country (Redmond, 2014). A FL is usually learned for the sake of learning about the culture and people who speak it (Jespersen, 2013). In a FL teaching/learning situation, learners rarely, if ever, have opportunity for exposure to the TL outside of the classroom.

Local language learning/learners

It is difficult to distinguish L2 learners or FL learners, especially in Australia where people immigrate from all over the world for various reasons. This is the same with the students participating in this study. Some students learn more than one language from birth or from a very young age in Australia. These languages could be their L2 or third languages, but neither language is foreign to these students, because they learn these languages in an authentic environment with the help of their parents.

In this study, I regard my students as FL learners, because Chinese may not be their L2, and more importantly, it is not a dominant language in Australia. This means for me as a teacher-researcher is that I need to give them more scaffolding so as to make Chinese learnable for them. In order to do that, I need to obtain a better understanding of three different types of similarity relations among languages, which is illustrated in the next section.
3.3.3 Three types of cross-linguistic similarity relations

In order to make good use of cross-linguistic similarities for making Chinese learnable, it is important to know that there are three distinct types of similarity relations, namely, “1) a similarity relation; 2) a contrast relation; and 3) a zero relation” (Ringbom, 2007, p. 5). These concepts are useful for explaining the similarities between the students’ L1 (English) and the TL (Chinese). They also provide a basis for developing teaching/learning strategies that teachers might use, and justify their uses. I illustrate each of these relations below with reference to English and Chinese.

A similarity relation means that “an item or pattern in the TL is perceived (by the language learners themselves) as formally and/or functionally similar to a form or pattern in the L1 or some other languages known to the learners” (Ringbom, 2007, p. 5). One example of this similarity between English and Chinese is the pronunciation of loan words (see Table 3.1). There are loan words in Chinese which are borrowed from English-speaking countries. For some words, Chinese employ the same form as in English, such as C.D and Ok. In the majority case, the sounds for certain loan words in Chinese are similar to those in English. This helps learners, especially at the early stage of learning to establish a one-to-one sound relationship between Chinese and English. As a result, receptive sound mastery of a basic vocabulary of Chinese can be achieved by reducing the cognitive load.

Table 3.1: Enhancing the learnability of Chinese by focusing on cross-linguistic similarities in pronunciation between Chinese and English

<table>
<thead>
<tr>
<th>English</th>
<th>Chinese</th>
<th>Hanzi (Characters)</th>
<th>English</th>
<th>Chinese</th>
<th>Hanzi (Characters)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brandy</td>
<td>Báilángdǐ (jiǔ)</td>
<td>白兰地酒</td>
<td>McDonalds</td>
<td>Mǎidāngláo</td>
<td>麦当劳</td>
</tr>
<tr>
<td>Bungee</td>
<td>Bèngjí</td>
<td>蹦极</td>
<td>Mexico</td>
<td>Mòxīgē</td>
<td>墨西哥</td>
</tr>
<tr>
<td>Bus</td>
<td>Bāshì</td>
<td>巴士</td>
<td>Microphone</td>
<td>Mǎikèfēng</td>
<td>麦克风</td>
</tr>
<tr>
<td>Bye-bye</td>
<td>Bàibái</td>
<td>拜拜</td>
<td>Model</td>
<td>Mòtè</td>
<td>模特</td>
</tr>
<tr>
<td>C.D.</td>
<td>C.D.</td>
<td>C.D.</td>
<td>Mosaic</td>
<td>Mòzākè</td>
<td>莫扎克</td>
</tr>
<tr>
<td>Caffeine</td>
<td>Kāfēiyīn</td>
<td>咖啡因</td>
<td>Motorcycle</td>
<td>Mòtùōchē</td>
<td>摩托车</td>
</tr>
<tr>
<td>California</td>
<td>Jiālǐfūnìyà</td>
<td>加利福尼亚</td>
<td>Muslim</td>
<td>Mūsīlín</td>
<td>穆斯林</td>
</tr>
</tbody>
</table>
In a contrast relation, “the learner perceives a TL item or pattern as in important ways differing from a corresponding L1 form or pattern, though there is also an underlying similarity between them” (Ringbom, 2007, p. 6). Relating to Table 3.1, the contrast relation between English and Chinese might be the different tones of pronunciation for each loan word, although they sound very similar. This means that there are problems for the learners in producing correct tones for specific words, but
the learners are basically aware of the similar sounds and do not have to expand great effort on learning to each letter of Pinyin system.

The zero relation means that “the level of abstraction in these universals is so high that an average language learner cannot easily notice features that a totally different TL has in common with L1” (Ringbom, 2007, p. 6). Zero relation does not mean the learner finds nothing at all that is relevant to L1 as the learning progresses, because there are, after all, some linguistic universals common to all languages. It means that items and patterns in the TL for beginning learners appear to have little or no perceptible relation to their L1 or what they know about their language. The beginning learner’s L1 may lack the concepts necessary to perceive similarities in the TL.

Learners who know only English and starts to learn Chinese may find it difficult to relate anything to their previous linguistic knowledge. Use Table 3.1 as example as well, the zero relation means that beginning learners will take longer time to understand the details of writing system for these loan words. Since there is no such writing system in English, it poses difficulties at an early stage of learning. This means for me as a teacher-researcher that I cannot start from a zero relation with my beginning learners, instead I should begin with a similar relation and then later a contrast relation. In this way, students can relate to at least some basic feature of Chinese to elements in English.

However, as the beginning learners’ proficiency in Chinese develops, they will become aware of an increasing number of points of contrast and zero between English and Chinese. Thus, what presents as a zero or near-zero relation for beginning learners may in many respects eventually come to a contrast relation by the learners. For example, the beginning Chinese learners may find the writing system alien to their own. As learning progresses, they will find that the Hanzi (characters) works in a similar way with English. This is because most of the characters are pictographic, and they use symbols to express meaning. Figure 3.1, 3.2 and 3.3are some of the Smartboard slides that I made for my students, demonstrating the pictographic feature of Chinese characters.
Pictographic Chinese Characters

Figure 3.1: Pictographic Chinese characters

Figure 3.2: Examples of pictographic Chinese characters 1
In this example, we can easily find that the shapes or the pictures are very similar to the characters that represent these objects. For example, the character 日 (Rì), meaning ‘sun’ is similar to the shape of sun. In English, we use the similar way to express meanings and to communicate with people. Figure 3.4 demonstrates some of the examples.
As learning progresses, what seems to be zero or near-zero relation becomes a contrast or similar relation. The aim of this study is to make Chinese learnable for English-speaking learners by linking to their prior knowledge as much as possible. This requires that teacher-researchers acquire a deep knowledge between English and Chinese, so that they can make appropriate decisions about where and what similar relation they can start with. This thesis hopefully sheds lights on the understanding of this research topic in a more explicit way.

### 3.3.4 Actual, perceived and assumed similarities

The above discussion of cross-linguistic similarities focuses on the closeness between languages, and how these perceived similarities can help beginning learners. As a teacher-researcher, I needed to make detailed decisions about what kind of similarities I can use to make Chinese learnable for beginning learners of Chinese. At this stage, it was important to learn about three types of similarities between English and Chinese, namely, 1) actual similarities; 2) perceived similarities; and 3) assumed similarities. I illustrate these three types of similarities as follow.

![Figure 3.4: Examples of English symbols](image)

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Actual similarities belong to the domain of linguistics. The pronunciations of some load words are the same, such as E-mail and W.T.O (Table 3.1). These are the examples of actual similarities. Actual similarities seem to account quite well for beginning learners’ rate of acquisition and the amount of time they need to achieve certain levels of proficiency in the TL. Although actual similarities are objective, whether they can be perceived or assumed about the TL relates to the learners’ subjective judgement. In some circumstances, actual and assumed similarities can be congruous if learners accurately perceive the similarities between the TL (Chinese) and their L1 (English). However, the disparity between learners’ actual and assumed similarities can be large. This results from:

(1) learners’ failure to notice a number of the actual similarities that exist across languages, (2) learners’ misperception of the nature of many of the similarities that they do notice, and (3) learners’ assumptions that there exist certain similarities between the languages that actually do not exist and which the learners have correspondently never previously encountered (Ringbom and Jarvis, 2009, p. 107).

Assumed similarities are reflected differently by each individual learner. Actual similarities are important for beginning language learners, but Ringbom and Jarvis (2009) argue that assumed similarities have an even greater and more direct effect on language learning and performance than actual similarities do. Take English (L1) and Chinese (L2) as an example. These two languages share few actual similarities as they belong to zero or near-zero relation. Therefore, what matters mostly for English-speaking students learning Chinese is the degree of assumed similarities that they can establish, or with the help of their teachers as in this study. The more assumed similarities teachers and students can find; the prospects for making Chinese learnable increase. In this study, I needed to find as many actual similarities as possible, and more importantly, worked with learners to establish assumed similarities, both socially and linguistically.

When discussing these three types of similarities between English (L1) and Chinese (L2), it is important to understand the features of the inter-relationship between them. The first feature identified by Ringbom (2007) is symmetry. Ringbom (2007) states that actual cross-linguistic similarities are symmetrical across languages. This means that the linguistic principles and rules, including form, pattern, grammar apply
equally from learners’ L1 (English) to TL (Chinese), and vice versa. An example is that when Chinese borrowed words from English-speaking countries, they used the same forms without any changes, such as ‘bye-bye’. In terms of pattern and grammar, ‘bye-bye’ is a verb and is used in the same context.

However, assumed similarities are not necessarily symmetrical, and might have a stronger effect in one direction than in the other. This means that student A may assume more similarities from Chinese than student B or even me as a native speaker. Thus, in the classroom, there is a need for a skilful teacher to standardise the point of assumed similarities across all students’ perceptions. This is because that one assumption may work for those students, but may not work for others. This standardisation is necessary because making and absorbing assumptions is a subjective process, depending on each student’s feeling, creativity, imagination, skills, proficiency and sensibility to a certain language. There is a 俗语 (Sú Yǔ) in Chinese made famous by Xiaoping Deng, which is an appropriate metaphor for understanding this symmetrical characteristic. It is ‘不管白猫黑猫，抓到老鼠就是好猫 (Bù Guǎn Bái Māo Hēi Māo, Zhuā Dào Lǎo Shǔ Jiù Shì Hǎo Māo)’. It literally means that no matter whether a white cat or black cat, as long as it can catch the mouse, it is a good cat. In this context, I argue that there is not a fixed ‘black or white’ answer to the assumed similarities. What matters is to find and standardise students’ assumed similarities between English (L1) and Chinese (L2) by deciding which is more appropriate for a specific group of learners.

Second, how many assumed similarities can be found by learners and teachers depends on the aspects of languages being related, whether to be sounds, tones, meanings, grammar, characters or cultural history. Where the TL (Chinese) is assumed to relate to L1 (English) by learners or teachers in one of these aspects, the perceived similarities are much easier to appreciate. Where the languages are unrelated, such as English-speakers learning Chinese, this provides little concrete material for making even tentative cross-linguistic identification. This identifies the importance of this study.
Third, actual similarities are constant over time, whereas the perception of assumed similarities changes as the learners’ TL (Chinese) experience and proficiency increase (Ringbom and Jarvis, 2009). Metaphorically speaking, assumed similarities area mnemonic device—a cue or prompt—to help make Chinese learnable. Through brainstorming with learner, they were able to generate a variety of reasonable assumptions, comparisons and examples. I could not do this sometimes. I could not think of all such similarities. In addition, as learners become more proficient and knowledgeable in the TL (Chinese), they are expected to obtain a better understanding of the relationship between the TL (Chinese) and their L1 (English), or other languages they know. Then they can be expected to bring even more appropriate and sophisticated assumed similarities that help them to learn the TL (Chinese). What’s more, as the learning goes on, what seems to be similarities might become differences, and vice versa. However, the amount of actual similarities are fixed, and do not change as learners’ proficiency develops. The only difference is that when learners develop more knowledge of TL (Chinese), they might rely less on help from a teacher to find the actual similarities.

It is understandable that actual and assumed similarities have different features. In the learning process, who actually makes the decision about what are the assumed similarities between Chinese and English are the learners. Their perception is a cognitive process, which differs among each individual person, and depends on age, experiences, imagination, creativity, sensitivity and proficiency to languages. That is why there is a need to form a consensus within a class as if what constitutes an acceptable assumed similarity. In this study, I investigated the actual, and my perceived and assumed similarities between English and Chinese, so I could help beginning learners to perceive the links between the two languages, and use these connections to help them learn Chinese. Of course, it was interesting and valuable to invite learners’ perception of similarities between Chinese and their L1 (English), as well as the languages they know. But this was not the main focus of this study.

3.4 Cross-linguistic transfer for language teaching/learning

There is a very interesting but common phenomenon in Asian countries where English is not their mother tongue, but it is praised as the most important language in
the whole world (Jenkins, 2007). Take China as an example. Children are forced by their parents to learn English as early as possible. English is selected as the core subject, being as important as Chinese literacy and Mathematics in school. University students are required to take CET 4 (College English Test) and CET 6 (College English Test) tests, which are prerequisites for obtaining graduate certificates and degree qualifications. English is also one of the main requirements for applicants for a job. These are just a few examples of the power of English in China. Interestingly, students may have learnt to understand, listen and read English reasonably well, yet they find it difficult and challenging to speak and write. The IELT’s results among Chinese students also affirm that speaking and writing are the most difficult areas compared to listening and reading. Why? This relates to two types of processing mechanisms in learning a language using the concept of transfer. I explain these issues below.

### 3.4.1 Learning for comprehension and production

In learning English, the majority of students in China find it relatively easy to listen and read, but difficult to speak and write this language. That is to produce the language in a more comprehensible way. As a teacher-researcher, I need to understand whether this applies to English-speaking learners of Chinese, so that I can develop four modalities of listening, reading, speaking and writing in Chinese according to their levels.

There are supposedly two distinct types of language learning, namely, learning for comprehension and learning for production (Ringbom, 2007). For each of these types of learning, there requires different retrieval mechanisms.

In learning for comprehension, the cross-linguistic similarities between languages can be perceived. Learners establish a relationship between incoming data from TL and existing knowledge structures from L1 or other languages they know in their minds. Usually the form of a word or a sentence is already given and it is mapped onto relevant existing knowledge. If it is matched, then learners comprehend them (Ringbom, 2007).
In learning for production, assumptions of cross-linguistic similarities can often lead to errors, for which teachers are responsible for providing connective feedback. The learners have to give specific and concrete linguistic form to a pre-verbal or pre-written intension. When learners decide to say or write something, they first link it to the linguistic form in their minds in their L1, and then “create a meaning and search for the word form associated with just that meaning” (Clark, as cited in Ringbom, 2007, p. 24). This means a greater effort is required by the teacher to have the learners engaged in production compared to that of comprehension. In addition, production does not have a clear defined external situational context or cue for help. It also places much greater demands on teachers’ scaffolding for specificity and accuracy than comprehension does.

Thus, it seems obvious that comprehension precedes production. That is to say, before a word of a new language can be produced, the learner first has to comprehend it. Then again it maybe that at least some comprehension has to occur before production, though it needs not be complete prior to production, and both have to be developed through teachers’ feedback. Take lexicon as an example. For English-speaking learners of Chinese, some loan words provide cross-linguistic sounding similarities as do other Chinese words (Nǐ Hǎo and Knee How). Good teachers use this to facilitate the learners’ comprehension and recognition of the words. In production, a good teacher needs to use the same principle to have them learn the tones, as different tones represent different meanings. In English, there are various tones. Perhaps the most common being ‘doh, raymi’ used in singing. Therefore, for the learners to use Chinese items productively, the teachers have to develop strategies to scaffold the learning of tones. In other words, given the potential of cross-language knowledge being useful for comprehension, teacher-researchers have to find out how to do likewise for production.

The discussion of the retrieval mechanisms of learning for comprehension and production leads to the need to investigate the sequence of actual, perceived and assumed similarities for making Chinese learnable. To comprehend Chinese, learners start by perceiving cross-linguistic similarities in elements of languages they already know (English), such as forms, semantic and/or functional similarities. If no formal similarity can be perceived, the learner will assume that the languages work in much
the same way. In comprehending Chinese, learners start with such assumptions, which good teachers use to make Chinese learnable. They assume that similarities exist between English and Chinese. As a teacher-researcher, I decided to investigate the use of English in making Chinese learnable, and to enable my Australian students to feel the success of learning the language.

Therefore, it is not enough to say that students need to convert their receptive knowledge into productive knowledge. As a teacher-researcher, I needed to better understand these two different mechanisms, namely, learning for comprehension and learning for production. They are integral to determining how learners and teachers can use cross-linguistic similarities.

### 3.4.2 Transfer

Transfer is a concept used to name the process where teachers and learners make cross-linguistic similarities. A common question is: What knowledge and skills are actually transferred in language learning? There are two different levels of transfer, namely, item transfer and procedure transfer (Ringbom, 2007). Item transfer refers to the transfer of words, phonemes, morphemes, syntactic units and phrases, and is used by the learner especially in the initial phrase of language learning. For example, my English-speaking students noticed that noun morphology of Chinese words is much the same as in English, as both of them use root words (radicals) to create new words with similar or related meanings. For example, 木 (Mù) means tree, so two 木 are 林 (Lín) which means forest or wood. If there are three 木, it is 森 (Sēn) which means full of trees. Another example is cognate, where the languages share common linguistic origins. 书 (Shū) means to write, then 书本 (Shū Běn) means books and 书桌 (Shū Zhuō) means a desk where books are placed.

Procedure or system transfer refers to the transfer of “abstract principles of organising information” (Ringbom, 2007, p. 55). This type of transfer mainly takes place from the learners’ L1 or other languages that they know very well. For beginning language learners, procedural transfer is preceded by item transfer.
3.4.3 Areas of cross-linguistic transfer

In learning a new language, such as Chinese, there are various areas where transfer can take place, such as phonology, lexicon, grammar and culture. I will explain each of these below.

Phonological transfer

Cross-linguistic similarities are most obviously perceived on the basis of formally similar or identical individual items or words (Ringbom, 2007). With respect to English and Chinese, the Pinyin system, which uses Roman letters, provides one starting point for phonological transfer. The strategy used in this study is called ‘de-constructing Pinyin’. It means using corresponding English letters to re-write Pinyin. First, I tried to find English words with similar relation in sound, such as 你好 (Nǐ Hǎo) is pronounced as ‘Knee How’ with third tone. Second, I tried to learn from my mentor and also investigate by myself the letters that English-speaking learners find most difficult. This is the stage of finding contrast relation. For example, I found ‘x’ letter was difficult for my students, because they sound different in Chinese. The way Chinese say ‘x’ is ‘hs’ sound, while in English, it is ‘ks’ sound. Thus, I made comparison so that students knew how to transfer sound from English to Chinese.

Lexical transfer

Lexis is central to comprehension and production of Chinese. In order to make lexical transfer, it is important to recognise that cross-linguistic lexical similarities need to be scaffolded. This scaffolding involves five possible stages for learning new words (Hatch and Brown, as cited in Ringbom, 2007, p. 14), namely, “(1) encountering a new word; (2) getting the word form; (3) getting the word meaning; (4) consolidating word form and word meaning in memory; and (5) using the word.”

What do these five stages mean for teaching and learning Chinese? I explain these step by step:

1) Encountering a new word. This is very common, because language learning is based on vocabularies.
2) Getting the word form. When my Australian students encountered a new word in my Chinese lessons, they needed to learn two forms, namely, Pinyin (pronunciation) and the Hanzi (written Chinese characters). I usually teach Pinyin form first, because this sound system uses Roman letters as used in English. Therefore, it is easy for me and my students to start with similar sound relation. It was not necessary for them to perceive functional or semantic similarity at this stage; this would come with subsequent scaffolding. What is more, they could also read aloud sentences in Chinese using Pinyin without necessarily emphasising tones or understanding its meaning; features to be developed through further scaffolding. Table 3.2 is an example of students’ worksheet for new vocabularies.

**Table 3.2: Students’ worksheet for ‘Greetings, farewelling and Thanking’**

<table>
<thead>
<tr>
<th>Characters</th>
<th>Pinyin</th>
<th>English</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nǐ</td>
<td>You</td>
<td></td>
<td>ŋ =</td>
</tr>
<tr>
<td>Hǎo</td>
<td>Good</td>
<td></td>
<td>女 =</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>子 =</td>
</tr>
<tr>
<td>Nǐ hǎo</td>
<td>Hello</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nín</td>
<td>You (formal)</td>
<td></td>
<td>心 =</td>
</tr>
<tr>
<td>Nín hǎo</td>
<td>Hello (formal)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mén</td>
<td>(s) added to people words to make them plural</td>
<td></td>
<td>门 =</td>
</tr>
<tr>
<td>Nǐ mén</td>
<td>You(s)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3) Getting the word meaning. This step usually comes with characters writing (More details see Chapter 6). This is because I used imaginative picture and stories to link the characters with students’ linguistic, cultural and social knowledge, so that they can make connections between the shape of the characters and characters’ meanings. This is a key focus of this study.

4) Consolidating word from and word meaning in memory. This has been scapped through character writing in step 3. But I usually use other strategies to consolidate students’ memory, for example, using 60 seconds dash Smartboard activity to ask students to practice character writing within 60 seconds through a competition. An example of 60 seconds dash Smartboard activity is demonstrated in Figure 3.5.

5) Using the word. This is central to learning Chinese. I usually teach how to put the new words to make a sentence, so that students can learn how to form a sentence, and investigate the similarities and differences in sentence

<table>
<thead>
<tr>
<th>Nǐ mén hǎo</th>
<th>Hello you(s)</th>
</tr>
</thead>
</table>

Figure 3.5: 60 seconds dash Smartboard activity
structures between English and Chinese. I suppose that the strategies of ‘de-constructing Pinyin’ in step 2 and character stories in step 3 help them to recognise and know the words in comprehension, and also get the correct words in a short time for production.

In lexis, formal similarities are scaffolded before semantic ones. Therefore, after my students learnt the Chinese word form (Pinyin), I then planned to teach the meanings. This might help them to consolidate the form and meaning of the words, and to make them feel comfortable in using these words. In each form of lexis, that is, Pinyin and characters, there are a variety of content to present to students, such as sounds, tones, meanings, character writing, grammar and cultural history. It is teacher-researchers’ decisions on which one to start with, so as to make Chinese learnable for English-speaking leaners.

**Grammatical transfer**

Cross-linguistic similarities may also be functional for learning grammatical categories and semantic units. In grammar, functional cross-linguistic similarities matter, because students have the prerequisite for understanding of these in their L1, which is useful for learning lexical items and linguistic structures in the TL. However, for learners to establish one-to-one correspondence on grammatical elements largely depends on the teachers’ ability to relate the content that explore the closeness between TL and L1. Learners’ knowledge of their L1 gives them a basic understanding of grammar of languages which they can use to find points of congruence in the TL. Thus, in Chinese and English, grammatical similarities do occur. For example, the word order in a statement in Chinese works in a similar way as in English. Teachers are responsible for explaining this to students, enabling learners to acquire this knowledge.

**Cultural transfer**

Culture has various functions in language classrooms. Some use it as a hook to interest students’ learning the TL, while others regard cultural understanding as an outcome of learning the TL. Singh (2013) explains that an important issue for
teaching and learning a language is “whether to focus on language and explore the culture associated with it; or to focus on culture and teach the language associated with it” (p. 9). I argue both viewpoints are understandable, but what matters is to develop students’ inter-cultural understanding and multi-cultural capabilities. Cultural knowledge about the Chinese language can be easily transferred to English-speaking students. To make Chinese learnable for my Australian students, I tried to use as much cultural discussion as I can in my lessons. For example, in a topic of festival, I planned to use a culture journal (See Appendix I and II) for students to reflect the similarities and differences between Chinese New Year in China and Christmas in Australia.

3.5 Implications for making Chinese learnable in Australia

Given that cross-linguistic similarities might play a significant role in learning a new language, a key question that follows is: Whether, to what extent, what and how I might use the cross-linguistic similarities between Chinese and English to make Chinese learnable for English-speaking learners in Australian schools. More specifically, my questions are: 1) What are the linguistic similarities between English and Chinese? 2) How can I teach for L1/TL transfer by using cross-linguistic similarities between English and Chinese? 3) What other similarities I could draw upon to make Chinese learnable? Ringbom’s (2007) research does not provide any specific examples in relation to similarities in phonology, lexis, grammar, and culture, let alone concrete examples between English and Chinese. This inspired me to conduct the study presented in this thesis into how to use the cross-linguistic similarities between English and Chinese to make Chinese learnable for English-speaking learners. To do so, I proposed a new concept of ‘cross socio-linguistic interaction’ (CSLI) for this study. It is illustrated below.

3.5.1 A new concept of cross socio-linguistic interaction (CSLI)

Ringbom (2007) equates ‘cross-linguistic knowledge’ with ‘cross-linguistic similarities’. Throughout his book, he uses these two concepts interchangeably. He mainly focuses on similarities between languages, and explains differences in terms of zero similarity relation. However, his definitions of ‘cross-linguistic similarities’, ‘cross-linguistic knowledge’ and ‘cross-linguistic differences’ are not clear. He
mentions about difference in his discussion of the relationship between similarities and differences, stating that “similarity is basic, difference secondary” (Ringbom, 2007, p. 5). This means that when students are learning something new, they first search for similarities, and then look at differences once similarities no longer help. He argues that making the focus of language teaching on differences has a negative impact on beginners’ language learning. For Ringbom (2007, p. 1), “What matters to the language learner is language proximity, i.e. dissimilarity, not its negative counterpart, language distance, i.e. differences.”

Knowledge is a broad and complex concept. In terms of cross-linguistic knowledge, it includes cross-linguistic similarities and differences (i.e. contrast and zero relations). In this study, it is important and necessary to distinguish these three concepts and their inter-relationship. I also propose a new concept for teaching and learning that links English and Chinese.

My first view is that cross-linguistic similarities and differences are equally important, especially for the teaching and learning of Chinese to the English-speaking students in this study. Although cross-linguistic similarities may reinforce learning in a positive way, I think differences among languages might make comparison more obvious and easier (i.e. contrast relation). I think if this difference attracts students’ attention, I suspect learning might become easier. Sometimes, learning is related to learners’ interest and attention, rather than the difficulties existing in the learning task itself. Chinese is a difficult language for teachers of Chinese to make it learnable for English-speaking students. In my first lesson, I planned to present some English letters with tone markers and to ask students, “What do you think such little lines are?” By asking this question, I planned to engage students’ desire to learn. Therefore, in this study, I remain wedded to the prevailing Chinese idea that similarities need not come first, and differences second. I see them as equally important for the teaching/learning of Chinese for Australian school students.

My second point is that there is no sharp borderline between similarity and difference; rather, they are changing positions in the continuous teaching and learning process. This is a key point captured in Ringbom’s (2007) concept of intra-linguistic
similarities. This means that what might seem to be similarity at the first sight might be scaffolded as a difference as the learning proceeds. For example, I planned to ask my students what English words sound like ‘你好 (Nǐ Hǎo)’ to draw on their knowledge of cross-linguistic similarities. One of the common answers was ‘Knee How’. Once the students made a meta-cognitive comparison between ‘Nǐ Hǎo’ and ‘Knee How’ in terms of pronunciation, they can be introduced to what Ringbom (2007) calls the contrast relation. In contrast, ‘你好 (Nǐ Hǎo)’ means ‘you good’, which is different from the English meaning of ‘knee’ and ‘how’, but is similar as a form of greetings in English. In this contrastive stage, what known as the similarity in sounds, and then learnt as the difference/similarity in meanings. As the learning progresses, learners internalised that words with similar sounds in Chinese and English which they know and learnt have different meanings. When they learn this principle, they are likely to understand this because some English words work in the same way. For example, the English words ‘car’ and ‘card’ are spelt and sounded in a similar way but have different meanings. What seems a different system between Chinese and English becomes a similarity. Thus, like Ringbom (2007), in this study, I did not draw on fixed line about the similarities and differences between English and Chinese, because they are changeable depending on the learning stages and learners’ language proficiency.

My third point is that language comparisons between English and Chinese need to focus on not only linguistic aspects, but also social and cultural aspects. Languages grow from a society and its cultural heritage. Ringbom (2007) only mentions linguistic influence in learning a new language. This, in my opinion, is too narrow. Learning Chinese is not just a matter of considering linguistic similarities between English and Chinese. It is the work of teachers to find and then to convey the similarities to the students in an understandable way (or students could be asked to do some of this work). However, when teaching a language, I suspect there are a variety of ways to start, if I can free myself from focusing solely on linguistic aspects. For example, when I taught Hanzi (characters), I did not draw on any linguistic knowledge from my English-speaking students, because the written format for English is letters, while for Chinese it is strokes. In order to make Chinese learnable, I will use my own imaginative pictures and stories from students’ everyday life (see
details in Chapter 6). From this perspective, I will engage students’ socio-cultural knowledge, which can be different from Chinese culture or create a shared culture.

As a summary, in this study, I test the new concept called ‘cross socio-linguistic interaction’ (CSLI) as theoretic-pedagogical tool for making Chinese learnable for my English-speaking learners. Since both teachers and students have their own understanding of Chinese and English linguistically, socially and culturally, therefore, I define ‘cross socio-linguistic interaction’ as an ongoing interaction between teachers and students comparing Chinese and English. It emphasises the equal importance of similarities and differences, because they interact to achieve the learning goal. My focus is on the continuous learning process based on learners’ perceptions of similarities and differences, and their changes in understanding of these two languages as their proficiency in Chinese progresses. Also, I propose to make full use of any knowledge whether actual, perceived or assumed, including linguistic, social and cultural aspects, as long as it is useful for making Chinese learnable for Australian students. That is to say, teaching Chinese based on students’ prior knowledge of English should enable me to draw robust conclusions about the value of doing so. Figure 3.6 visualises my understanding of CSLI as a theoretic-pedagogical framework to analyse data in this study.

![Diagram of Cross Socio-linguistic Interaction (CSLI)](image)

**Figure 3.6: Theoretic-pedagogic framework of CSLI**

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Ideally, teachers scaffold students to investigate the most appropriate strategies to make Chinese learnable, resulting in meaningful interaction. However, in this study, I mainly focus on how I as a native-speaker teacher of Chinese perceive cross socio-linguistic knowledge between English and Chinese, so as to help my Australian students learn Chinese. The concept of CSLI is based on three theoretic-pedagogical principles, which are illustrated as follows.

3.5.2 *Three theoretic-pedagogical principles for CSLI*

My concept of CSLI is tested for its prospects of promoting students’ bilingual or multilingual capabilities. It is based on three theoretic-pedagogical principles, namely, 1) emphasising interdependence across languages; 2) engaging students’ prior knowledge; and 3) promoting multilingual learners. I discuss each of these three elements below.

**Emphasising interdependence across languages**

There is extensive empirical research that supports the interdependence of literacy-related skills and knowledge across languages (e.g. Cummins, 2001; Thomas and Collier, 2002; Genesee, Lindholm-Leary, Saunders, & Christian, 2006). For example, Thomas and Collier (2002) find that immigrant students’ L1 proficiency at the time of their arrival in the United States is the strongest predictor of English (L2) academic development. Genesee, Lindholm-Leary, Saunders and Christian (2006) explore literacy capabilities across languages that make cross-linguistic transfer possible across languages.

What does this mean for making Chinese learnable for English-speaking learners? This means that when teaching my students Chinese, including pronunciation, writing, grammar, culture, I am developing their Chinese literacy, as well as developing a deeper conceptual and linguistic proficiency that is strongly related to the development of their literacy in English. At the same time, students’ linguistic knowledge and skills in English help them understand Chinese language system. The assumption is that there is an underlying cognitive proficiency that is common across these two languages (Cummins, 2007). Assuming this common underlying
proficiency makes it possible the transfer of cognitive and literacy-related proficiency from English to Chinese, and vice versa; the key implication here is that learning efficacy might be achieved if I explicitly draw on my students’ perceived and assumed similarities between English and Chinese. This might also reinforce efficacious learning strategies in a coordinated way across these two languages.

Engaging students’ prior knowledge

Prior knowledge refers to “totality of the experiences that have shaped the learner’s identity and cognitive functioning (Cummins, 2007, p. 232)”. It also includes “information or skills previously acquired in a transmission-oriented instructional sequence” (Cummins, 2008, pp. 67-68). In terms of language learning, it means learners’ knowledge, skills, beliefs and concepts of their L1 (English) they know might significantly influence what they notice about the TL (Chinese), and how they organise and interpret the TL (Chinese).

Bransford, Brown and Cocking (2004) conducted a research regarding how learning occurs and the optimal conditions to foster learning. They find that building on students’ prior knowledge is necessary for maximising students’ learning. This suggests that students’ prior knowledge of English might be useful to encode in their learning of Chinese. Donovan and Bransford (2005) examined the application of learning principles to the teaching of History, Mathematics and Science. They confirm that engaging students’ prior knowledge is one of the conditions for efficacious learning, because “new understandings are constructed on a foundation of existing understandings and experiences” (Donovan & Bransford, 2005, p. 4).

This theoretic-pedagogical principle implies that when English-speaking students are being educated in Chinese, their learning might explicitly activate their prior socio-linguistic knowledge and build on relevant background knowledge as necessary. This is because if students’ prior knowledge is encoded in their L1 (English), this knowledge is mediated and implicated in the learning of Chinese, which may make Chinese learnable.
Promoting multilingual learners

Multilingualism represents dynamic cognitive systems that are qualitatively different from the cognitive systems of monolinguals (May, 2013). It means that learners who interact with two or more languages in complex ways are likely to enhance their overall language and literacy development (May, 2013). In this study, I acknowledge and value my students’ multi-lingual capabilities. Learning Chinese is not just about acquiring this single language, but also about understanding how different languages and cultures are inter-related. My students’ multilingual or bilingual skills influence their development of Chinese, as well as the development of their overall multilingual capabilities, including their L1. Thus, my ultimate goal is to promote bilingual citizens for multilingual Australia.

3.5.3 How does PCK inform, interact and interweave with CSLI

The essence of cross socio-linguistic interaction (CSLI) for teaching and learning of Chinese builds on what learners already know, and makes comparison between English and Chinese. In a simple term, I need to start with the similarity between English and Chinese. As discussed in section 3.3.3, some loan words with similar pronunciation provide a starting point for me. I use Figure 3.7 as an example to illustrate my understanding of PCK and CSLI.
This is a story I created to attract my students’ attention in the beginning of a lesson. There is sound similarity between a Chinese word ‘gǒu’ (meaning dog) and an English word ‘go’. This provides a start to make Chinese learnable. Then, it is I, as a teacher-researcher to decide whether to teach tones, meaning, grammar or culture as the next step (see Figure 3.8).
Therefore, I find a close realtionship between PCK and CSLI (see Figure 3.9). PCK emphasises the pedagogical presentation, such as analogy, explanation, example and comparison to make the specific content learnable. CSLI provides a reference for teacher-researchers to make such presentaion possible. In this example, I use the actual cross-linguistic similarity (both phonological and lexical similarities) as a tranfer basis to make a form of analogy, explanation, example and comparison between Chinese and English. This aims to make Chinese learnable for English-speaking learners. Figure 3.9 provides a theoretic-pedagogical concept-map for my teaching of Chinese, and also a tool to analyse evidence in Chapter 6 and 8.

**Figure 3.8: What is the next thing I should teach?**
Figure 3.9: Relationship between PCK and CSLI

3.6 Summary

Students’ L1 (or other languages they know) is a powerful “intellectual resource” (Cummins, 2008, p. 74) for language learning. Although cross-linguistic similarity is not the only factor influencing second/foreign language acquisition, it is an important one that has to be considered in teaching and learning Chinese. However, “teaching for transfer has not been pursued in the vast majority of bilingual/immersion program, nor in the teaching of the dominant language to newcomer students” (Cummins,
2008, p. 72). In addition, Ringbom (2007) provides only a research-based theory, concerning cross-linguistic similarities. None of these provide the necessary educational research about how teachers might make Chinese learnable for English-speaking learners.

This study leads to the creation of the concept of ‘cross socio-linguistic interaction’, which is used for data analysis. This concept is contested for its capacity to provide an example of how interaction and transfer across languages might be used in making Chinese learnable. In other words, the proposition I investigated in this thesis was whether students’ L1 (English) can be used to promote high levels of TL (Chinese) proficiency. I was interested in knowing if students’ L1 (English) is invoked as a cognitive and linguistic resource through instructional strategies, or if it could be a stepping stone to scaffold more accomplished performance in the TL (Chinese)?
CHAPTER FOUR

CASE STUDY OF BEGINNING CHINESE TEACHER-RESEARCHERS’ DEVELOPMENT OF PEDAGOGICAL CONTENT KNOWLEDGE: RESEARCH METHODOLOGY AND METHODS

4.1 Introduction

This study focuses on what subject and pedagogical knowledge that language teacher-researchers might develop in order to make Chinese learnable for English-speaking students in Australia. To be more specific, how do they construct pedagogical content knowledge (PCK) in order to improve the learning of Chinese by English-speaking students in Western Sydney schools? Further, I am interested in how and in what way technology can be used as a teaching tool to make the learning of Chinese more effective and efficient. I chose case study as the research strategy through which to collect and analyse evidence, in as much detail as possible about beginning teacher-researchers’ journey through which they accumulate pedagogies and develop their content knowledge. This chapter first explains the theoretical basis of case study methodology. Then, it provides specific details of the principles of research guiding the study, namely validity and generalisation. To show the aspects of the operation of ethics approval process, a whole section is devoted to this issue. This is followed by an explanation and justification of the research design. It is divided into four phases. Each of them details the content and structure of each evidence chapter, and also illustrates data collection procedures, including sampling, participants, data collection and data analysis techniques.

4.2 Theoretical basis for case study methodology

The main research question for this study is: How do, and what factors influence beginning Voluntary Teacher Researchers’ (VTRs’) development and use of pedagogical content knowledge (PCK) as a tool to make Chinese learnable for Australian students in the Western Sydney schools? In order to answer this issue, several more detailed contributory research questions were developed to explore the main question. These concern what subject and pedagogical ‘knowledge base’ that
Volunteer Teacher Researchers (VTRs) develop; how this ‘knowledge base’ contributes to the development of VTRs’ ‘pedagogical content knowledge’; how to make better use of PCK to conduct more effective classroom teaching; what is the potential, problems and challenges of using technology to make PCK more useful. Thus, I chose case study to investigate these questions. I wanted a research method that would enable me to describe the process in a detailed and vivid way (Cohen, Manion and Morrison, 2007).

Cohen et al. (2007, p. 253) develop case study as:

A specific instance that is frequently designed to illustrate a more general principle. It is “the study of an instance in action”. It strives to portray “what it is like” to be in a particular situation, to catch the close up reality and “thick description” of participants’ lived experiences of, thoughts about and feelings for a situation (p. 253).

What is the ‘case’ or ‘instance’ in my study? After discussions with my principal supervisor, we came to an agreement that it is important to make distinctions between phenomenon and case. A case study is defined as the “study of a phenomenon or a process as it develops within one case” (Swanborn, 2010, p. 9). Then, it seemed reasonable to regard ROSETE Partnership as my ‘case’ as it is a specific program for the education of beginning language teacher-researchers. The ‘phenomenon’ that is of concern to me is the teaching of Chinese to English speaking school students in English speaking countries, especially in this instance Australia. Framed in this manner, this research about VTRs in the ROSETE Partnership can provide insights and principles for the preparation of beginning teacher-researchers who are capable of making Chinese learnable for English-speaking learners. Figure 4.1 below illustrates the relationship between phenomenon, the case and the selected participants in this study.
There are few studies about the development of beginning Chinese teachers’ knowledge in general and their pedagogy content knowledge (PCK) in particular (see Chapter 2). Therefore, I selected a case study methodology to generate evidence of everyday teaching practices; the development of teachers’ knowledge and the classroom contexts in which this knowledge developed. My reason for selecting a case study methodology was to provide a detailed examination of what teacher-researchers do in the classroom in terms of how and why they draw on particular types of knowledge to facilitate students’ language learning. In this way, this study was planned to provide a sense of the intricacies and the complexities of the different types of knowledge teacher-researchers use on a daily basis in their classrooms. In order to formulate a knowledge base for preparing beginning teacher-researchers to teach Chinese to beginning language learners, I judged it as necessary to study what teachers do when the different types of knowledge are used by them in their classroom and how such knowledge impacts their students’ learning. Yin (2009) argues the significance of case study as the preferred strategy by educational researchers who seek to answer the how or why questions in their study. Moreover, case study is especially useful when the object of the study is a contemporary phenomenon in a real-life context. Likewise, given that the boundaries between the phenomenon and the case were not clear when I commenced this project, then it was desirable for me to use multiple sources of
evidence. I found the case study to be a suitable methodology to explore what the knowledge base for beginning Chinese teacher-researchers meant. This helped me to establish how the teachers develop their PCK through the research-oriented school-engaged teacher education (ROSETE) program in which they are key participants.

Merriam (2009) regards the case as a particular instance of “a phenomenon of some sort occurring in a bounded context” (p. 25). The case is graphically presented in Figure 4.1 as a circle with a heart in the centre. The heart is the focus of the study, and the circle defines the often blurry edge of the case. The focus of this study is the development of beginning Chinese teacher-researchers’ pedagogy content knowledge (PCK) through the ROSETE Partnership which provided the platform for them to teach and to research their teaching. That is why they are called Volunteer Teacher-Researchers (VTRs). The ROSETE Partnership provided a specific instance of language teacher preparation to study how such teacher education model can facilitate and support beginning teachers’ professional learning. As a result of a three-year study, this thesis captures as much as it bears witness to what changed and developed in terms of knowledge, skills, attitudes and awareness for these VTRs in the ROSETE Partnership. In other words, it was an on-going study of action. Each VTR teaches Chinese in local public schools in WSR, which provides the particular sites for this case study. It was relatively easy to catch up with the VTRs and find out about their lively teaching experiences. Their evidence provided material for a detailed description of the case. My reasons for wanting to explore the VTRs’ developing PCK and how they make use of that knowledge to make Chinese learnable were used to provide new insights into the teaching of Chinese in the first instance, and possibly for second/foreign language more generally. Thus, the emergent phenomenon of teachers’ knowledge development and language teaching provide a platform for beginning teachers, education departments and researchers to reflect on and refer to.

Since the ROSETE Partnership was chosen as a case to be studied, it is necessary to provide detailed introduction about its formation, development and current status. Here I provide details about how the VTRs are selected, what their responsibilities are and how their professional learning differs from that of other beginning
teacher-researchers. Such background information will help readers and I understand the process which drives these beginning teachers’ professional development.

As introduced in Chapter 1, the ‘Research-Oriented School-Engaged Teacher Education’ (ROSETE) program is an international Partnership from three sides, namely, the Ningbo Municipal Education Bureau (NMEB), the Western Sydney Region (WSR) of the NSW Department of Education and Communities (DEC), and the Centre for Education Research at the University of Western Sydney (UWS). NMEB is responsible for recruiting volunteers from qualified Mandarin speaking university graduates. The volunteers have completed major in either teaching Chinese as a second language or teaching English as a foreign language. DEC in WSR provides opportunities for these volunteers to work in local schools in WSR to facilitate the teaching and learning of Chinese. In addition, UWS conducts an innovative model of language teacher education, which aims to develop volunteers as beginning Chinese teacher-researchers. Thus, the ROSETE Partnership provides a new approach to combining theory and teaching practice so that novice language teachers can steadily improve their teaching efficiency through day-to-day evidence-based lesson reflection of their lessons. Together all these features make the ROSETE Partnership unique among teacher education programs across the world. This also adds to the importance of using the ROSETE Partnership as the case for this study.

From 2008 to 2013, there have been forty-four VTRs from Ningbo (China) studying for a Master of Education (Honours) or a Doctor of Philosophy at UWS and teaching Mandarin voluntarily at local schools every week. All VTRs receive professional training provided by both NMEB and NSW DEC before their teaching. They also obtain on-going research and teaching workshops and seminars organised by UWS. All VTRs are fresh university graduates with no teaching experience in China, let alone overseas teaching experience. NMEB considers that it is necessary to provide VTRs with training courses concerning Chinese language and culture even though they are all native Chinese speakers. By reviewing the training documents and materials provided by NMEB, the training courses are summarised and grouped into different categories (see Table 4.1). I also relate these courses into my teaching and researching experience in Australia. This aims to find out the advantages and
disadvantages of these courses. My commentary might provide some useful advice for NMEB when designing the courses and training for VTRs in the future.

### Table 4.1: Training courses provided by NMEB

<table>
<thead>
<tr>
<th>Course content</th>
<th>My commentary</th>
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| álózhōu guóqíng jí jiàoyù gàikuò 澳洲 国情 及 教育 概括 An overview of Australia and Australian education | ● Too general;  
● Not truly reflecting Australian and Australian educational contexts. |
| Xiàn dài hànyǔ: Chí huí hé yǔ fǎ 现代 汉语: 词汇 和语法 Modern Chinese: vocabulary and grammar | ● The vocabulary and grammar are too advanced for Australian beginning learners;  
● The pedagogies are Chinese characteristic, not applicable for Australian students. |
| Pǔ tong huà yīn hé lǎng dú jì qiǎo 普通话 语音 朗读 读 技巧 Mandarin speech and reading skills | ● Too advanced;  
● Not applicable. |
| Zhōng guó wén huà 中国文化 Chinese cultural knowledge | ● Traditional culture is too outdated;  
● Need more modern Chinese culture;  
● Need more cultural connections and cultural comparisons between China and Australia. |
| Zhōng guó yuán sù tǐ yàn 中国元素体验 Chinese cultural examples: Kung Fu and tea culture | ● Good;  
● A good pedagogy to engage Australian students;  
● A good pedagogy to involve Chinese culture. |
| Duì wài hànyǔ jiào xué fǎ 对外汉语教学法 Teaching methodology of teaching Chinese as a foreign language | ● Less focus on Australian educational context. |
| Duō méi tǐ jiào xué 多媒体教学 Multimedia teaching | ● Too general;  
● Need more specific technological application and software for Chinese teaching/learning. |
| Hàn yǔ kè tang mó nǐ gōng kǎi kè 汉语 课堂 模拟 公开课 ji hàn yǔ kè tang jiào xué yán tǎo 及汉语 课堂 教学 研讨 Micro-teaching and discussion | ● Good;  
● Need more discussion from Australian students’ perspective. |
| Wài shì lǐ yí 外事 礼仪 | ● Good;  
● Teach you how to cultivate a good |
In general, the courses provided by NMEB have advantages and disadvantages. I benefited from having course content, such as Chinese cultural examples: Kung Fu and tea culture, micro-teaching and discussion, and foreign etiquette. These build on my knowledge of Chinese culture, knowledge of being a reflective teacher-researcher, and knowledge of being a good teacher. Other course contents are of vital significance, but there is less focus on Australian context. For example, vocabulary and grammar are the fundamentals of any language. However, in the Australian context where ‘communicative approach’ is the main pedagogical approach, there needs a new way to teach words and grammar. In addition, for beginning language learners, the level of difficulties in vocabulary and grammar needs to be lowered down. What is more interesting and important is to involve discussion in terms of how to teach them to English-speaking learners. In short, the courses are important, but need more Australian educational perspective.

In addition, The NSW DEC believes that conducting teaching methodology training helps the VTRs to adapt their teaching to the Australian context more quickly and easily. Therefore, they also provided training courses, which are summarised in the following Table 4.2. In accordance with my teaching experience, I also comment about the value of these courses.

**Table 4.2: Training courses provided by NSW DEC**

<table>
<thead>
<tr>
<th>Course content</th>
<th>My commentary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching context: Chinese in NSW schools, Chinese teaching in NSW schools.</td>
<td>● Good to know the Chinese teaching status in NSW schools.</td>
</tr>
</tbody>
</table>
| Teaching practice: School visit, micro-teaching and observation.               | ● School visit and observation help to understand Australian educational context, and also Chinese teaching context in NSW;  
● Micro-teaching helps to reflect teaching through discussion.  
What are working and what are not working in Australian school context?       |
<table>
<thead>
<tr>
<th>Teaching policies:</th>
<th>Quality teaching sets as a benchmark for teacher reflection and lesson improvement; Chinese syllabus introduction and details help to plan and design Chinese language learning program and each lesson; Need more examples for teaching/learning, reflection and discussion.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality teaching framework (see Appendix III), Chinese syllabus introduction and details.</td>
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</table>

- Teaching orientation/approach: communicative approach, intercultural language teaching and learning
  - Good to know popular pedagogies, teaching and learning goals.

- Teaching pedagogy: practical classroom strategies, games, and technology
  - Very useful;
  - Technology-Smartboard software is useful.

- Classroom management: classroom organization and management
  - Good to know classroom management issues as they are the main challenge for Chinese VTRs.

- Others: Learning styles and Chinese culture.
  - Necessary to know different learning styles in order to be an effective language teacher;
  - Good to know what Chinese culture is more interesting and engaging for Australian students.

It is clear to see from the above table that the courses provided by NSW DEC are more practical, useful and important. They are organised in a logical order, ranging from the general educational context to specific Chinese teaching status; from overview of Chinese syllabus to specific Chinese teaching observation and discussion; from the measurement of a good teacher-quality teaching to the challenges teachers face in the classroom. They also cover the main pedagogical approach (communicative approach), teaching and learning goals (intercultural understanding), effective classroom strategies (games, Smartboard application) and knowledge of students (learning styles). Through these courses, I developed my knowledge of pedagogy and how to evolve as an effective teacher.

As for UWS and research team, their main responsibility is to cultivate volunteers to be teacher-researchers. The traditional teacher education emphasising textbooks and
best teacher model is no longer a trend, because teachers’ professional learning develops through continuous self-reflection on numerous practices. Therefore, the ROSETE Partnership focuses on the role of teachers themselves. The research team provided weekly seminars to introduce beginning teachers of how to do research based on their teaching in schools. In addition, the research team also provided weekly workshops to discuss and share classroom teaching experience. What is more, the workshops and our weekly meeting with supervisor panel focused on real teaching situation and problems, as well as how the reflection on teaching informing VTRs’ research and vice versa. By doing so, it aims to develop VTRs’ development as teacher-researchers (Zhao & Singh, 2008). I, as one of the VTRs in the ROSETE Partnership, benefited from all the course arrangements. I regard UWS as a ‘Middle Bridge’ between school teaching and my own research. This bridge directs me to be a more reflective teacher-researcher. For the ROSETE Partnership course arrangement, please refer to Appendix IV and Appendix V.

Sturman (as cited in Cohen, Manion and Morrison, 2007, p. 253) argues that “a distinguishing feature of case studies is that human systems have a wholeness or integrity to the context or situation rather than being a loose connection of traits, necessitating in-depth investigation”. This is to say, my case study allowed me as an educational researcher to interact with participants, thereby providing opportunities to probe for details and ask for elaborations to their answers, so as to portray the richness of the case. Nisbet and Watt (as cited in Cohen, Manion and Morrison, 2007, p. 256) contend that “case studies catch unique features that may otherwise be lost in large scale studies (e.g. surveys)”. Thus, in this study, I aimed to describe the difficulties presented in the classrooms when the beginning teacher-researchers taught their first language in a foreign educational context, and how they progressively came to deal with these issues using various skills, strategies and knowledge. For this, I needed to work closely with each beginning teacher-researcher, and learn about their daily teaching life. This helped me to undertake a rich and detailed exploration of their professional learning.

Another feature of case studies is that they describe ‘thick’ reality. Therefore, they can “provide insights into other similar situations and cases, thereby assisting interpretation of other similar cases” (Nisbet and Watt, as cited in Cohen, Manion and
Morrison, 2007, p. 256). I recognised that in my case, the ROSETE Partnership is context bound, thus the knowledge presented, constructed and developed in this thesis is about an unique professional learning program, one that focuses on beginning teacher-researchers making Chinese learnable in WSR. However, I expect that this study can provide useful insights for other beginning teachers and other interested in teachers’ professional development. This could apply no matter which subject they are teaching or where they are teaching. The contribution to knowledge represented by this thesis is transferable and modifiable. This knowledge can be used, changed and developed in other situations where it is interpreted as relevant. It is hoped that this thesis provides knowledge to enable teachers to view their professional learning from a new perspective.

When anchored in real-life situations, the results of case study research in education give a rich and holistic account of a phenomenon (Merriam, 2009). Case studies offer insights and illuminate meanings that can lead “to the refinement and modification of extant theory and ultimately to the creation of new theory when existing explanatory frameworks are not applicable” (Arnoae, 2001, p. 496). Although there is considerable research about the nature and constituent parts of PCK, the majority of the studies reviewed in Chapter 2 focus on Mathematics, Science and Chemistry. While insightful, their studies do not deal with beginning Chinese teachers. Thus, this case study has provided a good opportunity to contribute to filling gaps in current knowledge in this regard.

I choose to conduct this case study because vivid and full description of a single case is educationally valuable in itself. Also, I am particularly interested in the present state of our understanding of beginning teachers’ knowledge and how it can be more efficaciously developed. The case study is not a limiting methodology, but a method well situated to attaining a deeper understanding of PCK from the teacher-researchers’ own point of view, and thus to exemplify and embody their conceptual knowledge.

While the strength of case studies can penetrate real-life situations in a deep way, they are sometimes naively claimed to be selective, biased, personal and subjective (Merriam, 2009). In order to make the results of this study more objective and generalisable, I set out to “demonstrate that it is founded, just, and can be trusted, by
making (my) inquiry methods transparent and subjecting (my) presentations to (my) own critique, as well as that of others” (Feldman, 2003, p. 28). Two quite deliberate attempts to do this were built into the research design for this study.

One strategy was the selection of participants for this case study. The first cohort of seven VTRs in the ROSTE Partnership and me were the main data sources. When I first started this study, only the first cohort of VTRs finished their study and submitted their theses. Therefore, the main participants focus on the first cohort of VTRs. The purpose of choosing first cohort of VTRs is to obtain a general understanding of teaching in Australia and their use and development of knowledge in order to teach Chinese as a second/foreign language effectively and successfully through their one-and-half year teaching experience in Australian context. In order to select one VTR as an example to demonstrate evidence, several steps were used:

1) An extensive literature review was undertaken, and then a summary of categories of knowledge base on previous research (see Table 2.1 in Chapter 2) was established.

2) Seven VTRs’ theses from first cohort of the ROSETA Partnership were then subjected to careful document analysis. Table 2.1 was used as a framework to code data in VTRs’ theses. Here investigated what knowledge they used and demonstrated in their teaching, which is richly contextualised in their practice as teacher-researchers from which it arises and in which it is echoed. Then a summary of categories of knowledge base that VTRs used in their classroom teaching was established (see Table 4.3). The VTRs’ theses are on various topics (see Appendix VI for seven VTRs’ theses’s topics). Not all of them addressed teachers’ knowledge or PCK in particular. Their theses did record teaching journey over 18 months in WSR schools. To some degree, their theses demonstrated the VTRs’ teaching skills and strategies as they struggled to make Chinese learnable for their English-speaking Australian students.

3) In terms of the ethnic issue, I use rainbow’s colours as pseudonyms to name seven VTRs, namely, 红 Hóng (Red); 橙 Chéng (Orange); 黄 Huáng
(Yellow); 绿 Lǜ (Green); 青 Qīng (Indigo); 蓝 Lán (Blue); 紫 Zǐ (Purple). Each color represents one VTR. Table 4.3 indicates that theses of Teacher 绿 (Lǜ) and 红 (Hóng) include most of the data related to this study. In addition, Teacher 红 continues teaching Chinese as a second language in China as her life-long career after she went back to China. Based on the reasons above, Teacher 红 was chosen as an example to explain detailed evidence (see Chapter 5) for this study.

Table 4.3: Categories of VTRs’ knowledge base

<table>
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<tr>
<th>VTRs’ knowledge of</th>
<th>Content</th>
<th>Beliefs about the subject</th>
<th>General pedagogy</th>
<th>Curriculum</th>
<th>Pedagogical content knowledge</th>
<th>Learners and their characteristics</th>
<th>Educational context</th>
<th>Educational ends, purposes and values</th>
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<tbody>
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<td>红 Hóng</td>
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<td>橙 Chéng</td>
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<td>黄 Huáng</td>
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<td>绿 Lǜ</td>
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<td>青 Qīng</td>
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<td>蓝 Lán</td>
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<td>紫 Zǐ</td>
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4) The thesis of Teacher 红 (Hóng) is not all about knowledge. Moreover, because knowledge is such a complex concept, it was necessary to conduct interviews with her in order to better understand what, why and how she worked to make Chinese learnable in the classroom. As a result, knowledge she demonstrated
during her teaching contributed to the vivid illustration of her professional learning. This gave me new insights into the building and development of a language teacher’s knowledge model.

5) After establishing a knowledge base from VTRs’ classroom teaching, it was necessary for me to compare this with the previous research. My aims were to find out the similarities and/or difference between theoretical and practical knowledge base, and between Chinese teaching and that of other subjects. From this comparison, I explained and justified similar findings, and contrasted different findings.

Other data for this study comes from my reflection journal, the mentor’s lesson feedback and observation notes, teaching materials, students’ questionnaire and work samples, as well as interviews with local teachers and DEC cadres. These data sources were used to triangulate the data so as to increase the validity and reliability of this study. In summary, theses analysis, interviews, questionnaire, lesson feedback and observation notes, and the reflection journal were used as the main data sources.

The purpose of choosing me as a case is obvious, because I assume myself as a bridge between researchers and teachers. I want to investigate how theories, concepts, ideas from the previous and current research can inform and guide teaching, and be updated or mislead teaching. Recording my teaching journey helps me to witness my personal growth and professional development. In addition, even though I call the knowledge base developed from VTRs as classroom-oriented, the evidence are obtained from VTRs’ theses, not from their lively classroom teaching practice, because I did not have an opportunity to observe their lessons. Therefore, in order to capture classroom teaching practice and to research knowledge use and development in the classroom, I use my teaching experience as a lively example. This, to some extent, is a second bridge between theory and practice. Chapter 6 presents how I put my knowledge to full use in teaching, which is termed as PCK (Shulman, 1986, 1987), so that Chinese can be learnable for Australian second/foreign language learners. This research goes into teaching life of both VTRs and I are of great value as Tebes (2005) argues that such
research is valid because alternative perspectives can be negotiated to advance understanding.

Although the findings which emerge from the study of the VTRs’ teaching in WSR through the ROSETE Partnership are specific for this set of circumstances, the study offers really useful insights for others in similar situations.

4.3 Principles of educational research: Validity and generalisability

4.3.1 Validity

Validity is an important principle for guiding educational research, being related to judgment about the “trustworthiness, authenticity and credibility” (Creswell, 2009, p. 191). To increase the validity of this study, I checked “the accuracy of the findings by employing certain procedures” (Gibbs, as cited in Creswell, 2009, p. 190). The validity strategies I used were intended to “assess the accuracy of the findings as well as convince readers of that accuracy” (Creswell, 2009, p. 191). In other words, I viewed validity as a test of whether the data itself that I collected was an accurate gauge of what was being investigated (Mills, 2007). In other words, my concern about validity was to think through the reasons why others should trust my research findings. When this was operationalised in this study, it meant maximising the collection of data specifically about what I wanted to explore while minimising influences that detracted from an accurate investigation of these (Cohen et al., 2007). Thus, this Chapter provides details of the research process, how data was collected, represented and analysed and the use of multiple sources of data to allow for triangulation.

Several strategies were used to increase the validity of this study. First, I triangulate “different data sources of information by examining evidence from the sources and using it to build a coherent justification for themes” (Creswell, 2009, p. 191). Triangulation “is an epistemological claim concerning what more can be known about a phenomenon when the findings from data generated by two or more methods are brought together” (Moran-Ellis, Alexander, Cronin, Dickinson, Fiesldin, Slaney, & Thomas, 2006, p. 48). In this study, data from VTRs’ theses, interviews, questionnaire,
students’ work samples, lesson feedback and observation notes, and the researcher’s reflective journal have been used for this purpose.

Second, I also used member checking “to determine the accuracy of the qualitative findings” (Creswell, 2009, p. 191). Interview transcripts were returned to the interviewees to check for accuracy. To improve the reliability of this study, the data analysis process and coding methods were frequently discussed with my principal supervisor in order to find out the best way to interpret and maximally make use of the data.

Third, I also used rich and thick description “to convey the findings” (Creswell, 2009, p. 191). Perspectives from VTRs and my own observations of beginning Chinese teacher-researchers’ knowledge were cross checked to yield more realistic results. Throughout this research, my own reflective diary was used to record detailed descriptions about personal understandings of the growth pedagogical content knowledge.

4.3.2 Generalisability

Mills (2007, p. 98) defines generalisability as “the applicability of research findings to settings and contexts different from the one in which they were obtained”. The knowledge base of teachers’ professional development has recently been a highly discussed topic throughout the world (e.g. Beck, 2009; So, Pow, & Hung, 2009; Corrigan, Dillon, & Gunstone, 2010). The findings from this study arise from a specific context, that of beginning teachers teaching Chinese in the Western Sydney Region. The findings are therefore not automatically transferable to other sites. However, Merriam’s (2009) perspective on generalisability is that it is up to readers to make judgments about the generalisability of a study such as this to their own context. Any person who reads this study can decide whether the findings apply to his or her particular situation: “Human beings have the particular capability to go beyond the information given, to fill in gaps, to generate interpretations, to extrapolate, and to make inferences in order to construct meanings” (Eisner, as cited in Merriam, 2009, p. 227).
Thus, the strategies and tools that VTRs experimented in making Chinese learnable for English-speaking learners are possible to transfer to other languages’ teaching. Although different teachers have their own beliefs about teaching, and ultimately they use their own teaching strategies, this study could open their mind and broaden their vision.

4.4 Ethical conduct of research

Ethical issues link to every stage of academic work: when it is being executed and later when it is written up as a thesis. Thus the researcher has to give consideration to ethical issues, since “physical, psychological, social, economic, or legal harm” (Creswell, 2009, p. 64) might occur during the study. The following discussion details how the research design minimises the risk of harm to participants and how participants benefit from the study.

4.4.1 Minimising harm and maximising benefits for participants

Risk of harm from participation in this study is minimal. All VTRs have agreed to use their theses as data sources. The Teacher 红 (Hóng) and teachers participating in the interviews, and students attending the questionnaires are on a voluntary basis to express their teaching and learning experience and viewpoints. Students also agree to use their work samples as evidence of learning results. All the participants showed great interest in this study, especially for the ‘connected classroom’ project.

Anonymity is usually seen as an ethical issue (Nespor, 2000). In order to reduce the harm for all participants, pseudonyms, as the “most commonly anonymising tool” (Nespor, 2000, p. 546), are usually considered as devices for protecting participants. In this study, I gave participants pseudonyms and make it as difficult as possible to identify them. I use rainbow colours to represent the first cohort of VTRs (see section 4.2). Not only because the seven colours stand for seven VTRs, but also a rainbow and its different colours indicate brightness, braveness, and openness. This truly reflects how these brave VTRs take up this bright industry of teaching Chinese as a second language, and open their mind to learning in order to make Australian learners interested and engaged to learn Chinese.
In terms of participating students (N=11) for questionnaire, I simply use English letters A-K to name them. However, as for participating teachers, I use the names of flowers to address them. My reason for this is that the features of various types of flowers are very similar to the personalities of each teacher interviewee and according to my understanding of them. The following table illustrates their pseudonyms and my reason for their pseudonyms based on the Chinese meanings of each type of flower.

**Table 4.4: Pseudonyms for teacher interviewees**

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<thead>
<tr>
<th>Interviewee participants</th>
<th>Pseudonyms</th>
<th>Reasons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interviewee 1</td>
<td>Lotus</td>
<td>Lián huā, chū yú ní ér bù rǎn (Live in the silt but not imbrued.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>He, as a DET cadre working among teachers always has his own unique viewpoints, and not confines himself to traditional and fixed teaching model and philosophies.</td>
</tr>
<tr>
<td>Interviewee 2</td>
<td>Rose</td>
<td>Hóng méi guī, huó lì hé jī qíng (Red rose means vigour and enthusiasm.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>She loves red colour. Whenever you see her, you can feel inspiration, passion and energy.</td>
</tr>
<tr>
<td>Interviewee 3</td>
<td>Lily</td>
<td>Huáng sè bái hé, gǎn jī hé kuài lè (Yellow Lily means appreciation and happiness.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>She is a big support for my teaching and the ‘Connected Classroom’ project. I owe her a big thank you. What is more, her happy personality makes people feel enjoyable.</td>
</tr>
<tr>
<td>Interviewee 4</td>
<td>Peony</td>
<td>Mù dān, fù lì duān zhuāng (Peony means dignity and)</td>
</tr>
</tbody>
</table>
She looks richly dignified. As the principal of the school, the prosperity of the ‘Connected Classroom’ is closely related to her big support.

<table>
<thead>
<tr>
<th>Interviewee 5</th>
<th>Jasmine</th>
</tr>
</thead>
<tbody>
<tr>
<td>茉莉，亲切，忠贞 (Jasmine means kindness and loyalty)</td>
<td></td>
</tr>
</tbody>
</table>

She is a very nice receiving teacher for ‘Connected Classroom’. Her loyal lesson feedback is very useful for my lesson improvement.

Place anonymisation is also a standard practice in many qualitative studies (Nespor, 2000). In this study, I also gave pseudonyms to two schools involved in ‘Connected Classroom’ project. According to their English names, both pronunciations and meanings, I use Chinese characters, so that they more difficult to be identified. School 1 is called 春日中学 (Chūn Rì Zhōng Xué), and School 2 is called 富日中学 (Fù Rì Zhōng Xué).

The benefits to participants outweigh the low level risks inherent in this study. This study provides a good opportunity for VTRs to view their teaching experience from a new perspective. As most VTRs will become teachers after going back to China, therefore, this study provides an opportunity for them to further consider their own professional development. As for local teachers and students participating the pilot ‘connected classroom’ project, this study provide useful insights into how teaching can be improved with technology; and what is the potential of ‘connected classroom’ for teaching and also for teachers’ personal professional development. As for myself, I benefit enormous learning through teaching and reflection. What is more important, my knowledge development and pedagogical content knowledge growth provide insights into how Chinese can be made learnable for English-speaking countries school learners. In addition, the research does not lead to any commercial benefits. Information collected for, used in, or generated by this study will not be used for any other purpose.
4.4.2 Research ethics

In terms of ethical issues, it was necessary to obtain approval for extending the NEAF (National Ethics Application Form) application after I had successfully upgraded Master of Education (MEd) (Honours) to Doctor of Philosophy. I wrote an email to the Office of Research Services as follows:

Dear xxx,
This is Yiye Lu from the Centre for Education Research. I am a PhD student of Professor Michael Singh and Dr Dacheng Zhao. I have successfully upgraded my Master to PhD, so I have to apply to extend my NEAF. Please see the attached two documents, ‘Application for NEAF extension’ (see Appendix VII) and ‘a letter of NEAF approval for my Masters’ (see Appendix VIII).
Could you please suggest what should I do next? Thanks.
Regards
Yiye LU
(25/04/2012, 13:38)

The Human Ethics Officer was a very kind person who was willing to help. She suggested an assessment would be made if I addressed the issues raised in her email:

Good morning Yiye,
There are a number of issues which will need to be addressed before an extension can be considered.
1) Can you please provide information on what, if any difference there is between the research proposals for your Masters versus your PhD research proposal? That is, has the research proposal for your Masters been completed? Is the PhD component an extension of this original study?
2) A copy of your Confirmation of Candidature (CoC) is required (see Appendix IX).
3) Can you please submit a final report if the Masters’ research proposal was completed (see attached template) or, if the study was not finalised, then a progress report.
4) A request for an extension is required, with specific dates nominated.
This information is required to enable the better assessment of my application.
Human Ethics Officer
(26/04/2012, 11:14)

According to the Officer’s requirement, I replied with the following email to confirm my understanding of each issue.
Thank you for your reply. Based on your suggestions, I would like to describe my PhD.

1) I have finished the research proposal for the Master of Education (MEd) (Honours). This PhD is an extension of this original study.

2) In this case, do I provide a Master CoC or PhD CoC with new content into Master CoC?

3) I have completed the first five chapters of my thesis and have proof-read all of these as well. Since I have applied for upgrading Master to PhD, the last chapter of the thesis has not been finalised. In this case, I can provide the first five chapters. Is that OK?

4) In my request for a NEAF extension, does this mean I need to provide a letter describing the details?

I am looking forward to your further reply. Thanks.

Regards

Yiye LU

(26/04/2012, 12:04)

With this email, I attached the completed MEd (Honours) chapters, the statement of support from my supervisory panel (see Appendix X), my claim to the quality and depth of work completed(see Appendix XI), my statement of proposed further changes to upgrade to a doctoral thesis (see Appendix XII), and my letter of request (see Appendix XIII). Since I was not sure whether these documents were enough, I asked for advice concerning what I should do next. As anticipated, the Ethics Officer needed more documents, asking, “Can you please also supply a copy of your Confirmation of Candidature” (29/04/2012, 16:05)?

After I provided all requested documents, there arose a very important question, the answer to which would determine whether an extension would be granted or a new application would be required. The key question was, “Is the PhD study the exact same study as the Masters study but just on a larger scale? Or does the PhD study entail additional aspects that weren’t covered in the initial approval? (30/04/2012, 15:21)?

There was confusion about what the words “additional aspects” meant. After an analysis of the issue with my principal supervisor, we agreed that the PhD study was the exact same study as the Masters’ study, but it was on a larger scale. The problem was how to explain and define the meaning of ‘additional aspects’. With this confusion in mind, we decided to ask advice from the Ethics Officer about describing the PhD research design in detail. The following email was my response:
Hi xxx,

Thank you for your reply.

The PhD study is the exact same study as the Masters study because the topic is the same. It will contribute to investigating the beginning teacher-researchers’ pedagogical content knowledge.

However, the study will be on a larger scale. It will involve more schools, teachers, and students as new data sources.

Further, the delivery of the lessons will be more diversified. The use of smart board, Moodle, interactive video conferencing, and Edmodo will be the tools used for teaching Chinese as a second language. But, the use of technology is not the focus of this study, but only a part of the media for teaching.

To be honest, we are not quite sure about the meaning of “additional aspects” that weren’t covered in the initial approval. Therefore, we are unsure if the use of technology should be regarded as a new additional aspect to the study or not, this is a question for us. One more thing should be pointed out, namely that the use of technology as a tool for teaching is necessary and without which we cannot generate new research data.

Could you please let us know your suggestions? Many thanks.

(02/05/2012, 10:42)

The advice from the Ethics Officer was useful to obtaining a better understanding of “additional aspects”. Basically, there were two key questions which helped to determine whether this Doctoral study is an extension of the MEd (Honours) or a new study. The two questions were included in the following email:

Hi Yiye,

In terms of “additional aspects”, perhaps answering the following questions will determine whether it is an extension or new study design.

1) Who has requested the implementation of the new teaching technology? Is it something that you have requested, as part of the research, be used? Or is the new technology something that the school/Education Department has introduced free of your influence?

2) Is the actual study design changing, i.e. your methodology? If this is remaining the same then it will most likely just be an extension of the number of participants.

If you provide feedback on these two questions I can have a look at which way is best to proceed. Also are you able to refresh my memory on your original approval number so I can pull out the file.

Thanks

(03/05/2012, 09:25)
My answers to the above questions were as follows:

Hi xxx,

According to the two questions that you’ve provided, here are my responses:

1) The implementation of the new teaching technology is requested by the Education Department and is free of my influence. It is part of a new Western Sydney Region project called “connected classroom”.

2) The actual study design remains the same as my Masters, the same methodology: Case study. By the way, my original approval number is H8908.

Could you please suggest what the best way to proceed is? Many thanks.

Regards

Yiye LU
(06/05/2012, 10:11)

After this extended process of negotiation, the Ethics Officer told me that she would send my request to the Chair for review and approval for the extension based on the information I had provided. In addition, she needed to know the dates requested for the approval period and other related documents, as indicated in the following email:

Hi Yiye,

I will send your application to the Chair for her review and approval based on the information you have provided. What would be the new approval date requested if approved? Please note that your current expiration date was 31/12/2011. To ensure that all appropriate documentation is provided to the Chair, can you please also attach to your reply a copy of the following documents:

1) Original approved NEAF and any attachments;
2) A copy of the Final Report provided to UWS at the end of last year. If none was submitted one will need to be completed (see attached link-Human Ethics Project Report (see Appendix XIV);
3) Confirmation of Candidature.

Please do not hesitate to contact me at humanethics@uws.edu.au if you require any further information.

(09/05/2012, 13:39)
My response to the above email was as follows:

Hi xxx,
In terms of the new approval date requested if approved, my research will be finished in July, 2013. In my Confirmation of Enrolment (CoE), it is recommended that the minimum submission time is 25 July, 2013, and the maximum submission time date is 25 July 2014. But, we will try to finish in July, 2013.
According to your advice, attached are the documents you require.
1) Original Approved NEAF and any attachments;
2) Since I have not submitted a Final Report to UWS, I have completed the form called “Human Research Ethics Committee Ethics Protocol Report Form” (see Appendix XIV);
3) Confirmation of Candidature.
Please help me send all these documents to the Chair. Please let me know the progress of this application and any other documents that you may need. Many thanks.
Regards
Yiye LU
(11/05/2012, 13:59)

When the Chair reviewed my request, she required some additional information on the change to “Research Procedure” as I had ticked “Yes” in the “Project Report”. The suggestion from the Ethics Officer was as follows, “I understand you have nominated sample size as being a key change, but are you able to provide a one or two paragraph summary in a separate document. This should satisfy the requirements of the Committee” (14/05/2012, 15:36).

In order to collect new data for this PhD thesis, there were some variations made in the research procedure relative to that of my Master Education (Honours) study. Therefore, I had ticked “Yes” with respect to change of “Research Procedure” on the “Human Research Ethics Committee Ethics Protocol Report Form”. Variation in sample size was the major change for this PhD study. I provided the following explanation of this change via email:

The sample size will be enlarged in my PhD study. In the Masters study, there were seven teacher-researchers’ theses publicly available MEd (Honours) used in that research, and one of these teacher-researcher was chosen for interviewing. In terms of this PhD, the data will be gathered from the participants in the Western Sydney Region “Connected Classroom” project. Apart from collecting data
from myself as teacher-researcher, there will be more school students and teachers invited to participate in this study. Since the “Connected Classroom” project is new, it is not known how many schools and students will participate. However, I plan to interview 10 students and 20 teachers if they agree to participate. Please let me know whether this information is enough, or not. Many thanks,

Regards
Yiye LU
(15/05/2012, 15:43)

A week later, I decided that follow up action was required. Since the approval of NEAF extension is important and necessary for applying to the State Education Research Approval Process (SERAP), I emailed to the Ethics Officer again to find out about the progress of my request. She replied, “I’m just waiting to hear back from the Chair. I know she is a bit behind in responses, but I hope to hear by the end of the week” (22/05/2012, 13:24). By the end of the week, I received the following email from the Ethics Officer.

Good Morning Yiye,
The Chair has requested that you completed a revision of Section 6 participants.
She has noted that in the original NEAF you had only one participant group, but in the new study you have at least two participant groups with at least 30 participants.
Would you be able to go back to the online NEAF and revise your section 6 and then send me a fresh copy of the NEAF? This should address the outstanding concerns.
Please do not hesitate to contact me if you require any further information.
(31/05/2012, 15:07)

At first, I did not understand the meaning of ‘Section 6 participants’. Then, I went to the NEAF Officer’s office to ask where I can find “Section 6 participants”. Of course, it meant ‘Section 6: Participants’ in the ‘National Ethics Application Form’; another score for the rationality of bureaucracy. I edited the information in ‘Section 6: Participants’ based on my PhD proposal, and sent the edited version of that form to the NEAF Officer.
The Chair reviewed the edited ‘National Ethics Application Form’, and the Ethics Officer sent an email back with some more requests for revisions.

6.5.1 Research to answer the question in relation to what processes will be used to identify teachers (Group 2) and students (Group 3).
6.5.3 Confirmation from researcher that initial contact with Groups 2 and 2 will be in a written format. If verbal contact is intended, a rationale is required that demonstrates that this procedure will not be perceived as coercive. The participant approach script is required.
6.6.1 “Will there be participants who do not have capacity to give consent for themselves?” As students are between age of 10-18, the answer should be “no”.
6.6.1 “Describe the consent process”. Researcher to revise answer to provide more details regarding process including clarifying when written consent will be obtained. Note that answer should address the process for each of the three participant groups.
6.6.3 Please consider whether a database exists which includes details concerning all your potential participants (beyond merely contact details) and whether the answer should be revised to read ‘no’ (and drop-down completed). Note that the question refers to existing database to be used “for” the research, not the results “from” the research. If answer is “yes”, then consent form must cover specific request for such information.
8.1.1 Note to researcher: Information cannot be collected in a non-identifiable form when
(1) Specific information will be sought on participants from an existing database (6.6.3) and
(2) Participants will be interviewed in person.
8.3.2 Researcher to specify location of locked cabinet.
8.6.7 If results might be disseminated in articles and publications, answer will require revision.

I edited the ‘National Ethics Application Form’ again and sent it back my next revision to the Ethic Officer. The next email response that I received from the Ethic Officer raised a very interesting but important ethical issue. That is, how to avoid coercion when contacting participants. The following email described the potential coercive state in making initial contact with the participants and importantly also provided a recommended strategy to minimize such coercion.

Good Morning Yiye,
Please find below a further comment from the Chair in relation to your application.
6.5.3 Confirmation from researcher that initial contact with Groups 2 and 3 will be in a written format. If verbal contact is intended, a rationale is required that demonstrates that this procedure will not be perceived as coercive. The participant approach script is required.

As for the local teachers, I will orally tell them in advance about the interview. After that, an email will be sent to them to confirm participation. The email includes my research and my invitation for participating the interview, with attachments of information sheet and consent form. Once they agree to participate, they need to send me back the consent form with their signatures.

As for the students, I will hand out information sheet and consent form during the lesson, so that they can take home to ask their parents' permission. If their parents agree to ask their children to participate the interview, they need to sign on the consent form and ask their children bring the consent form to school.

The coercive issue in this email related to the proper way to contact and recruit potential research participants. My initial response was, “I will orally tell the local teachers about the interview in advance; then I will send them an email describing the research project in detail and asking for them to express their willingness or otherwise participants.” However, the Chair suggested that this kind of personal approach might be perceived as coercive. On the one hand, Australians and Chinese address such formal issues in different ways. For me, an innocent and immature young woman who grew up and was educated in a bureaucratic Chinese society, I understood that oral invitation and permission as the main practice. In China, signing a consent form is a ‘superficial’ procedure that is put in a second place. The Chinese concept, ‘Zǒu Xíng Shì, Zǒu Guò Chǎng’ (走形式，走过场) is used sarcastically to express bureaucratic irrationality. In this situation, it means signing the consent form is just a formality, as no one takes it seriously. However, Australians give such formality top priority.
On the other hand, the ways people view commands from authorities vary between Australia and China. The Chair provided the following suggestion to avoid all appearances of coercion, “the preferred approach would be for the principal or school administrative assistant to distribute the invitations and attachments. The potential participants can then contact the researcher if they wish to be involved.” Is this a way to solve the issue of coerciveness? For me, this actually leads to coercive issue if I used Chinese way to think about the situation. In China, top-to-down command is accepted and followed almost without a second thought. People do not necessarily treat it as pressure or force from leaders, but rather see it as an expression of a trust or a special favour from leaders. They are more than happy if they are given an assignment or a task from a leader. What is more, they will even work day and night to accomplish it without making any complaint. Then they present the best work they can to the leader in order to win their appreciation, or even the opportunity for promotion. How bureaucratic is that? Why do Australians refer to this positive approach as coercion? Therefore, “coercion” was a new concept for me to understand from a very different cultural perspective.

In few words, through this procedure, I learnt that it is of considerable significance and importance to be careful with the issue of coercion when conducting research. This is especially so in a democratic society where equality is what matters.

I edited my ‘National Ethics Application Form’ based on the Chair’s advice, and sent it to the Ethics Officer again. Fortunately, all the changes that I had made satisfied their requirements. I was given the notice of approval of NEAF extension through the following email from the Ethics Officer:

Dear Yiye
I am pleased to advise that your application to have your amendment request to have your ethics approval upgraded from Masters (Honours) to PhD has been approved (see Appendix XV). I have approved the extension until 25/07/2014. If you require any further information, please do not hesitate to contact me at humanethics@uws.edu.au
(21/06/2012, 12:09)

Through the whole process of upgrading NEAF, I learnt the following important points, which have added to my knowledge during my journey to become a more professional teacher-researcher.
1) A thorough research design is half the success of a research project. After my Masters study was successfully upgraded to PhD, the number and scale of research participants were the main variations I needed to make. These variations included who was to be involved, how many more participants the research really needed, when is the project timeline, should I involve the participants, and how I could contact them. In order to develop a plan for further research, I discussed these issues with my principal supervisor. After several heated discussions with my principal supervisor-Michael Singh, the picture of my PhD study became clearer and more focused. This made me, as a beginning teacher-researcher, more confident and more challenged at the same time. This also informs the NEAF committee that I have the capability to conduct ethically good research.

2) Critical thinking is one of the essential and necessary attributes for successful beginning teacher-researchers (Egege & Kutieleh, 2004). Confucius said that ‘Xué ér Bú Sī Zé Wǎng (学而不思则惘)’. This concept means ‘learning without thinking leads to confusion and blindness’. However, as a beginning teacher-researcher, thinking is not enough. There is a need for a deeper and wider reading and a higher level of writing skills. This is part of what makes it possible to make an original contribution to knowledge through research in specific areas. Critical thinking has been defined as “the intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action” (Scriven & Paul, as cited in Egege & Kutieleh, 2004, p. 78). For me, it has meant making reasonable challenge of the theories, analysing evidence, and then deciding what to argue.

With regards to international researchers, like me—a Chinese student, the capability for critical thinking has been picked out as an important distinguishing feature between Western and non-Western (Egege & Kutieleh, 2004). If I was to accept this questionable line of argument, it would (supposedly) be difficult for me to consider alternative perspectives, to
integrate new or revised perspectives into my own ways of thinking and acting, and to foster criticality in others. I did not find this is to be the case.

The very process of securing NEAF extension cultivated my critical thinking capabilities. It made me realise the important role that critical thinking plays in doing research and learning. For example, in order to make clear that the PhD study includes an “additional aspect” (as illustrated above), I asked the meaning of “additional aspect” from the Ethics Officer. As I re-thought my research design, I discussed these with my principal supervisor. This whole process helped me to think more conceptually and then more critically. With the help and guidance from my principal supervisor and other academics, Asian-background teacher-researchers can demonstrate their capability to think critically.

3) Cultural difference need to be kept in mind when dealing with research related issues. In this process, I learnt how to contact and involve participants in Australia in order to avoid coercion. I understand better now what it means to follow the “rules” of voluntary participation, minimising harm, and equal relations between researcher and participants. I prefer this way of asking school principals or administrators to hand out participation information, which I think, is rather coercive in China.

4.5 Research design

This PhD thesis was upgraded from Masters’ research project. To some extent, this frustrated me, because it is difficult for me to conceptualise the research design of the doctoral project, to re-construct the thesis’s structure, and to make different sorts of data as coherent and consistent as possible. However, going back over what I had done to teach in both a normal classroom and a ‘Connected Classroom’ as part of this research process, they benefited me tremendously. Therefore, I decided to structure this thesis as a ‘journey to the West’, moving from the initial arrival in Australia through to the middle of 2013 when I suppose to finish my PhD study. It is truism that teaching is all about learning from everyday practice. However, these three-years of teaching and research are only a beginning for me to become a more professional and
experienced reflective teacher-researcher. I am pleased to be able to record this wonderful journey and invaluable learning experience through the production of this thesis.

Since this project was a journey, the research design accommodated this progression through time. Below I will outline each phase in this journey, and explain the corresponding data collection and analysis methods that I used. Some of the methods used in various phases are connected with each other. Some are related to each other. Together these all contributed to the thesis presented here.

4.5.1 Phases of this research project

Phase 1: A prerequisite knowledge base needed for teaching in Australian schools

This study was designed as a case study. A case is a single unit, a bounded system. It is suggested that sometimes selecting a case is based on the researcher’s experience. From my daily experience, I had a general question, an issue, a problem that we I had sufficient interest in to sustain me over the past three years. I felt that an in-depth study of a particular instance or case would illuminate much of that interest to others as it is to me (Merriam, 2009). Being a VTR, I am personally interested in the ROSETE Partnership, and eager to explore the development of beginning Chinese teachers’ knowledge in order to improve their effectiveness in teaching Chinese to second/foreign language learners. Thus, as explained above, the ROSETE Partnership was chosen as my specific case or instance for detailed investigation.

When I began this study, ROSETE was the third year of its Partnership. By then, three cohorts of VTRs had come to Australia to teach Chinese in the WSR’s schools. By the time I arrived there, the first cohort, consisting of seven VTRs, had finished their journey as teacher-researchers and gone back to China. The second cohort, with ten VTRs, were in the middle of the process. The third cohort, with nine VTRs, was at the very beginning of their teaching and research journey. This case study focuses on the first cohort and me as a teacher-researcher.
Literature review

I began by getting a sense of what knowledge teachers need, especially language teachers. Understanding this knowledge base can help them develop as successful teachers. From an intensive and extensive literature review, a summary of categories of a knowledge base for teacher development was established (see Table 2.1).

Document analysis

Then I turned to the question: How is the knowledge base recommended in the literature reflected in the VTRs’ teaching of Chinese? In order to get a sense of what knowledge the VTRs use, and develop during their work as teacher-researchers, VTRs’ theses are examined in a detailed manner. The document analysis contributed to understanding their teacher-researchers’ knowledge base. The data analysis method for this phase was opening coding, and then grouping similar themes to obtain categories. Thus, a summary of VTRs’ categories of knowledge base was developed (see Table 4.3).

Interview

Since the VTRs’ theses were not all about teachers’ knowledge, it was necessary to use other research methods to obtain a more accurate understanding of knowledge and PCK in particular. Thus, a face-to-face semi-structured interview was conducted. Teacher 红 (Hóng) from first cohort of the ROSETE Partnership was purposefully chosen because her thesis is a self-study narrating the whole process of being a VTR teaching Chinese to beginning language learners. As illustrated above, her thesis contains more information than just that related to the development of teachers’ knowledge. In addition, after going back to China and working as a Chinese language teacher for foreign language learners, she is now back in Australia undertaking her PhD. This enables her to better understand her knowledge development during her teaching and research.

Schwandt (1997) defines interviewing as “a set of techniques for generating and analysing data from structured, group, and unstructured interviews with respondents, participants, and key informants” (p. 34). In this study, the interview questions (see
Appendix XVI) that I developed tapped into the teacher-researchers’ continual understanding. This is an effort to make explicit the knowledge teachers draw on every day in the classroom. Interview was necessary because this knowledge cannot be seen or observed in and by itself.

The interview of Teacher 红 (Hóng) was conducted to better understand the data obtained from her thesis. The interview consisted of two parts. One was a face-to-face interview with Teacher 红 (Hóng) and the other was an e-mail interview. There were two reasons for the e-mail interview. First, to further understand any unclear information from the interview scripts, I contacted the interviewee again; this helped me greatly. Second, it enabled the researcher and the interviewee to check the findings from the thesis and interview data.

The face-to-face interview with Teacher 红 (Hóng) took approximately one hour. It covered four areas: training and education; long and short term planning; student assessment and evaluation; and self-assessment and evaluation. Before the interview, Teacher 红 (Hóng) was asked to consent to the interview being audio-recorded, and e-mail interview records were kept as hard copies. Throughout the interview, a semi-structured interview style (see Appendix XVI) was used. I led this purposeful conversation with the questions from the interview schedule but also encouraged Teacher 红 (Hóng) to talk about her perspectives and give her opinions. This allowed for the possibility of the emergence of new ideas, information, and perspectives from her. The use of probes helped to gather more detailed information and obtain unexpected data.

After the above three steps, two knowledge bases are established, one based on previous research, and the other one based on VTRs’ classroom teaching. It was of great value to compare these two knowledge bases, and obtain a more comprehensive understanding of knowledge components and professional development for language teachers. I present this phase in Chapter 5 where evidence from Teacher 红 (Hóng) was used to analyse these issues. The other purpose for this phase was to lay a solid foundation for my own teaching journey. I wanted to focus on what knowledge I actually used to solve problems in my own teaching. I saw that each component of knowledge is inter-related and contribute to be best teaching practice.
Phase 2: Developing VTRs’ PCK to make Chinese learnable via using CSLI

Following Chapter 5, Chapter 6 focuses on how the forgoing ‘knowledge base’ is being reflected in my own teaching to make Chinese learnable. I could understand what each knowledge category means through referring to the evidence from VTRs’ theses and Teacher 红(Hóng)’s interview. However, the level was still far too abstract for me. As a teacher-researcher, I wanted to investigate the real teaching context and not just drew on texts or retrospective accounts. Therefore, I collected and analysed data about the first part of the teaching journey in the classroom with the help of an experienced local language teacher. On one hand, this confirms the importance of a sound knowledge base for language teachers. On the other hand, it also indicated the importance for teachers to find out what sort of knowledge is most significant, and how each knowledge component can be made to work together in a consistent way. Thus, pedagogical content knowledge (PCK) was introduced as a better conceptualised teachers’ decision making.

According to Shuman (1986, 1987), pedagogical content knowledge (PCK) is a distinctive body of knowledge that teachers need to develop for effective teaching. This provides a key theoretical point of reference for this study. However, in order to make PCK more sensible for teaching Chinese to English-speaking students, Ringbom’s (2007) concept of cross-linguistic similarity provided more practical perspective to investigate. I proposed the concept of cross socio-linguistic interaction (CSLI) as being more useful to making Chinese learnable, especially when linguistic similarities are not possible. Interestingly, I found some similar ideas between PCK and CSLI, which made it possible for me to interweave these two important concepts. Therefore, in Phase 2 (Chapter 6), I developed my own understanding of the relationship between PCK and CSLI. In addition, this Chapter demonstrates specific examples in terms of making Chinese learnable for English-speaking students by incorporating the two concepts of PCK and CSLI. At this Phase, my own reflective diary, mentor’s（太阳花 Tàiyáng Huā）feedback, observation notes, and lesson plans were the main data collection methods. Open coding was used as a main method for analysing data.
Reflective diary and mentor’s feedback

My reflection diary was one of the main data sources in this phase. Also after each lesson, my teaching mentor gave me lesson feedback. It was usually a discussion between me and my mentor about the lesson. All of this provided a basis for my own reflective diaries. The data analysis process for this phase was the same as in Phase 1.

Phase 3: Potential, problems and challenges of using technology to teach Chinese

This Phase was required when I began to work on ‘Connected Classroom’ project. Living in the information century, technology is increasingly regarded as an effective tool to support teaching. This Phase (Chapter 7 and 8) involved collecting and analysing evidence of the potential, problems and challenges of using video-conference equipment as a media to empower PCK when delivering Chinese lessons to English-speaking learners. The teaching context was different from the face-to-face normal classroom teaching as the teaching was done through video-conference equipment. Even though, I found possible to collect similar data, use the same method of analysis, albeit with different research participants.

Interviews

In order to obtain key informants’ perspective on the ‘Connected Classroom’ project and also the effectiveness of my teaching strategies, face-to-face semi-structured interviews with DEC officers, school principals and a classroom teacher, mentor, and colleagues were conducted (N=9). In the same way as before, Participant Information Sheet (see Appendix XVII) and Participant Consent Forms (see Appendix XVIII) were sent to obtain their consent. The face-to-face semi-structured interviews (see Appendix XIX and XX) took approximately 30 minutes.

Questionnaire

In order to obtain students’ feedback, a questionnaire was administrated to a group of 11 students in the pilot school. Before conducting the questionnaire, Participant
Information Sheet (Parent/Caregiver) (see Appendix XXI) and Participant Consent Form for Parent/Caregiver (see Appendix XXII) were sent to students’ parents/caregivers, seeking their permission for their child to participate in the questionnaire. The questionnaire (see Appendix XXIII) took approximately 30 minutes to administer during the second last lesson in week 9 in term 4, 2012.

What did I learn from designing, administering and analysing questionnaire for the students? The language used in a questionnaire is important. For Year 7 students, the language needed to be presented at their level of understanding, and friendly. I conducted a pilot questionnaire with a Year 10 student to seek what sense did he made of the questionnaire; what questionable responses I could get; the types of answers I obtained was relative to what I wanted; how long it actually took to finish? The main issue he found was the simplicity and formality of the language. For example, ‘engaging’ is a big word; ‘hardest’ works better than ‘difficult’; ‘what teachers were talking about in the classroom’ instead of ‘saying in the classroom’; ‘teaching the lesson’ instead of ‘delivering the lesson’, to name just of few. This year 10 student’s opinion may not be universal, but what I learnt was important for me to establish the language level when I designed the interview questions and questionnaires for students.

Students’ work samples

Students’ work samples have been analysed in this thesis to explore their learning outcomes. They were asked if their work samples could be used as part of my research, and those students who agreed with parental permission, have had their work closely interrogated. In the same way, my reflective diary has been used as a source. A summary of participants, research instruments and venues is presented below (see Table 4.5).

Table 4.5: A summary of research participants, instruments and venues

<table>
<thead>
<tr>
<th>Participants</th>
<th>Instruments</th>
<th>Venues</th>
</tr>
</thead>
<tbody>
<tr>
<td>VTRs, mainly Teacher (Hóng)</td>
<td>Documents (Masters’ theses) and interview</td>
<td>UWS</td>
</tr>
</tbody>
</table>
Phase 4: Synthesising key findings

Based on the data collection and analysis undertaken for Phases 1-3, it was then possible for me to undertake an over-arching analysis to extract the key findings. Therefore, in Phase 4 (Chapter 9) of the project, I aimed to answer the main research question for this study: *How do, and what factors influence beginning Voluntary Teacher Researchers’ (VTRs) development and use of pedagogical content knowledge as a tool to make Chinese learnable for Australian students as second language learners in the Western Sydney schools?*

### 4.5.2 Data analysis

This study uses content analysis for analysing data because it offered me “a flexible and pragmatic method for developing and extending knowledge of the human experience” (Hsieh & Shannon, 2005, p. 1286). The object of my content analysis was text data, including the various sorts of recorded communication, such as interviews, reflective diaries and observations (Mayring, 2000). The main data resources for this study comprise documents (theses), interviews, a reflection journal and questionnaire; these contain numerous words and texts. Thus, words or texts provided the basic focus for the analysis.

In order to understand the phenomenon under study, I used content analysis to examine language intensively, “ranging from impressionistic, intuitive, interpretive
analyses to systematic and strict textual analyses” (Hsieh & Shannon, 2005, p. 1277). My focus of the content analysis was the characteristics of language as communication and the content or contextual meaning of the text. The content analysis is defined as a data analysis method for the “interpretation of the content of text data through the systematic classification process of coding and identifying themes or patterns” (Hsieh & Shannon, 2005, p. 1278).

There are three approaches for content analysis, namely, conventional, directed, and summative content analysis. These three approaches are distinguished according to coding schemes, origins of codes, and threats to trustworthiness. In conventional content analysis, coding categories are “derived directly from the text data” (Hsieh & Shannon, 2005, p. 1277). With a directed approach, analysis starts with “a theory or relevant research findings as guidance for initial codes” (Hsieh & Shannon, 2005, p. 1277). A summative content analysis involves “counting and comparisons, usually of keywords or content, followed by the interpretation of the underlying context” (Hsieh & Shannon, 2005, p. 1277).

In this study, I employed different data analysis approaches in different phases of data collection. For example, in Phase 1, my main purpose was to obtain understanding of a knowledge base for teaching Chinese as a second/foreign language in Australia context. A knowledge base (Table 2.1) from literature was used as a framework for analysing data in VTRs’ theses, Teacher 红 (Hóng)’s interview, and my own self-reflective diary. Therefore, a directed data analysis approach was utilised. At the same time, a conventional data analysis approach was employed for the data that could not fit into proper categories from a knowledge base from literature. After this stage, a summative data approach was used to count the category of knowledge that is considered most important, and also compare the categories of knowledge from the classroom practice and from the literature. Such analysis process was important for validating or extending a theoretical framework or theory (Hsieh & Shannon, 2005). It provided predictions about the variables of interest or about the relationships among variables. Consequently, it helped me obtain a better understanding of a knowledge base for Chinese teaching and learning, especially in a second/foreign language learning context.
To be more specific, I used the analytical procedures recommended by Elo and Kyngäs (2008, p. 111) to analyse data in the documents (theses), interviews and the reflection journal.

1) Develop a categorisation matrix according to the existing knowledge base from the literature review. Through this study, this meant I developed a summary of categories of a knowledge base for teaching and teacher education (Table 2.1).

2) Code the data according to these categories. This meant I coded the VTRs’ theses in order to decide which thesis to choose for in-depth analysis. This also meant using this knowledge base from literature as a theoretical map to code my reflective diary.

3) Make contrasts and comparisons. Specifically, I made comparisons between VTR 紅 (Hóng)’s data in her thesis and from her interview, and the data in my reflection diary. This also meant making comparisons between findings from classroom teaching and that from literature.

4) Subsuming new findings into generalisations when appropriate to do so. After making the comparisons, I established a new knowledge model for beginning teachers teaching Chinese for second/foreign language learners in Australia (see Chapter 5).

5) Summary. This included all that I learned from the data analysis process. In addition, I learned about the similarities and the differences in a knowledge base between classroom practice and literature, and also between Chinese teaching and other subjects’ teaching (see Chapter 5).

There are, of course, limitations to any analysis based on ‘separate knowledge bases’. There is complexity and intermingling of participants’ knowledge, thoughts, ideas, and practices in the process of teaching. However, analysis assumes that the knowledge bases are completely separate and distinct when in reality they are combined in a complex web. Therefore, I was prepared for the inevitable intermingling of ‘knowledge’ as VTRs reflected on their practices, not through separate and distinct knowledge bases, but through examples of critical incidents in practice. I understood that the boundary between the knowledge bases in the
discussion of critical incidents by the VTRs could not therefore be seen as always being separate and discrete. Rather, it can be perceived as an analytical choice between competing possibilities with the most dominant feature attracting most attention in terms of possible analysis and interpretation. Hence, the difficulty in any analysis is in seeking to interpret the data according to the most dominant feature of a given incident, whilst also acknowledging that it may not necessarily be that knowledge alone. Thus, the aspect of this study occasionally offers interesting glimpses into the transformative character of knowledge and PCK almost regardless of analytic classification and interpretation.

In Phase 3, my main purpose was to investigate how I, as a teacher-researcher, will utilise various types of knowledge to support ‘Connected Classroom’ teaching. In other words, it aims to study how to make full use of TPACK to make Chinese learnable for English-speaking learners. The main data sources were my own reflective diary, teacher interviews, and students’ questionnaire. Apart from the same procedure as in Phase 1 and 2, I applied a variety of specific data analyse techniques for teacher interviews.

Soldañ (2009) provides a detailed coding manual for beginning qualitative and quantitative researchers. In this study, I chose five techniques for data especially from teacher interviews. They are

*In vivo coding*, which is a code refers to a word or short phrase from the actual language found in the qualitative data record. They are the terms used by [participants] themselves (Soldañ, 2009, p. 74).

*Evaluation coding*, which is the judgment about the merit and worth of programs or policies. Program evaluation is the systematic collection of information about the activities, characteristics, and outcomes of programs to make judgments about the program, improve program effectiveness, and/or inform decisions about future programming (Soldañ, 2009, p. 97).

*Emotion codes*, which labels the emotion recalled and/or experienced by the participant, or inferred by the researcher about the participant (Soldañ, 2009, p. 86).

*Magnitude coding*, which consists of and adds a supplemental alphanumeric or symbolic code or sub-code to an existing coded datum
or category to indicate its intensity, frequency, direction, presence, or evaluative content (Soldaña, 2009, p. 58).

**Versus coding**, which identifies in binary terms the individuals, groups, social systems, organisations, phenomena, processes, concepts, etc. in direct conflict with each other (Soldaña, 2009, p. 94).

The main purpose to interview teachers is to obtain their general impression of ‘Connected Classroom’, and their feedback of my pedagogies for teaching Chinese. Therefore, I use **in vivo coding, evaluation coding and emotion coding** to demonstrate their judgments on ‘Connected Classroom’ project, and record their emotion from lesson observation using their own words and phrases. In addition, **magnitude coding** is chosen to further illustrate their judgments and emotion. In terms of the pedagogies that I applied for making Chinese learnable, different teachers have various viewpoints. Thus, it is interesting and necessary to utilise **versus coding** to know different opinions, as they provide insights into future direction of ‘Connected Classroom’ project, and also into my professional development of being an effective and successful Chinese teachers.

### 4.6 Summary

This chapter has discussed the theoretical basis of the methodology providing the justification for my use of case study, and the principles informing this research. The specific procedures of research design including sampling and participants, data collection and data analysis were presented. In the following two chapters, two cases will be described in detail to illuminate the process of the development of beginning Chinese teachers’ knowledge development through the ROSETE Partnership.
探索知识 (Tàn suǒ zhī shì)

Exploring knowledge (base)

3 Picture from:
CHAPTER FIVE

EXPLORING A PREREQUISITE ‘KNOWLEDGE BASE’ FOR SUPPORTING CHINESE TEACHING IN WESTERN SYDNEY SCHOOLS

5.1 Introduction

This chapter aims to answer the first contributory research question: What is the prerequisite ‘knowledge base’ that VTRs learned and developed in order to support their teaching of Chinese as part of the ROSETE Partnership in Western Sydney schools? The specific example used to answer this question is that of the VTRs involved in the ROSETE Partnership in Western Sydney schools. Specifically, evidence is from Teacher 红 (Hóng) in terms of her professional learning as a beginning teacher-researcher. The chapter begins with the descriptive analysis of the interview process with Teacher 红 (Hóng). After that, evidence of each category of knowledge that she learned, used and developed is analysed. Then, the evidence of ROSETE Partnership’s influence on her development is examined. Finally, a theoretic-pedagogical framework of the ‘knowledge base’ for teacher-researchers from China to make Chinese learnable for English-speaking students is presented.

5.2 An analysis of interview process with Teacher 红 (Hóng)

With respect to Teacher 红 (Hóng), the data sources include her thesis and a semi-structured interview. These data are analysed to establish what knowledge she used and developed to make Chinese learnable for Australian students during her teaching in Western Sydney schools.

The focus of Teacher 红 (Hóng)’s thesis was on student and teacher engagement in learning and teaching Chinese. Teacher 红 (Hóng), an English major graduate from China, learnt to become a more engaged teacher while teaching Chinese to Australian school students. Her study explored the relationship between student engagement and teacher engagement. Specifically, she studied how increased student engagement
interacts with and influences teacher engagement and promotes teacher learning so that the teacher evolves as a better teacher. How Teacher 红 (Hóng) engaged her students and organised her lessons illustrated a variety of knowledge that are related to the components of PCK. In addition, analysing her thesis provided the opportunity to explore how a beginning teacher-researcher, with little knowledge of PCK presented content knowledge (Mandarin Chinese and Chinese culture) to students using pedagogically engaging methods. To gain a deeper understanding of Teacher 红 (Hóng)’s thesis and her perspectives on PCK, I conducted a semi-constructed interview with her.

The semi-structured and focused interview was conducted in Ningbo (China) in July 2011. We met in a local hotel in Ningbo. Accompanying with Teacher 红 (Hóng) was Teacher 蓝 (Lán), both of whom were from first cohort of ROSETE Partnership. When Teacher 红 (Hóng) was being interviewed, I gave more explanations about the research questions and Teacher 蓝 (Lán) helped her to refresh her memory.

The interview could be described by three adjectives: appreciative, nervous, and excited. Here I elaborate these three terms to present an overview of the interview process.

**Appreciative**

It was very hot in Ningbo with a temperature of 39℃. It was such a golden opportunity to meet each other to discuss an important educational issue. Teacher 红 (Hóng) said in Chinese, “这真是千载难逢的好机会 (Zhè zhēn shì qiān zǎi nán fēng de hǎo jī huì), 真不容易啊 (Zhēn bù róng yì ā)!” This metaphor means that it is not easy to grasp such an opportunity, which only occurs once in a thousand years. I thanked her for her commitment and efforts.

**Nervous**

It was the first time I conducted such a research interview. Therefore, in order to be polite and respectful, I always used ‘您 (Nín)’, which means a formal ‘you’, to speak to the interviewee at the beginning of each interview question. After several times, Teacher 红 (Hóng) suggested me to use ‘你 (Nǐ)’ which means an informal ‘you’, because she thought that we were sisters in the ROSETE family. From this little change of the title, I suddenly felt released from pressure and talked more freely.
Excited
The interview reminded Teacher 红 (Hóng) of memorable teaching experiences in Australia. By comparing her current Chinese teaching career in Ningbo, she described what she learnt in Australia, and how she used this in China. When she gave examples to illustrate this, I observed various non-verbal expressions: laughing, sighing, nodding, pausing......Teacher 红 (Hóng) was so excited to talk about her teaching moments in Australia. She was also proud of what her Australian students had achieved in learning Chinese. Her excitement inspired me to ask more questions. I could feel how Teacher 红 (Hóng) had developed from a beginning teacher-researcher in Australia, with no experience to a professional teacher with her own teaching style.

5.3 Knowledge development through Teacher 红 (Hóng)’s teaching journey

In this section, I illustrate each category of knowledge that Teacher 红(Hóng) developed through her 18 months teaching journey in Western Sydney schools.

5.3.1 Beliefs about subject and knowledge of educational ends, purposes and values

The beliefs about subject and the knowledge of educational ends, purposes and values influence knowledge of subject matter that VTRs plan to incorporate into their Chinese teaching/learning, and also the knowledge of pedagogies. For Teacher 红 (Hóng), the aim of teaching Chinese in WSR was to stimulate and inspire students’ interest. To this end, she believes that culture is a good hook to realise this aim. These influences were from her family background and life experience.

She was born in Northwest China, Xinjiang Autonomous Region, where Islamic culture is dominant. She lived there for more than 10 years and developed a sensitive attitude to Islamic culture. Although she is not from a Muslim family, Islamic culture has had a number of influences on her lifestyle, beliefs and her way of thinking. Not eating pork is one of them.

When she was twelve years old, her family moved back to Northeast China, 河北 (Hé Běi) province, which is two hours by road from Beijing. She studied there for nearly
10 years. Living in a new place, she found that she had to change herself and adapt to a new culture. But one thing never changed: she still does not eat pork.

In 2004, Teacher 红 (Hóng) was enrolled at Ningbo University, which is located two hours by road from Shanghai. The four years she spent at Ningbo were a turning point in her life. During her last year of undergraduate study, she met her English teacher Lee, who is an American and who was interested in learning Chinese. Therefore, Teacher 红 (Hóng) taught Lee Chinese and Lee taught her English. They exchanged ideas about language, education and politics. They engaged in cross-cultural communication. They cooperated with and taught each other for one and a half years. After that teaching/learning exchange, Teacher 红 (Hóng) was determined to go abroad, not only to further her studies, but also to expose herself to various cultures and different ways of thinking.

In 2008, Teacher 红 (Hóng) was selected by the NMEB to be a VTR to help stimulate the learning of Chinese in Australia in the Western Sydney Region for one and a half years. She had realised her dream of exploring a different culture.

Cultural awareness is embedded in Teacher 红 (Hóng)’s mind—it is part of who she is. There are two reasons for this. The first is the influence of her parents, and the other is her own life experiences. Teacher 红 (Hóng)’s father comes from Northern China and her mother comes from Southern China. They have different cultural habits, beliefs and values. In addition, they belong to different ethnic groups. Her father is from a Chinese ethnic minority group, the Manchu, while her mother is from the dominant ethnic group, Han. They have different cultural backgrounds and so think and value things differently. The second is her learning/teaching experiences with her American English teacher of the university, which increased her curiosity to probe cultural similarities and differences. Her personal living and study experiences have had a great influence on her values, habits and thinking. Her early attitudes and knowledge acquired shaped her thought process as an adolescent and then as an adult (Wong, Gao, Chai, & Chin, 2011). Teacher 红 (Hóng)’s experience shaped her interest and beliefs in using cross-culture as an end to teach Chinese for her English-speaking Australian students.
She demonstrated a lesson plan (see Appendix XXIV) about the kite to teach Australian Children about a traditional playing tool in China. It is part of some Chinese children’s cultural life. Teacher 红(Hóng) used a kite-making project as a medium to realise the aim of the lesson, which was to further students’ experience of Chinese culture. Teacher 红(Hóng) asked the Australian students to make and fly kites, so as to make the lesson more interesting and engaging. In addition, she allocated time to include a cultural comparison between Australian and Chinese kites. These demonstrated her deep knowledge and understanding of the subject matter, and contributed to students’ higher order thinking (NSW Quality Teaching framework, 2003).

5.3.2 Knowledge of educational context

There is a Chinese metaphor called 万事开头难(Wàn shì kāi tóu nán), which means that everything is difficult at the starting point. The new journey for a novice teacher-researcher is always full of challenges, especially in a totally new educational culture. This section reports on the early stages of Teacher 红(Hóng)’s teaching/learning experiences, including the difficulties she faced and the solutions she found. A narrative writing style is used to show the process Teacher红(Hóng) experienced, and to capture more comprehensively the relevant data.

Teacher 红(Hóng) confessed that her first impression of Australian students was that they were naughty and noisy, which was a big shock for her. She compared Australian students’ behaviours with their peers in Chinese classrooms, and found a huge difference. In her thesis, she explained Chinese classroom culture as follows:

Confucian culture has a huge influence on Chinese classroom behaviour. Teachers are the masters of knowledge and are in the privileged position of transmitting this knowledge to students, who are also privileged to receive it. Consequently, students are expected to show their respect for being privileged in receiving this knowledge by respecting their teachers and showing obedience and displaying good manners (Teacher 红(Hóng)’s thesis, 2010, p. 215).

She further emphasised this difference during the interview:

A4: 有一个问题是，我自己对课堂的预期是比较高的。在中国，我们都知道，

A4: My expectation of Australian classes was too high. You know, in
China, students are so obedient that you don’t have to put much effort into disciplining them. Even if their minds get distracted, they will still sit quietly. However, this is not the case in Australia. If the Australian students don’t want to listen, they will do whatever they want, totally beyond my imagination. Talking, playing, and listening to music, making calls, whatever (Interview, Teacher 红 [Hóng], 04/07/2011).

According to Teacher 红 (Hóng), traditional Confucian educational culture distinguishes sharply between Chinese students and teachers. Teachers are thought to have more knowledge than students, and so teachers have total authority over students. Students, being knowledge receivers, are taught from childhood to be obedient and to listen to teachers. Teacher status in the classroom is different in China compared with that of Australia. From this sense, it can be concluded that respect for teachers, their authority and power in China is “given”. It does not have to be earned. However, students in Australia present themselves in the classroom from a different philosophical perspective. In Australia, everyone has to earn respect, including teachers. During the interview, Teacher 红 (Hóng) also admitted that classroom management was the biggest problem she faced when teaching in Australia.

Q4: What is the biggest problem you faced when you taught Mandarin Chinese to non-background speakers in Australia (Interview, Teacher 红 [Hóng], 04/07/2011)?

A4: It varies for each person. For me, how to manage students is the biggest problem in my first year of teaching in Australia. In my class, there are about 30 students, some of whom have serious behaviour problems (Interview, Teacher 红 [Hóng], 04/07/2011).

Classroom management was not only a new issue for Teacher 红 (Hóng), but also a major problem that hindered her teaching capabilities: “How to improve my teaching...”
while managing students was a great challenge for me at first” (Interview, Teacher 红 (Hóng), 04/07/2011). I was very interested in how she dealt with classroom management to conduct lessons effectively. Teacher 红 (Hóng) said it was a long learning process for her, but basically, she experienced the following four stages:

**Stage 1: Learning to understand Australian classroom culture**

When Teacher 红 (Hóng) was in school, she talked to classroom teacher (Joelle) about her concerns regarding students’ classroom behaviour. Joelle told her, “If the lesson is quiet, there is something wrong. In Australia, you want them to talk a little bit, have fun and enjoy the lesson … If you make them sit quietly, it is punishing them. However, there needs to be a balance, saying ‘enjoy the lesson but not overdo it’ ” (Thesis, 2010, p. 219). After this conversation, Teacher 红 (Hóng) reflected upon this in her thesis:

In Australia, the teaching context is very different compared with China. In China, students are always quiet. Ideal students are those who sit nicely and listen attentively by folding arms or taking notes. In Australia, students are who they are, whether in the classroom or outside it. This means the student is always a person. Therefore, because the behaviour of people varies from time to time, the teacher has to be prepared to modify interactions as needs arise. This is very different compared with China (Teacher 红 [Hóng]’s thesis, 2010, p. 219).

That she changed views about Australian students was also confirmed in the interview:

| A4: 后来，慢慢调整自己的心理预期， 也慢慢接受了这里的学生的行为。我也 去观摩过其他学科的课堂，我发现，这 就是整个学校的问题。你不可以完全按照 自己的想法去定一个规矩，完全按照 中国的观念去看待这里的学生，这是不 可以的。其实，这对学生也是不公平的， 因为他们根本做不到，自己也会觉得很 累。所以，也是综合了各种因素，慢慢 也就是适应了。其实，这也是一个探索， 摸索的过程吧。后来，感觉也就还好了 (Interview, Teacher 红 [Hóng], 04/07/2011). | A4: At first, I thought it is my problem. Later, after I observed other subjects’ classes, I found that what happened in my class was normal. This is a typical feature of Australian classes. You can’t expect students to behave in a Chinese way, which is not fair to the students, because they can’t move up to that level. So, I changed my expectations of Australian students. As time went on, I didn’t find noisy classes to be abnormal. In fact, it is a continuing exploring process (Interview, Teacher 红 [Hóng], 04/07/2011). |
Teacher 红(Hóng) learnt that this is the typical Australian classroom. No matter what a Chinese classroom is like, this is Australian educational culture. It is not a good strategy to judge Australian students in terms of thinking that Chinese classroom culture is better or superior. What Teacher 红(Hóng) did was to accept the fact of this different educational culture. One is not better than the other. They are just different. Therefore, as time passed she began to adjust to and accommodate to the Australian teaching/learning culture. She learnt to deal with the classroom as she experienced it, rather than as she wanted it to be.

**Stage 2: Learning to be a more engaged teacher**

Since Teacher 红(Hóng) realised that she could not change the Australian classroom culture, she took the initiative to change her attitude about students’ apparent misbehaviour. The following evidence shows her determination to change herself:

> As a teacher I learnt to accommodate the Australian classroom environment and began to see the advantages of students who were forthright in class. I began to see them as individuals rather than as a mass collective. Each student had their own personality that they brought to class. They were people with likes and dislikes. I had to get to know them and respect their individuality. I was the one who had to change. I began to use my research to guide my teaching, especially how to engage students by engaging myself in teaching (Teacher 红[Hóng]’s thesis, 2010, p. 216).

Facing the choice of changing students or herself, Teacher 红(Hóng) chose to change herself. This seems to have been a correct choice. If she kept demanding her Australian students to follow her Chinese way, there would be only one result: both the teacher and students would be upset with the Chinese language lesson. Thus, she learnt to modify her expectations of Australian students compared with her experiences in China. Once Teacher 红(Hóng) accepted that Australian students have their own characteristics, there was greater potential for her to engage them in learning.

**Stage 3: Learning classroom management strategies**

Although a noisy classroom situation is a typical feature of an Australian classroom, it does not mean that teachers just accept it without doing anything. Otherwise, how can
Even though Australian students are not as obedient as Chinese students, it is the teacher who has the responsibility to have the students under control. Teacher 红 (Hóng) said, “Students’ behaviour is never going to be perfect (Teacher 红 [Hồng]’s thesis, 2010, p. 215).” As a beginner teacher-researcher, it took Teacher 红 (Hóng) time to learn effective classroom management strategies to get students under control. It was always a learning process. One strategy Teacher 红 (Hóng) learnt was the power of self-discipline:

Self-discipline is very powerful for students. As a teacher, my job is to guide students to the realisation that their learning should be at the centre of the class. However, this does not mean that they are the centre of the class. It does mean that I, as the teacher, have to learn how to communicate with students so that they understand the difference. When they make a decision, they should take the responsibility for that decision and it is my job to see that they do (Teacher 红 [Hồng]’s thesis, 2010, p. 171).

Teacher 红 (Hóng) recognised that students’ self-discipline is far more powerful than any discipline a teacher can impose. This is partly because high school students are in an oppositional psychological period. Therefore, some of them enjoy offending teachers. As a teacher, she needed to develop and use student-centred communicative skills to explain expectations to students, as well as to communicate and encourage students to behave well and learn well, and finally to guide them to achieve teachers’ expectations. In other words, it was the teacher’s responsibility to make students understand that they were in charge of their own behaviour and learning.

Another strategy Teacher 红 (Hóng) learnt was that classroom management should be firm and strict. The following is feedback pronounced by her classroom teacher (Joelle):

You need to be more firm. You have to vary things more. There are times when you can be friendly but there are times when you just have to be firm. It is good they know you can be firm with them and you expect them to do some serious work. If it gets a bit noisy you can get them back on task (Teacher 红 [Hồng]’s thesis, 2010, p. 219).

Teacher 红 (Hóng) learnt that to be firm is of great importance and necessity in order to establish the teacher’s authority. If the teacher always smiles and is friendly to students,
they will think that the teacher can be easily ignored and disrespected. To be firm is also a prerequisite to creating a positive teaching/learning environment. Australian students can be easily distracted, but at that time, it is the teacher’s responsibility to be firm and tough, so that students quickly recognise that their behaviour is not conducive to their learning. Once the teacher exercises her authority, the students then listen to her; otherwise, the class will be in chaos.

Teacher 紅(Hóng) also established classroom rules at the beginning of the lesson. This was a powerful strategy, because “classroom rules are useful in establishing expectations of student behaviour. They indicate standards of behaviour and minimise classroom management issues” (Teacher 紅[Hóng]’s thesis, 2010, p. 160). Therefore, Teacher 紅(Hóng) paid more attention to settling the majority of students down to work. If individual students or small groups misbehaved, Teacher 紅(Hóng) pointed out the classroom rules to them directly, so that these particular students would understand their teachers’ expectations. This also showed a teacher’s authority and status in the classroom.

However, Teacher 紅(Hóng) also recognised that as a VTR teaching Chinese in an Australian school, it was difficult to establish unquestioned authority, because students usually regard VTRs as visiting teachers. Therefore, in order to establish a good working relationship with students, Teacher 紅(Hóng) tried her best to be nice and kind to the students. As a result, it was sometimes difficult to balance being firm and being friendly. As Teacher 紅(Hóng) said, it took her some time to ponder, and then she would, try, respond, and retry.

Classroom management is a recurring topic in Australian schools. First, Teacher 紅(Hóng) had to accept, then learn and accumulate classroom management principles and strategies as her teaching continued. According to Leask and Moorhouse (2005), beginning teachers are expected to pass through a stage where they “focus on self-image and classroom management” (p. 22). It was difficult for Teacher 紅(Hóng) to change herself-image from a learner who was not used to being in charge, to a teacher who now becomes the person in charge (Capel, Leask, & Turner, 2005). The change of role from being passive to being active, managing and authoritative, took time for Teacher 紅(Hóng)-a beginning teacher-researcher to accommodate. However,
Leask and Moorhouse (2005) argue that it is only when novice teachers have gained some confidence in classroom management that they are able to move to the second stage. This is the stage when novice teachers begin to focus on whole class learning. As for Teacher 红(Hóng), she tried various ways to solve classroom management issues, especially to find interesting learning topics to engage students. She thought that if the students could concentrate on the learning topic, they would misbehave less.

5.3.3 Knowledge of learners and their characteristics

Knowledge of learners and their characteristics is very important for beginning teacher-researchers in order to deliver good lessons. It is also perhaps the most difficult task for novice teachers to get to know their students, and then organise lessons based on their understanding of their students. Since Teacher 红(Hóng) studied her Australian students’ motivation and engagement in learning Chinese, so it was necessary and important to know her students, so that she could organise and present lessons that may interest them and maintain their engagement in the lessons. She said that knowledge of students was the most important element to consider when planning and reflecting on her lessons. According to Teacher 红(Hóng), knowledge of learners includes the following sub-categories:

a) learners’ needs: common and different interests, learning styles, and backgrounds

Sometimes, teachers have to learn to operate at the ‘whole class’ level. For Teacher 红(Hóng), she tried to find interesting and popular topics that most of the students would like, so that the majority of the students would participate and enjoy the lesson. She also found out the common learning styles for the whole class, so that she could use the appropriate teaching strategies as a major way to organise lessons. At the same time, she thought that it was important to learn about students’ backgrounds, so that she could understand the learning problems many of the students faced.

Sometimes, teachers also have to learn to manage at the ‘individual’ level, so they can incorporate different student interests and meet the needs of each individual student. This is especially so when the teacher’s focus moves from whole class learning to
whole class and individual learning. Students are all individuals. Different students have different interests, different learning styles and different backgrounds. If teachers want to teach well, they have to learn about each student so they can teach them as individuals. Teacher 红 (Hóng) commented that when the students are engaged in the class, this is a result of satisfying different students’ needs:

Different students learn better in different ways. Some students like music and some like colouring-in pictures. The lesson goes faster if you use different activities and resources as well. The more differences, the more chance they will be interested (Teacher 红 [Hóng]’s thesis, 2010, p. 204).

The lesson is successful and effective when each student sees its value, and so is engaged in learning. In this sense, using different teaching strategies and resources, as well as various classroom activities increases the possibility of engaging more students.

b) Learners’ levels: different abilities and expertise

Students also have different abilities and expertise. Teacher 红 (Hóng) used group work as her main organisational strategy, because it enabled students with different abilities to work together and draw on each other’s expertise so they could help each other. In this way each student supported the other to achieve better results. Students recognised their own abilities and expertise, which helped to promote their confidence in learning Chinese. Joelle, one of the classroom teachers for Teacher 红 (Hóng) made the point that if students feel good, and they are happy and confident, then they are more likely to learn better:

They were happy to get out of their seats as well which they want to do. One more thing is because they like to work in little groups so that was good. They love to sit in a little group with their friends and work on something. They feel more comfortable so that was good (Teacher 红 [Hóng]’s thesis, 2010, p. 205).

Learning about students’ different abilities and expertise not only helped Teacher 红 (Hóng) to know where and how to scaffold each student’s learning in order to provide a positive learning environment, but also inspired her to think about how to maximise
each student’s potential and improve teaching/learning efficiency. In addition, knowing students fully and individually was beneficial for Teacher 红 (Hóng) to implement student-centred teaching strategies. It provided an opportunity for teacher 红 (Hóng) to communicate with students and build rapport, and improve on her lessons as well. Rodgers (2002) argues that acknowledging and understanding students’ similarities and differences contributes to student learning.

c) Learners’ gender: different interests and needs

When teaching strategies are selected, gender can become an issue to be considered. An extract from Teacher 红 (Hóng)’s thesis shows why:

Boys and girls have different interests. When I created activities to engage boys, I should also take girls’ interests into consideration. In future I will use computers and provide games that are suitable for them as well. I will also offer a variety of activities to engage all students. Computer activities can be selected which are attractive to students, girls and boys (Teacher 红 [Hóng]’s thesis, 2010, p. 174).

Boys and girls are different in many ways. As a teacher, being aware of gender issues in the classroom is important. Gurian (2010) states that girls tend to achieve high scores on verbal activities while boys are better at reasoning and spatial skills. Kersh, Casey and Young (2008) argue that there are supposedly structural and functional differences inside the brains of boys and girls. Supposedly, these differences affect male and female learning similarly across cultures.

d) Typical Australian students’ personalities and characteristics: talkativeness

Teacher 红 (Hóng) learnt that Australian students are more talkative in class. They like to take the initiative and ask teachers questions. In China, the classroom tends to be quiet with students showing little interest and asking few questions. Therefore, she used the students’ characteristics to facilitate their learning:

In class, I had to leave time for students to ask questions. … Student questions are very important in class. Their questions also help engage me more. They provide feedback and I appreciate this because it shows
they are following the lesson. Their feedback helps me understand more about their level of understanding and where more work has to be done (Teacher 红[Hóng]’s thesis, 2010, p. 176).

e) Exploring Australian teenagers’ popular culture

In the interview (04/07/2011), Teacher 红(Hóng) said:

How to conduct lessons while facing behaviour problems was a question that I thought about a lot. The students in my class were famous for their behaviour problems, you know? I could not change that situation. I talked to my research supervisor, who was also concerned about this issue. Thus, we decided to study motivation and engagement. I thought interesting topics which are part of their culture might hook their attention and interests (Interview, Teacher 红[Hóng], 04/07/2011).

However, it was challenging for Teacher 红(Hóng) to find topics that her Australian students liked. Some topics that she thought would be wonderful were not exactly the ones that Australian students were interested in. The following excerpt demonstrates students’ uninterested reaction to her chosen topics in lessons:

In the second lesson I delivered to my Year 8 class, I taught about the opening ceremony of the Olympic Games in Beijing. I prepared a PowerPoint presentation consisting of 30 slides. I talked about the history of the printing press, paper scrolls, the Great Wall and the legend of Cháng é (嫦娥) for half an hour. I thought the class would be wonderful and the students would enjoy my presentation. But to my surprise, some students fell asleep after 10 minutes of my presentation. A few students began to muck around. Other students began to talk with their friends without listening to me. At that time, I realized that they were not interested in the lesson (Teacher 红[Hóng]’s thesis, 2010, p. 26).

The topic-the Olympic Gamesdid not attract students’ attention and interests, because they could not see the significance of the lesson. Why should they know about the Olympic Games? What would be the result if they did not know the history of the printing press, paper scrolls, the Great Wall and the legend of Cháng é? Teacher 红 (Hóng) realised that if the students could not see the worth of her lessons, they would not learn. They were honest and loyal to themselves. If they were not interested in a lesson, they would not pretend to be engaged or sit quietly-as in the case in China.
What did Teacher 红(Hóng) did then? She said, “I am a very direct person, so I will ask them directly” (Interview, Teacher 红 [Hóng], 04/07/2011). “At that time, I realised that they were not interested in the lesson. I stopped talking about the Olympics and asked them what they wanted to learn. Some boys said Numbers. I changed my plan and taught them numbers” (Teacher 红[Hóng]’s thesis, 2010, p. 26). Through teacher and student interaction, Teacher 红(Hóng) found some topics that her students were willing to learn. She said, “As a teacher, I learnt to respect this honesty and cater to their interests” (Teacher 红[Hóng]’s thesis, 2010, p. 225). She then started to look for more topics related to students’ everyday lives through discussing with students, classroom teachers, and her research supervisor.

Apart from asking advice and opinions from students, Teacher 红(Hóng) emphasised that as a teacher herself, she should be more observant. This meant that as a teacher, she was involved into her students’ daily life and closely observed their behaviour, and listened to their conversations, in order to find something that might be useful for her teaching. During the interview, Teacher 红(Hóng) gave me an example to show what ‘observant’ meant:

<table>
<thead>
<tr>
<th>A6:</th>
<th>A6: This is a continuing exploration process. Maybe I can give you an example. Have you found that Australian students like music very much? Whenever and wherever you are walking by, you always find that they are singing with earphones. I was wondering what kind of music they like. So I asked them to put their MP3 into my computer. I listened to these songs, and remembered all the names of the songs. Later, I talked about music and favourite singers with them. They will find that you are much closer, as you have the same interests (Interview, Teacher 红 [Hóng], 04/07/2011).</th>
</tr>
</thead>
<tbody>
<tr>
<td>我也是不断地探索吧。我看到他们每天插着耳机，听mp3，每天哼歌，很enjoy的感觉。我就会问他们，你们都听什么音乐，能给我听听吗？然后，把他们的mp3插到我的电脑上，把他们的歌曲都下载下来。看他们都喜欢听谁的歌，什么风格，什么音乐，都是什么样子的。有时候就跟他们聊天，说这首歌我也很喜欢的，这样去拉近关系（Interview, Teacher 红 [Hóng], 04/07/2011）。</td>
<td></td>
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Teacher 红(Hóng) noticed that students brought their iPods, MP3 players and mobile phones to school to listen to music and to socialise after class. Therefore, she thought that music might be one of the favourite topics that might interest them in learning Chinese. She talked to students, discussed their favourite singers and songs, and
downloaded this music. In this way, she not only found another way to generate teaching/learning topics, but also established a much closer relationship with the students. When teacher 红(Hóng) talked to me about the music lesson, she seemed very excited, speaking with a raised voice and heart-felt laughter:

A6: 基于这些聊天的内容，我就上了一堂关于音乐的课。我把我喜欢的歌手，如周杰伦、孙燕姿、王菲，他们的歌曲、MV 都下载下来。我想让他们看到中国现在的流行音乐是怎样的，传统音乐如京剧又是怎样的，像是一个对比吧。看了之后，他们就觉得跟他们想象中的完全不一样。他们就觉得中国的流行音乐也是 hip-pop, rap, 摇滚。后来，还让他们唱霍元甲，“霍霍霍。。。” 不是有好多吗？我就说，只要到这个时候，他们就一起合唱，他们唱得好好开心啊。这首歌的 MV 做的也很棒，融入很多功夫啊，艺术什么的。（Interview，Teacher 红 [Hóng], 04/07/2011）

A6: As they like music, so I decided to have a lesson about music. First, we talked about the Australian music and singers. Second, we talked about the Chinese traditional and modern music. I introduced my favourite singers, such as Jay Zhou (周杰伦), Stefanie Sun (孙燕姿), and Faye Wong (王菲). “Oh, Chinese also like Hip-Pop, rock, and rap. That’s cool.” They suddenly found the connection between themselves and Chinese people. In the end, I asked them to sing a Chinese song “霍元甲 (HuòYuánJiǎ)”. They liked the lyrics “霍霍霍……". Looking at the MV, they sang together while dancing. How happy they were (Interview, Teacher 红 [Hóng], 04/07/2011)!

There were also some segments in the thesis which showed how Teacher 红(Hóng)’s knowledge of her students that she gained by observation guided her teaching:

My previous observations outside the classroom indicated that students were interested in Chinese Kung Fu stars, such as Bruce Lee (李小龙), Jacky Chan (成龙) and Jet Li (李连杰) (Teacher 红[Hóng]’s thesis, 2010, p. 146).

I taught one lesson about Chinese Kung Fu music. Huò Yuán Jiǎ (霍元甲) was a well-known Kung Fu fighter from the Qing Dynasty who saved his Chinese countrymen and ‘fought for the glory of China’. Many movies are based on his life story and segments of them are great as stimulus material in Mandarin classes (Teacher 红[Hóng]’s thesis, 2010, p. 186).

Jay Zhou, a popular Chinese star, sings a lot of songs closely related to Kung Fu. This style of Chinese singing is appealing for students, especially boys. They love music and Kung Fu. Huò Yuán Jiǎ (霍元甲) and nunchakus (双节棍) are rap songs which are featured in Kung Fu martial arts. In the music video, Jet Li (李连杰) played the role of Huò
Yuán Jiǎ (霍元甲) and demonstrated Chinese Kung Fu techniques (Teacher 紅[Hóng]’s thesis, 2010, p. 146).

The combination of Kung Fu and popular music provided an opportunity for students to not only enjoy Chinese popular music but also to learn Chinese culture. Importantly, her Australian students connected well with Chinese Kung Fu and popular music as they were part of their daily interests. Music was the students’ hobby and they listened to music at home and school. The students could see the connection Teacher 紅(Hóng) made between her teaching strategy and their everyday music lives. This connection was consciously extended to Teacher 紅(Hóng)’s Chinese lessons to assist the students to engage in language learning. This lesson convinced Teacher 紅 (Hóng) that classroom experiences should be an extension of students’ everyday recurring socio-linguistic cultures, rather than being separated from it.

After this lesson, Teacher 紅(Hóng)’s colleague VTR (Lee) and research supervisor (John) also gave high praise:

The lessons involving Chinese music not only interested students but changed their concept of Chinese music. After the lesson, they think Chinese music can be different but can also be the same as Australian music. … The lesson changed their ideas of Chinese music (Lee, cited in Teacher 紅[Hóng]’s thesis, 2010, p. 200).

What was engaging them is the idea of cognitive dissonance. That is, what they think something should be is actually quite different from reality. You gave them an experience that was totally different from what they expected and they had to think about it. They had to change their view (John, cited in Teacher 紅[Hóng]’s thesis, 2010, p. 200).

The music lesson was interesting for students not only because they enjoyed it but also because they had to think about it. They had to evaluate the Chinese music in terms of their expectations. The students were engaged both emotionally and cognitively. There was also the ‘exotic’ influence of something very different, very interesting, not really understood, and yet appealing.

As Teacher 紅(Hóng) got to know the students more, she gradually found more topics to teach, such as food, sports, and animals. All of these were a part of Australian teenagers’ everyday popular culture. She also found that students could apply themselves to real life topics, even students with behaviour problems, because the
students were able to use their prior socio-linguistic knowledge with the learning content to help them feel comfortable. Further, because the students had prior experiences with the learning content, this increased the chance of stimulating their interest in learning Chinese.

Knowing her students better not only guided Teacher 红 (Hóng) to provide a positive learning environment for them, but also helped her to reflect on lessons for her own professional learning. She learnt to use student questions as indicators of student learning. Student feedback contributed to her better preparation of teaching/learning experiences. Teacher 红 (Hóng)’s reflection on her lesson was based on her students’ reactions, which provided guidance for preparing the next lesson, and for even long-term programming and assessment.

5.3.4 Knowledge of subject matter/content

Being a native Chinese speaker, Teacher 红 (Hóng) thought that there would be no problems concerning her knowledge of the language itself. However, a variety of questions posed by her Australian students, sometimes, left her at a loss:

对于中文知识，我们可能了解的没有那么深，来回答为什么要有四声，生日快乐词序的不同等。

To be honest, I don’t have a deep knowledge of Mandarin. So if you ask me why it has four tones, why the English and Chinese versions for “生日快乐(Shēnɡ Rì Kuài Lè, meaning happy birthday)” are different, etc, I don’t know (Interview, Teacher 红 [Hóng], 04/07/2010).

Teacher 红 (Hóng) argued that, “This does not mean we have limited knowledge of Mandarin” (Interview, Teacher 红 [Hóng], 04/07/2010). Her argument is that:

“Language is the carrier of culture. China and Australia are so culturally different countries, with the former having more than 5000 years of history, while the latter only about 200 years if one excludes thousands of years of indigenous culture. Different cultures give birth to different languages. Therefore, it is so hard to explain something” (Interview, Teacher 红 [Hóng], 04/07/2010).
The reason why students asked such questions, which were taken-for-granted by native speakers, was because they “explain the new language, Chinese, from their own language” (Interview, Teacher 红 [Hóng], 04/07/2010). When students found linguistic differences they had never seen before, their curiosity inspired them to ask these questions. This was what Teacher 红 (Hóng) called a “language barrier” (Interview, Teacher 红[Hóng], 04/07/2010).

What really challenged Teacher 红 (Hóng) were her Australian students’ cultural questions about China. For example, they asked why the Chinese Government blocked Facebook and Twitter. Could you tell me your views on the Tibetan problems? Because they thought it was unfair of the Chinese people, so that they were curious about Chinese perspectives on these questions. The following is an example which shows why Teacher 红(Hóng) sometimes felt it was difficult to answer some of these cultural questions:

我有一个四年级的小朋友，他说：Hong Kong is a country, not a city. 我一直想让人帮我解释这个。我们有很多关于country 和 city 的 knowledge，但是这个就是不能把你的想法完全表达出来，来说服他。这个 difference 是永远存在的，你是永远无法跨越的。

One of my grade-four students asked me: “Hong Kong is a country, not a city, right?” How could I explain all these to my students? Although we have knowledge of concepts about country and city, you still can’t express your whole ideas to students, and persuade them. Their understanding of these issues will never be the same as our Chinese (Interview, Teacher 红[Hóng], 04/07/2010).

Answering controversial cultural problems was a major challenge for Teacher 红 (Hóng), because each student had his/her opinion on China’s domestic and foreign affairs. In Chinese, there is a metaphor, ‘只能意会，不能言传 (Zhī Néng Yì Huì, Bú Néng Yán Chuán)’, which means that something can only be felt, cannot be explained in words. That is why Teacher 红(Hóng) found this difficult to answer these questions which were important for her students. However, she did not design any lessons to explain these issues.

In other words, according to Teacher 红(Hóng), knowledge of subject matter (Chinese) includes in-depth knowledge of the language itself and knowledge of Chinese
controversial cultural issues in China. As for the former, there was no doubt that some questions that native speakers taken-for-granted could become teaching points. However, it took Teacher 红 (Hóng) time and experience to know what questions Australian students would ask, and how she as a teacher could explain these answers. As for the latter, Teacher 红 (Hóng) still found some difficulty in responding to her Australian students. Nevertheless, no matter what questions popped up in whatever situations, Teacher 红 (Hóng) needed to be flexible and react quickly to avoid embarrassment. This she called “teacher wisdom” (Interview, Teacher 红 [Hóng], 04/07/2011).

In the example lesson (see Appendix XXIV), Teacher 红 (Hóng) demonstrated a good command of the new vocabulary, sentence structures and cultural comparisons. However, what is relevant for this research is what instructional strategies Teacher 红 (Hong) used to teach the difficult characters and complicated sentences, and also how she represented Chinese culture to her students. However, there are no or little evidence from either her thesis or the interview.

### 5.3.5 Knowledge of general pedagogy

Teaching is a long learning process, especially for a beginning teacher-researcher like Teacher 红 (Hóng). From the very first day when Teacher 红 (Hóng) started teaching Chinese in Australian schools, she gradually got used to the noisy Australian classrooms. Teacher 红 (Hóng) accumulated a variety of classroom management skills and strategies by learning from experienced teachers. She also tried to change herself to be a more engaged teacher by exploring interesting topics related to students’ daily life, so as to engage the students. At that moment, Teacher 红 (Hóng) found herself stepping into a totally different stage, that is, she could feel herself in control of the classroom situation, and was confident about introducing the teaching/learning topics. However, Teacher 红 (Hóng) faced another dilemma. The short lived victory seemed to disappear. This was because she used Chinese methods to conduct her lessons.

One example was that Teacher 红 (Hóng) used a PowerPoint presentation to introduce a new topic. When starting a topic, Teacher 红 (Hóng) preferred to make a presentation and to talk a lot. In this way, she wanted to tell students whatever she knew, and she
expected these students would listen carefully and remember it all. However, students gradually ignored her, and eventually the classroom became noisy again. Thus, classroom management became a problem again. She reflected in her thesis on this:

Even if the topic is interesting to the students, but the way I conduct the lesson is not the one they can cope with. I learnt that it is a problem to transfer a Chinese system of education and Chinese teaching strategies to an Australian context (Teacher 紅[Hóng]’s thesis, 2010, p. 27).

After the lesson, she asked for advice from a classroom teacher. Then, she suddenly realised the problems with her lesson:

Your presentation was too long. Students in Australia are not used to listening. They like talking. During the presentation, you should ask students to share their opinion and ideas instead of focusing on your ideas. You can also provide questions for students to answer. In this way, they would have been engaged instead of just listening (Teacher 紅[Hóng]’s thesis, 2010, p. 26).

Giving a presentation or lecturing to students is an established way of teaching in China. But the reality is that Australian students do not want to be lectured for half an hour or more. They want to talk and share their opinions. They are not engaged by being lectured at.

Teacher 紅 (Hóng) was educated in a Chinese way, where by teachers transmitted knowledge to students. Students take notes to receive the information. Students remember this information and then sit examinations based on it. The teacher ranks students according to their academic marks from the highest to the lowest. Students who achieve high academic marks are labelled as good learners. Students with less successful academic results are labelled as poor learners. No consideration is given to the relationship between teaching and learning. However, when Teacher 紅 (Hóng) used these teaching strategies in Australia, they did not work. Australian students are not used to being taught in this way. Teacher 紅(Hóng) realised that she had to change her teaching strategies, and more importantly to change her view of teaching and learning if she wanted to engage Australian students in learning Chinese. In addition, she also realised that she did not receive adequate teaching training in China. In Australia she was being educated to be a different type of teacher-a teacher-researcher.
Therefore, Teacher Hóng (紅) began a process of exploring what is meant by teaching and learning. There was an urgent question that hindered teaching efficiency, namely, how to teach Chinese so as to maintain her students’ learning interests. A long period of talking is absolutely not a suitable pedagogy for Australian students, who like to talk and move. Thus, what could be the appropriate strategy? Through discussing this with teacher educators, classroom teachers and students, she found that using hands-on activities relating to Australian students’ daily lives provided an effective way to engage students in learning Chinese. In addition, pedagogies such as group work, games and competitions could make hands-on activities more appealing and the learning of Chinese more engaging. The following is an example that I summarised from Teacher Hóng (紅)’s thesis to demonstrate how she used hands-on activities in her teaching:

<table>
<thead>
<tr>
<th>Kuài Zi</th>
<th>Chopstick</th>
</tr>
</thead>
<tbody>
<tr>
<td>筷子</td>
<td></td>
</tr>
</tbody>
</table>

Teacher Hóng (紅) showed students how to use the kuài zi (chopsticks) by providing oral instructions. Then she had everyone do likewise. After that, a competition was organised to see which student was the best at picking up pebbles using kuài zi. First, Teacher Hóng (紅) asked her students to organise themselves into groups with four in each one. In each group, two competed with each other while the other two kept records. Then the students swapped roles, and finally the winner in the group was found. Then the winners of each group competed with each other to find the champion kuài zi user in the whole class.

Competing with each other using kuài zi was an interesting hands-on activity that involved the students’ in language learning. The competition stimulated students’ interest in learning how to use kuài zi while at the same time they practiced speaking Mandarin. In Teacher Hóng (紅)’s thesis, she reflected on the value of teaching students Mandarin by using competition:

Students moved to a higher level of learning. Competing requires confidence and skill. It requires students to assimilate new knowledge with the skills they already have, to hone new ones. To be successful in competitions requires insight. Competitors have to “see” some aspect
of the task differently to others. They have to actively “seek out” this difference. In this way, competition engages students. Students are involved in learning experiences by hands-on activities that help them to become more competent and empowered learners (NSW Department of Education and Training, 2006) (Teacher 红(Hóng)’s thesis, 2010, p. 189).

‘一箭双雕’ (Yī Jiàn Shuāng Diāo) is a popular Chéng Yǔ (成语) in Chinese. This metaphor literally means ‘killing two birds with one stone’. In this instance, it indicates that one strategy can be a powerful tool for achieving multiple purposes. In the above example, using kuài zi not only hooked students’ interests emotionally and behaviourally as they happily participated in the competition, but also engaged them cognitively. First, they had to learn the correct way to hold the kuài zi, and then they learnt how to use them to grab some pebbles. In the competition, they thought hard to figure out how to conquer their counterparts. This example shows the importance of Teacher 红(Hóng)’s increasing knowledge of her students. As time went by, she became more competent in finding suitable pedagogies, topics and materials to engage students in learning Chinese.

In order to scaffold students’ learning, Teacher 红(Hóng) used the strategy of revision at the beginning of each lesson. By incorporating the last lesson’s content into the beginning of the next lesson, the students could use their prior knowledge and make connections to the new knowledge. For example, in the sample lesson (see Appendix XXIV), students had to use Chinese when they asked the teacher for materials to make kites. The words for these materials had been learnt in the previous lesson and revised at the beginning of the next lesson.

This systematic structuring of lesson order was developed based on Teacher 红(Hóng)’s beliefs about learning and learners. She subscribed to what might be called a constructive view of learning:

I should develop my lessons as “chunks” with each “chunk” connected to the one before it and the one after it. This has to be done so that students can see how each part fits. … As the lessons went on, I added more rigour and more content about the Mandarin language and the students just did it (Teacher 红[Hóng]’s thesis, 2010, p. 169).
In each lesson, Teacher Hóng taught some Chinese other students. Then for the next lesson, she taught more content and increased the level of difficulty for students to help them build their vocabulary and knowledge. When making the kite, she anticipated and accepted that some students’ kites might not function well. Then she gave students further time to improve upon their skills and understanding by further researching. As students constructed their knowledge, they could see improvements in their kite-making. In this way, it was a student-centred teaching strategy.

In order to maximise students’ learning, it was important to use appropriate pedagogies. Teacher Hóng knew that her students liked hands-on activities, which engaged them in doing and knowing. Pedagogically, the kite-making lessons through active students’ participation helped them work towards becoming more effective language learners. Students were involved in hands-on learning experiences that helped them to become more competent learners (NSW Department of Education and Training, 2006). Knowing and doing is consistent with constructivist teaching and learning. Constructivism is related to pedagogies that promote learning through knowledge and action (Skamp, 2004).

Teacher Hóng thought it was crucial for students to express their knowledge in class because she believed in the active role of the learners. Therefore, she organised discussions to talk about the similarities and differences between Chinese and Australian kites. She also used surveys to collect advice from students about what they would like to learn in the next lesson.

By this stage, Teacher Hóng had gradually adapted herself to the Australian teaching and learning culture and got to know her students’ interests, hobbies and characteristics. Based on this knowledge, she steadily gained the confidence to deliver lessons which engaged both the students and herself. Following this, she entered into a process of improving her teaching by reflecting on each lesson and learning from experienced teachers. She developed her professional capabilities, especially in knowing how to help students to learn the Chinese language by engaging them in knowledge and action. Through this process, Teacher Hóng moved from being a beginner to a professional.
1) **Student-centred approach**

Teacher 红 (Hóng) acquired in-depth knowledge of student-centred pedagogies. She learnt to choose teaching topics and to use activities to organise these topics, which represented her understanding of student-centred pedagogies. She chose appropriate pedagogies based on her increased knowledge of her students and their needs. She broadened her view of the student-centred pedagogies, which not only manifested itself before the lesson, but also during and after the lesson. She realised that different student-centred teaching pedagogies needed to be applied before, during and after lessons. An extract from the thesis shows how Teacher 红 (Hóng) started to learn about scaffolding lessons:

> I found that I needed to play a role in scaffolding. I had to help students to learn. I had to provide a variety of materials for students to choose from. I had to have discussions with students but they had to find out the solutions by themselves. I had to guide them to keep them on the right track. But, I should put the responsibility on to the students. I had to learn to see the student as the centre of their learning (Teacher 红 [Hóng]’s thesis, 2010, pp. 168-169).

Involving students in decision-making processes, such as choosing learning materials, is necessary if a teacher is to implement student-centred teaching/learning pedagogies. Teacher 红 (Hóng) had to be prepared to give up some aspects of control so as to be in control of the overall teaching/learning process. Being in control of the teaching/learning process is different to being in control of transmitting knowledge without being questioned. Rodgers (2002, p. 1) defines student-centred pedagogy as “putting more responsibility on the learners for their own learning”. In the sample lesson (see Appendix XXIV), Teacher 红 (Hóng)’s knowledge of pedagogy was demonstrated by her use of hands-on activities in group work, and the use of post-cards to cater for visual learners.

However, this was difficult for Teacher 红 (Hóng) to accommodate in terms of how she viewed the relationship between teaching and learning. This was because she was educated in a teacher-centred education system, where the teacher determines everything for students, and examination determined everything for both teachers and students. Therefore, student-centred pedagogy threatened her fundamental views.
about control and authority. In Australia, control has to be negotiated, and authority has to be secured by consent and not forced. This accords with Australia’s democratic culture. Nevertheless, she knew that she needed to learn more about this pedagogy in order to adjust to the Australian teaching/learning culture.

Student-centred pedagogy is also manifested in the macro view of the teaching/learning processes, including the long and short programming, as well as students’ assessments. Teacher 红 (Hóng) learned how to program lessons using student-centred pedagogies. She said, “In Term 1, 2009, I chose a different topic for each lesson. But in Term 2, 2009, I learnt how to program a lesson from my principal research supervisor so that it became part of a sequence of lessons” (Teacher 红 [Hóng]’s thesis, 2010, p. 169). Teacher 红 (Hóng) moved from randomly choosing topics with no connections to connecting each lesson to inform continuum, with each lesson informing the next, and building on the one that preceded it. In this way, students could see how each part fitted together. This added more rigour to the teaching/learning process.

In New South Wales, there is no single prescribed textbook for teachers to use in the classroom. This is different to the test-driven textbook-focused teaching in China. In Australia teachers develop language learning programs according to the syllabus’s requirements based on their knowledge of students. The topics to be taught have to be related and interrelated so that students can consolidate their learning as they move through the sequence of lessons. In addition, the lessons are planned so that they “demonstrate links between and within subjects and key learning areas” (NSW Department of Education and Training, 2003, p. 15). In this regard, student-centred pedagogies are of particular importance.

Teacher 红 (Hóng) also learnt that student-centred pedagogies consider students’ interest:

When I teach something, I should take their happiness or enjoyment into consideration. As a teacher, my role is not to transmit knowledge, but to engage students in learning in a substantive way. In this way teaching is sustainable. I have learnt that teaching is just like any ecosystem. The teacher provides an environment where energy, the
energy of learning can be recycled, the content is connected and the skills are transferrable so that learning becomes sustainable (Teacher Hóng’s thesis, 2010, p. 170).

Student happiness and enjoyment are important. This is why during the first stage of teaching, Teacher Hóng worked to find interesting topics that students might like. If the students did not see the relevance, then they could not see the point of learning Chinese. Students’ emotional non-engagement leads to teachers’ lower engagement. Teacher Hóng understood that it was her responsibility as a teacher to provide a learning environment where students’ interests were engaged in the teaching/learning process to make learning Chinese worthwhile. It provided an environment where she could teach best.

In other words, student-centred pedagogies run through the whole process of teaching and learning. At the macro level, it is the core concept which guides Australian teachers to program the whole language schedule, and continuously evaluate students’ learning development. While at the micro level, it helps a teacher to choose proper teaching/learning materials and strategies in order to conduct effective lessons. It requires teachers to think about what is the most appropriate way for students to learn.

In conclusion, it is important for teachers in Australia to choose student-centred pedagogies in order to conduct successful lessons. Student-centred teaching/learning pedagogies enable to promote students’ capabilities for making informed choices, and require lessons that are programmed for sequential learning development. Student-centred pedagogies promote classroom learning environments inspired by the idea of democracy-the power of the people.

2) Rethinking of rote learning and revision

For Teacher Hóng, it was surprising to find that rote-learning was an engaging teaching strategy in Australia. In China, where education is exam-oriented, there is no doubt that rote-learning is the dominant teaching strategy from kindergarten to university. It is virtually the only teaching strategy used throughout the entire education process. However, in Australia where language teaching is communication-oriented, rote-learning is thought to be a helpful teaching strategy for
learning Chinese. Nevertheless, Teacher 红 (Hóng)’s evidence indicated a different situation. As her teaching experiences accumulated, Teacher 红 (Hóng) realised that rote-learning has a legitimate place in Chinese teaching in Australia only if it is complemented with other pedagogies, such as games, discussions, debates, drama, the use of technology, group work and hands-on activities. The reason was that multiple pedagogies helped students retain and reinforce what they learnt.

Teacher 红 (Hóng) and other teachers commented on the importance of rote-learning when teaching the Chinese language to non-lingual English-speaking students. The classroom teacher, Joelle, spoke about the importance of rote-learning, “revising the last lesson at the beginning is a good strategy” (Teacher 红[Hóng]'s thesis, 2010, p. 208). Revision is helpful for students to recap Chinese they have covered in the previous lesson because they have another chance to master what they are expected to know. Joelle used her own teaching experience to elaborate on why she thought rote-learning was important:

Rote-learning is good, especially with a foreign language. I have taught language-Hindi. I would get students to repeat all the new words they learn. It is a foreign language and they are just not used to it. The pronunciation comes after a lot of practice. It is a good idea for them to say it again and again (Teacher 红[Hóng]'s thesis, 2010, p. 208).

Joelle highlighted the importance of revision and rote-learning as pedagogies especially with Chinese because revision helps students to experience success, and continue to engage with the language. John, Teacher 红(Hóng)’s research supervisor, explained why rote-learning was a pedagogy:

Some of the strategies used in China can also be used here in Australia, such as rote-learning … It is often frowned upon because we tend to use it too much. But as long as it is mixed in with other strategies, as long as the strategies work together, it is OK. I think rote-learning can help in learning a new language (Teacher 红[Hông]'s thesis, 2010, p. 208).

John thought that mixing-up rote-learning with other pedagogies made rote-learning as engaging as most innovative pedagogies. Rote-learning helps students retain and remember what they have just covered in class. However, rote-learning should not dominate, but complement other pedagogies.
Rote-learning is a prevailing pedagogy used in China, and could be of value in Australia appropriately used with other pedagogies. In this way, students are able to retain what they have learnt, so that they feel that they are capable of learning Chinese. This feeling allows students to demonstrate what they know and can do, while challenging them to learn more.

In summary, teachers’ knowledge of pedagogy includes knowing how to use games and group activities to organise language lessons, as well as how Chinese can be made learnable. In Australia, teaching Chinese is aimed to be communication-oriented. According to Teacher 红 (Hóng), Chinese can be taught by rote-learning coupled with multiple pedagogies.

5.3.6 Knowledge of curriculum

There was not much evidence of curriculum knowledge from VTRs. Most of the time, volunteer Chinese teachers, including Teacher 红 (Hóng), randomly choose interesting topics without considering building connections between the topics chosen. In other words, the topics that students have learnt are fragmented, rather than being coherent and sequential.

5.4 New categories of knowledge

There are two categories of knowledge that Teacher 红 (Hóng) believes important to support her teaching in Western Sydney schools. They are knowledge of self and knowledge of English. These two categories are different from the categories of knowledge base from literature (see Chapter 2, Table 2.1). I explain these two categories as follows.

5.4.1 Knowledge of self

Leask and Moorhouse (2005, p. 8) claim that “teaching is a very personal activity … there are differences between teachers which relate to personality, styles and philosophy.” In many cases, teachers’ own personalities, emotions and values have significance and influence on the teaching/learning process.
Teacher 红 (Hóng) said, “I am an emotional person. My personality influences my teaching” (Teacher 红 [Hóng]’s thesis, 2010, p. 177). This point is illustrated by her supervisor’s comments from her thesis:

My feelings are a very important part of my teaching. I may not always show them but that does not mean they are not there and they do not influence my teaching. When I feel good, I can make full use of my ability. I am a sensitive and emotional person so when I feel good, it is easy for me to engage myself in teaching. My research supervisor told me that when I inject myself into the task of teaching it is infectious and that everyone in the class wants to learn. As a teacher, I have a responsibility to teach students to the best of my ability (Teacher 红 [Hóng]’s thesis, 2010, p. 177).

Teacher 红 (Hóng)’s personality and personal views influenced her teaching and her views on teaching and learning. When she felt good, she could teach better, which resulted in promoting students’ learning. Martin (2006) states that a teacher’s emotional engagement and enjoyment of teaching influence students’ engagement in the learning process. Teaching in a positive way encourages students’ learning. Teaching does not occur in a vacuum. To be an engaging teacher, teachers have to immerse themselves in their teaching.

There are numerous factors that can influence teachers’ emotions. For Teacher 红 (Hóng), one of the major factors was her negativity about students’ learning. Martin (2006, p. 83) states that “teachers’ perceptions of students’ mastery orientation are the strongest correlation of teachers’ enjoyment of teaching. Furthermore, teachers’ perceptions of students’ persistence and students’ planning are the strongest correlates of teachers’ confidence in teaching”. Teacher 红 (Hóng) was constantly told that majority of her students were not interested in Chinese and did not want to learn. The problems she had with classroom management caused her to believe this. This was despite the fact that she was not supposed to be in charge of classroom management. This negativity coloured Teacher 红 (Hóng)’s views about the students and also about teaching. Consequently, she felt sad and unhappy about both her teaching and about being a teacher. However, she came to realise that her negativity impeded her teaching and her engagement in becoming a teacher:
I was told that students in the high school did not want to learn. Their bad behaviour was also because of my teaching. Gradually, I developed a negative view of teaching my Year 8 students. This was a bad cycle I was in. If I felt negative about students’ learning, I was not engaged in teaching and felt I did not want to be a teacher. Students easily lost their attention and became less engaged in the classroom. Then, the more they paid less attention, the more negative the view I held about them (Teacher 红[Hóng]’s thesis, 2010, p.166).

Therefore, there is a relationship between Teacher 红(Hóng)’s views of her students’ learning and her own teaching. When her students became less engaged in lessons, it caused her to become upset and less confident in her teaching. Teacher 红(Hóng)’s negativity then impeded her teaching performance, which increased her sense of negativity. Her negativity decreased her engagement with teaching and students’ learning. Therefore, it is important for teachers to control their own emotions and change their views about teaching from a negative to positive one.

Teacher confidence is another important factor that Teacher 红(Hóng) believed to influence in her teaching. Below is an extract from her thesis that demonstrates why she made conscious effort to build her confidence level:

Students were very noisy and I could not get used to the high volume of noise. I felt upset and uncomfortable after teaching my lesson. … But my classroom teacher and my colleague VTR thought my lesson was good. I began to dislike the naughty boys who always talked and disturbed the other students. After this lesson, I realised that my feelings and my emotional engagement in the class and towards the students were changing. I felt nervous and I was reluctant to teach in the high school (Teacher 红[Hóng]’s thesis, 2010, p. 161).

Teacher confidence influenced how Teacher 红(Hóng) taught and her views of her students. Importantly, Teacher 红 (Hóng)’s confidence influenced her own engagement as a teacher. She knew that she was an emotional person. Her personality was part of who she was, and this impacted her teaching. For Teacher 红(Hóng), to became professional, she needed to put her emotions aside, especially the negative ones. However, as a beginning teacher, stress was often a problem. Therefore, a useful tool to help Teacher 红(Hóng) to view her teaching/learning positively was to be conscious of her confidence in the classroom.
Apart from a teacher’s personality, Teacher 红 (Hóng) added other elements into knowledge of self during the interview:

作为课堂主导者的老师，除了要了解学生，你自己的兴趣爱好也是蛮重要的。如在澳洲，我很喜欢master of chef的节目。我很喜欢看那些节目。回国后，我在教水果的时候，我就做了一个master of chef。是让我的学生全部讲中文的，非常成功。

As a teacher, knowing yourself, including your own teaching style and interests or hobbies, is as important as knowing your students. For example, I like the Australian program “Master Chef” very much, so, later, I pretended to be the master chef and teach my students fruits. It was so much more successful (Interview, Teacher 红 [Hóng], 04/07/2011).

Knowing about yourself has to be a comprehensive undertaking. A good teacher is one who knows how to control emotions and how to organise and present lessons in a way that he/she is best at. It is not always easy at first, but gradually teachers will find their own teaching styles. This is something that they learn from combining action and knowledge. Knowledge of self is demonstrated in the Teacher 红 (Hóng)’s sample lesson (see Appendix XXIV). She knew that she was good at transmitting cultural knowledge. She also understood that she had the ability to use hands-on activities, for example, how to make kites and fly kites. She knew what she was good at, and capitalised on these capabilities.

5.4.2 Knowledge of English

When teaching Chinese in an English-speaking country, the English language plays a pivotal role in teaching as it serves as the only medium of communication. English is used as a mode of communication with staff and students so that a good relationship can gradually be established. English is also used to transfer a teacher’s knowledge to students. It is such a necessary tool for classroom instructions. Teacher 红 (H sóng) illustrated with the following example:

比如学生的问题，只有当你把英文问题理解得比较透彻后，你回答得也会更有针对性些。
For example, only when you can understand students’ questions thoroughly, you then can answer them more accurately (Interview, Teacher 红[Hóng], 04/07/2011).

Australian students like asking teachers questions. If a teacher cannot understand their questions, then this teacher’s authority will undoubtedly be reduced, which is often difficult to re-gain.

Moreover, for the VTRs, teaching and researching are two important parts of their evidence-driven teaching that cannot be easily separated. English also serves as the primary medium to communicate through their research. VTRs read English articles, and then write reflections in English. In summary, based on Teacher 红(Hóng)’s views, knowledge of English includes knowledge of academic English and knowledge of English for teaching.

5.5 Teacher 红 (Hóng)’s pedagogical content knowledge

Teacher 红(Hóng) acknowledged that she did not know what knowledge constitutes PCK, how to present it in the lesson, and where she could show that she used PCK. From my perspective, Teacher 红(Hóng) was at the beginning stage of PCK, as she put more attention on activities that work, such as using interesting topics and engaging activities to attract students, rather than on the teaching and learning of Chinese. However, knowledge of content/subject matter is the focus of PCK.

For Teacher 红(Hóng), who was teaching Chinese in Western Sydney (Australia), her primary focus was simply on motivating and engaging students to learn anything relating to China, and not on making Chinese learnable. Therefore, she organised a variety of interesting and fun topics and activities for her mainly non-background English-speaking students. She used this pedagogy, on the one hand, to minimise students’ misbehaviour, and on the other hand, to maximise students’ engagement. She did a wonderful job, and was successful in this regard. But this was a superficial level of PCK. PCK shows its power only when the focus is on it the subject content, that is, making Chinese learnable.
Teacher 红 (Hóng) admitted that the main purpose of her so-called Chinese lessons was for her students to learn a little Chinese by exploring Chinese culture. The major focus was on the activities that provided a basis for students to learn in an interesting way. As time went on, she needed to incorporate more Chinese language in her lessons. Sometimes, her students wanted to learn the rigour of the language. Fun activities are of no use for students if they do not learn the language itself. Making Chinese learnable requires a teacher to have a deeper and comprehensive knowledge of the content, and how to present the content. In other words, it requires teachers to develop pedagogical content knowledge, and not to just focus on engagement or motivation.

5.6 A knowledge base for beginning teacher-researchers

The above analysis explored the categories of knowledge that Teacher 红 (Hóng) learned during her teaching in Western Sydney schools. It identified what key categories of knowledge were, why they were important, and how they influenced each other. Teacher 红 (Hóng)’s knowledge of general pedagogy was influenced by her knowledge of learners and their characteristics. Her knowledge of subject matter/content was influenced by her beliefs about the subject, and knowledge of educational ends, purposes and values. Her knowledge of the educational context helped her develop to be a more engaged teacher. Her knowledge of assessment was not fully demonstrated. In the sample lesson (see Appendix XXIV), she did ask students to use their known Chinese vocabulary to ask questions. This might be regarded as a type of informal assessment. In addition, Teacher 红 (Hóng)’s claimed knowledge of self and knowledge of English are important for her to conduct lessons successfully. This analysis provides useful insights into the knowledge development of beginning teacher-researchers and their future professional development.

However, what needs to be noted is that the interaction between knowledge components is complex. Sometimes several categories of knowledge inform teacher-researchers’ decisions about the selections of materials, teaching approaches, and organisational strategies. It is also very difficult to clearly distinguish what category of knowledge is being used.
Teacher 红(Hóng) also stated that she did not have a good understanding of PCK, as she did not focus on the language during her first stage of teaching. Instead she focused on using interesting topics to engage students. This confirms that PCK distinguish experienced teachers and novice teachers (Shulman, 1987). But each category of knowledge she had learned, used and developed provided a solid foundation for her development of PCK. Therefore, based on analysing Teacher 红(Hóng)’s thesis and interview, a knowledge base for beginning teacher-researchers is established and demonstrated in Figure 5.1.

![Figure 5.1: A knowledge base for beginning teacher-researchers](image)

This figure illustrates that the knowledge base from literature (see Chapter 2 Table 2.1) is important for beginning teachers, while the other two categories, namely, knowledge of self and knowledge of English are also important, especially for teachers who teach in an English-speaking country, Australia in this case. The development of such categories of knowledge helps beginning teachers to adapt to the new teaching context during their first stage of teaching. This also helps them move into the second stage, that is, how to make use of these individual categories of knowledge in a cohesive way so as to teach the content (Chinese language) to their students. This is the essence of PCK.
5.7 Becoming a teacher-researcher through the ROSETE Partnership

One and a half years of volunteering to teach Chinese in Australia was memorable and worthwhile for Teacher 红(Hóng). She developed from a novice teacher to becoming an experienced teacher-researcher. When interviewing this teaching/learning journey, Teacher 红(Hóng) recognised a variety of factors that contributed to her professional development, among which, the ROSETE program was the most influential factor. This program provided Teacher 红(Hóng) an opportunity to teach Chinese as a second language. It also trained her to be a reflective teacher through integrating teaching with evidence-driven research. Teacher 红(Hóng)’s view of this program is as follows:

ROSETE program teaches an effective way to improve my teaching. It is called ‘reflection’. It is advised that you have to reflect not only on your teaching for the day, the week, or even the whole term, you also have to reflect on the gaps between teaching and research. Only then, you actually get the essence of ‘reflection’. Up till now, no matter what I’m doing, I always do lots of reflection, which has already been a habit for me. Haha, sometimes, it is so tiring when I can’t help thinking of everything in my daily life (Interview, Teacher 红 [Hóng], 04/07/2011).

Teacher 红(Hóng) recognised that integrating teaching and research, as well as action and knowledge provided her a comprehensive understanding of the teaching and learning of Chinese by English-speaking school students. She used research to guide improvements in her teaching. The process provided time for Teacher 红(Hóng) to reflect on, and analyse the positive and negative aspects of her teaching before, during and after lessons. Then, her next lesson could have scope for improvement, based on the analysis of evidence from the prior lessons. In addition, her research gave her a benchmark to measure her own improvement with regard to her teaching.

Teaching Chinese as a second language was a dream for Teacher 红(Hóng) since the time she was the University in China. After one and a half years as a volunteer teaching Chinese in Australia, Teacher 红(Hóng) became more determined to pursue a promising career in education. When she came back to China, she found a job at an international school in Ningbo to teach Chinese to foreigners. Recently, she came back to Australia to pursue her PhD studies.
Teacher 红(Hóng) said that volunteering to teach Chinese in Australia helped her learn and develop. She learnt a variety of teaching skills and strategies, which she still used in teaching Chinese in China. What she learnt most from this experience was to become a reflective teacher. She said:

The ROSETE project trained teachers using a research project embedded in school classroom practice rather than through tutorials and lectures. When the teacher-researcher was conscious of applying learning theory to guide teaching practice, it helped her to reflect on both the research study and her teaching practice (Teacher 红[Hóng]’s thesis, 2010, p. 153).

The ROSETE Partnership, as a research-oriented, school-engaged teacher-researcher education program, enabled Teacher 红(Hóng) to reflect on her teaching practice and apply relevant theories to guide her teaching practice. The perspective of teacher-as-researcher helped Teacher 红(Hóng) to improve her teaching proficiency by recognising that a beginning teacher moved through a series of developmental stages in the process of becoming a teacher. Lankshear and Knobel (2004) argue that there are two goals for teacher-researchers, namely, to enhance their sense of self-identity as professional teachers, and to improve their teaching practice in the classroom in order to improve students’ learning.

In summary, the concept of teacher-researcher is deeply embedded into Teacher 红(Hóng)’s minds. Through the ROSETE program, Teacher 红 (Hóng) developed considerable knowledge related to teaching Chinese to non-background students and formed a habit for reflective-based teaching.

5.8 Summary

At the start of her journey, Teacher 红(Hóng) was an inexperienced beginning Chinese teacher who lacked confidence. Eighteen months later, she had become a more confident and experienced teacher. It is said that it is always torturous for beginning teachers at the initial stage of their teaching career. However, it is such a valuable and worthwhile experience when they can demonstrate what they have overcome and achieved. How fruitful this could be!
Teacher 红 (Hóng) changed her focus from understanding students’ behaviour to learning about Australian classroom realities, through learning how to deal with student behavioural problems by learning classroom management techniques. Her emphasis on imposed discipline was replaced with the promotion of students’ self-discipline. She took the time and effort to find interesting topics to minimise students’ misbehaviour.

Over the eighteen months, the first priority for Teacher 红 (Hóng) was to motivate and engage students. However, the emphasis changed from this concern for controlling students’ behaviour through improving the classroom learning environment to focusing more on learning to become a better teacher. In other words, initially, Teacher 红 (Hóng) identified a good lesson as one that engaged and motivated her students in order to manage their behaviour. As she developed her professional capabilities as a teacher, she focused on developing a quality teaching/learning environment to promote both student and teacher learning.

Experienced teachers are good at using this knowledge base (Figure 5.1) to maximise their teaching and students’ learning. What emerged as important from this analysis is the need to investigate how VTRs might make better use of this knowledge base in a more integrated way so as to make Chinese learnable for Australian English-speaking learners. This is the focus of Chapter 6.
知识应用 (Zhī shí yīng yòng)

Applying knowledge in classroom
Making Chinese learnable

*Picture from:*
CHAPTER SIX

DEVELOPING PEDAGOGICAL CONTENT KNOWLEDGE FOR MAKING CHINESE LEARNABLE FOR BEGINNING LANGUAGE LEARNERS IN AUSTRALIA

6.1 Introduction

This chapter records my first eighteen months of face-to-face classroom Chinese teaching journey in Australia. ‘Odyssey’ is used as a metaphor to analysis evidence of problems and difficulties I encountered, and my strategies to overcome them. This metaphor also explains why learning to be a Chinese teacher-researcher in a totally new teaching/learning context in Australia is so torturous and challenging. The purpose of analysing evidence of my teaching is to generate an account of pedagogical content knowledge (PCK) that I developed in order to facilitate the learning of Chinese by beginning language learners in Australia. In addition, in order to analyse the knowledge I developed during my teaching journey, I compared those with the evidence presented in Chapter 5, and the literature reviewed in Chapter 2. As a teacher-researcher, such comparisons provided me a deeper understanding of PCK.

Throughout this chapter, the first person ‘I’ is used to depict my personal experiences and stories, and to build a closer relationship between myself and readers. This chapter is organised in a chronological sequence to present insights into my evolving as a professional and as a learner (Cohen, Martin, & Morrison, 2007, p.263). It begins with brief introduction of the teaching context, including the school I was engaged with in teaching Chinese most of the time, and my mentor at this school. Following that, I present categories of knowledge that are considered important to help me adapt into the teaching context, and also necessary to develop the use of PCK. Then, this chapter focuses on how I use PCK as a tool to make Chinese learnable via cross socio-linguistic interaction (CSLI). Finally, a discussion of knowledge development between other VTRs and I are presented. The factors influencing beginning teacher-researchers’ professional learning are also analysed.
6.2 Teaching in an Australian high school

My teaching journey presented in this chapter happened in an Australian high school. For ethical reasons, I give this school a Chinese name: 明星学校 (Míng Xīng Xué Xiào) (a pseudonym). “明星 (Míng Xīng)” literally means ‘stars’ in Chinese. Since this is a sports high school, it is likely that many of its students will be sports stars in the future. In the following sub-sections, I introduce a general picture of 明星学校 (Míng Xīng Xué Xiào), and my teaching mentor at this school-太阳花 (Tài Yáng Huā) (a pseudonym). Such information is necessary to better understand my teaching journey.

6.2.1 Background information of 明星学校 (Míng Xīng Xué Xiào)

Like other public schools, 明星学校 (Míng Xīng Xué Xiào) is located in a low socio-economic area within Western Sydney. The majority of the students at this school come from poor families, and some have problems, such as divorced parents or the death of a close relative. These influences negatively affect students’ studies. Therefore, teachers at 明星学校 (Míng Xīng Xué Xiào) not only act as learning guides, but also life carers. These two roles benefit each other. Teachers who know much about students help them in their studies. In turn, this means that students gradually learn that the teachers care about their studies and personal well-being.

Unlike other Sydney schools, 明星学校 (Míng Xīng Xué Xiào) is a sports-oriented school, which has produced numerous sporting competitors at both national and international levels. Bearing this in mind, teachers know how to use sports in their short and long term teaching/learning plans, so that students can learn in engaging and interesting ways. This feature of the school also means that many students have sports training study apart from their heavy study workload schedule each day. This requires teachers to think how to assist students to balance study and sports, so that they can achieve win-win results.
6.2.2 Background information of 太阳花 (Tài Yáng Huā)

As a new teacher-researcher, it was important to get an overview of the school. It was also necessary to find a mentor at the school, who could help me survive the first stage of my professional learning, whilst also being a teaching guide in the later stages. Fortunately, there was a helpful mentor at 明星学校 (Míng Xīng Xué Xiào) to help me in my challenge for making Chinese learnable. For the ethical reasons, I also gave her a Chinese name- 太阳花 (Tài Yáng Huā) (a pseudonym name). 太阳花 (Tài Yáng Huā) means sunflower in Chinese, which symbolises optimism, brightness and silent love. When I first met her, I was totally surprised by her Mandarin which she spoke very fluently and proficiently. Through three-years of mentorship, I learnt from her to be strong and optimistic while facing difficulties and challenges, especially during this stage at the beginning of my career as a teacher-researcher. Under her continuously patient guidance, caring love, and inspiring encouragement, I gradually learnt to be a competent teacher of Chinese. For all these reasons, I think 太阳花 (Tài Yáng Huā) is a suitable name for my mentor.

太阳花 (Tài Yáng Huā) studied Bachelor of Arts (Chinese) at the Australian National University for four years, which included twelve months intensive language study in China. While in China, she met her current husband. No matter where she is, and what she is doing, teaching has been an inseparable part of her life. 太阳花 (Tài Yáng Huā) once said, “I do really like teaching and students. I do not know what I can do apart from teaching. This is where my values, passion and achievement exist.” She has been teaching Chinese for almost twenty years.

She also worked in a Saturday school as a Chinese teacher for four years. While in Canberra, she taught Stage 5 and Stage 6 students Chinese for two years. After coming to New South Wales, she worked at a primary school and at a high school, teaching Chinese to students who have no knowledge of the language. Since 2005, she has been at 明星学校 (Míng Xīng Xué Xiào), teaching both English and Chinese. Her rich teaching experiences have equipped her with abundant knowledge of students and pedagogies. Because of this, she was invited to act as a mentor in a Language Re-training Program, and in the ROSETE Partnership. She has trained three English
practicum teachers, two Chinese practicum teachers, and three VTRs from the ROSETE Partnership. I was very lucky to be one of them.

Accompanying me through these three years, she devoted her whole heart and soul to guiding me to become a capable and professional teacher. She provided advice and feedback before and after lessons, and also taught me how to plan a program, a unit, and lessons, how to create tests, how to mark papers and how to assess students’ achievement. What I learnt most from her was how to teach Chinese to non-background students, which was entirely different from my initial modes of teaching. She wanted to train me as a professional teacher, not just a Chinese volunteer, so I could deliver my lessons and know the results of my teaching. She planned step by step to gradually train me to be a real teacher.

6.3 Knowledge development through my teaching journey

During language teaching methodology training with the NSW DEC, we were asked one key question, “What in your mind, makes a best teacher? We brainstormed a variety of qualities that a good teacher should possess. For example, a good teacher should be patient, engaging, enthusiastic, caring, fair, humorous, open-minded, respectful, and appreciative. My peers thought about a good teacher in terms of personality and characteristics. However, from my point of view, a good teacher should first of all be knowledgeable and intelligent in the subject that he/she is teaching. If he/she has some of the good qualities that are mentioned above, then he/she will not only be very capable, but also more likely to be a popular and fantastic teacher. Based on this understanding, I was very keen to explore effective teaching through the knowledge gained by the teachers.

This section records my personal development from seemingly knowing nothing about Australian schools, and its education culture to knowing much about students and the Australian classroom environment. As time went by, I gradually developed knowledge, skills and capabilities to teach Chinese with the guidance of 太阳花 (Tài Yáng Huā). I present each category of knowledge as follows.
6.3.1 Beliefs about subject and knowledge of educational ends, purposes and values

When I started the journey of teaching Chinese as a second/foreign language, I kept asking myself, “What Chinese might be learnable for my students?” In terms of this question, there are three views, namely, teaching the language (Mandarin); teaching Chinese culture; teaching the language and Chinese culture. I suppose for most VTRs, such as those from the first cohort of ROSETE Partnership, the focus was on teaching culture, and sometimes, teaching language associated with culture (Singh, 2013). However, for me, I think language and culture should go hand-by-hand. Language is not just a matter of the words. Rather it is the importance of the cultural context in which the language is embedded and which shapes it. Therefore, my beliefs, purposes and values for teaching Chinese is to help my students learn the language (Mandarin) and Chinese culture; more importantly, how language is used in the cultural context.

6.3.2 Knowledge of educational context

From the first day at 明星学校 (Míng Xīng Xué Xiào), I undertook almost two terms (from 28/07/2010 to 15/12/2010) of observation. This made me a little disappointed at first, because all other VTRs began to teach except me. However, 太阳花 (Tài Yáng Huā) argued that this was the most important time period for me. This experience would provide a platform for me to know Australian classrooms and students, and to prepare Chinese lessons. In her opinion, the observation periods was meant to lay a solid foundation for my subsequent teaching.

The major challenge that I identified from my observation was how teachers controlled their classes and managed students. I was totally shocked by the apparent chaos in the class, which contrasted from the Chinese classrooms with which I was familiar. The following is an excerpt recording my first lesson observation at 明星学校 (Míng Xīng Xué Xiào).

老师在上课时，学生随便说话，发短信、打电话、吃东西、玩弹弓、扔纸条、到处走动，你能想象的都能在这里看到。这是课堂吗？天哪！更难以想象的是，老师说了好几句 “stop”，学生还是
During the lesson, students do whatever they want, for example, talking with other students, sending messages, making calls, eating, playing slingshot, throwing notes, walking around…Is this a classroom? Oh, my God. Even though the teacher said “stop” several times, the students do not listen to her (Reflection diary, 28/07/2010, 明星学校 [Míng Xīng Xué Xiào]).

I was shocked because actions such as talking, eating, playing and walking are not expected in classrooms in China. In Chinese classrooms, occasionally, there does exist a few naughty and undisciplined students. However, when the teacher pauses teaching for a while, and calls out the student’s name, the student feels ashamed and stops bad behaviour. To be honest, all of these was unbelievable. I was even scared to teach at this school during that time.

I told 太阳花 (Tài Yáng Huā) about my shock after my first day’s observation, and she seemed to have anticipated this. She smiled and said, “Don’t be afraid of Aussie students, they are lovely. I am sure you will love them once you know them” (mentor’s feedback, 28/07/2010, 明星学校 [Míng Xīng Xué Xiào]). After observing several times for different subjects, I gradually realised that this was really a typical Australian classroom. I had no other choice but to accept this culture. However, the more I observed, the more worried I became, and the more unwillingness I felt about teaching.

I decided I had to change my attitude towards Australian classrooms. Meanwhile, 太阳花 (Tài Yáng Huā) gave me a three-step observational assignment in order to help me better adapt to Australian classrooms, namely, 1) Record each teacher’s language used for classroom management; 2) Memorise and practise this at home while looking at myself in the mirror; 3) Practise using this language at school.

Recording and memorising teachers’ classroom instructional language were easy. Every day, I stood before a mirror and practised the sentences. Using low or high volumes, soft or strong voices, smiling or not. I trained myself to be an Australian teacher. My mentor said, “Your voice should have the power to control others”
As time went by, I accumulated a variety of discipline sentences that suited my own style. For example:

- You look like kindergarten kids;
- It is not fair that you interrupt others studying;
- Stand up, and show me you are listening. Then, I will give you the chance to sit down, otherwise...

It was very important for me to become familiar with such typical classroom language, because this was the recurring everyday discipline language teachers use. 太阳花 (Tài Yáng Huā) said, “If you create your own words and sentences, students are not used to them. As a result, you will lose control” (mentor’s feedback, 20/10/2010). Therefore, the use of normal and often repeated classroom language to manage students in a variety of ways helped me establish myself as a more professional teacher in these Australian classrooms.

However, memorising the sentences and using them in class to discipline students was a challenge for me. The following evidence from my reflection diary describes the first time that I disciplined students:

Today, 太阳花 (Tài Yáng Huā) gave me an opportunity to discipline students. During the recess time, students are not allowed to stay in the classroom blocks; therefore, if a teacher sees some students, they have to ask them to leave. 太阳花 (Tài Yáng Huā) seized two students in front of me, and asked me what I would say to them. I looked at the students, and dared not to say even a word. 太阳花 (Tài Yáng Huā) encouraged me: “Say it, you can do it.” In the end, I said: “Get out of here.” Suddenly, my face blushed. I couldn’t believe that I did it. 太阳花
花 (Tài Yáng Huā) encouraged me again: “See, you can do it. You will get used to it. You will like shouting.” (Reflection diary, 18/08/2010, 明星学校 [Míng Xīng Xué Xiào]).

太阳花 (Tài Yáng Huā) grasped every opportunity for me to experience disciplining students. Whether I dared to do this or not, she always encouraged me. This was how she taught me to face the reality of Australian classrooms and students. This was also her strategy to help me adapt to the teaching context in Sydney. At first, I did not dare to say anything. I blushed because I was worried about my English, more so because I spoke in an unfamiliar way. However, after I tried once, I felt much more confident. 太阳花 (Tài Yáng Huā) suggested that when I became used to speaking brusquely to students, it would indicate that I had adjusted myself to Australian classrooms.

After one term of observation, I became quite familiar with the Australian school system and the classroom situation. Consequently, my attitude to noisy classrooms and the seeming misbehaviour of students changed. The following excerpt demonstrates a change in my views when compared from the very beginning to the end of term:

当我第一次接触澳洲，尤其是西悉尼的学生时，是他们的顽皮和吵闹吓到了我。而今，我渐渐喜欢上了他们的可爱和主动。我总以为学生应该尊重老师，在课堂上服服帖帖，但是现在我明白了，这里的学生不是不尊重老师，而是尊重老师的方式不一样 (Reflection diary, 18/08/2010, 明星学校 [Míng Xīng Xué Xiào]).

When I first met students in WSR, I was totally shocked by their naughtiness and misbehaviour. While now, I tend to like them because of their cuteness and initiation. In my mind, I always thought that students should respect teachers, and be obedient in the class, but now, I know that students here do respect teachers, but in a different way (Reflection diary, 18/08/2010, 明星学校 [Míng Xīng Xué Xiào]).

I adjusted my attitude to students in Sydney schools based on quite a different view of what it means to respect teachers in Australia. Before entering the school, I thought respecting teachers meant being obedient and listening unquestioningly to teachers. Now, I recognise that showing respect means having a less hierarchical and more equal relationship with teachers. When I say that students are talkative, I now understand that this is because they have the right, and are expected to pose questions to their teachers and peers, and to negotiate their understanding with teachers. This signals to
Australian teachers that the students are keen to learn. This also provides teachers useful insights into the adequacy and their understanding of the content. I realised that I could not change this democratically inspired characteristics of Australian classrooms and students. It was necessary and important to change my own attitude and behaviour, and thus my professional stance.

Because 太阳花 (Tài Yáng Huā) did one year of study in China, she knew exactly what a Chinese classroom looks like. From her perspective, she showed her understanding of this:

在中国，当一个老师站在讲台上说话时，学生内心深处有一种惧怕老师的感觉。而在澳洲，学生和老师是平等的。学生从小就没有尊敬老师的观念，所以这种“惧怕感”是你要给学生创设的。我会对学生怒吼，也会对学生笑脸，这都是因人而异的。这一开始很难，但是需要时间磨练和探索。所以，就如同我第一天跟你说的，你要先了解学生，抓住每一个学生的心。你发现吗？在我们这个学校的很多学生都是来自单亲家庭。有些学生在课堂上很吵，在课外玩把戏，但是当你真正走进他们的世界后，你会发现他们其实是想从老师那里得到母爱。他们渴望母爱。这就是为什么 **(a student) 每次见到我都会说：“I want to hug you.” 了解为一个学生时做好一个老师的第一步 (mentor’s feedback, 03/08/2010).

In China, when a teacher stands in front of the class, students naturally have a sense of fear deep in their heart. In contrast, in Australia, teachers and students have equal status. They were not taught to respect teachers since they were children. Therefore, it is a teacher’s responsibility to own authority. It depends on each person regarding how to achieve power. It is not easy to start. The first step is to know each student. You know, in our school, many students come from single parent families. They might be naughty in the class and play tricks with you outside the class, but when you get to know them, you will find that the reason why they being talkative is that they want to get maternal love from you. That is why every time I meet **(a student), he always says, “I want to hug you.” Therefore, knowing each student as much as possible is the very first step for being a good teacher (mentor’s feedback, 03/08/2010).

From 太阳花 (Tài Yáng Huā)’s statement, I learnt two new ideas. First, in Australia, teachers’ authority is the authority of all those in positions of power in a democracy. This authority should be earned and cannot be gained automatically, just because they have a leadership role. These are two different educational cultures. In China, teachers
have no worries about their status in the classroom, because their superior authority is automatically assumed by all parties. While in Australia, teachers have to earn respect just like the Prime Minister. Therefore, a teacher from China has to learn to treat Australian students from an Australian cultural perspective instead of directly imposing Chinese teaching style on Australian students. Second, in Australia, knowing each student is a key step to earning the right to exercise power over students. Once an Australian teacher knows students’ needs and capacities, and satisfy these, then the students feel secure and close to their teachers. This helps establish the authority of teachers in the hearts of students.

In summary, my observation periods at 明星学校 (Míng Xīng Xué Xiào) provided me a lens through which I gained significant knowledge about Australian classroom culture and the importance of teachers’ instructional language. When facing a noisy and chaotic classroom environment, it was important and necessary for me to acquire classroom management skills and strategies, especially the use of everyday classroom management language. In other words, these two terms of observation laid a solid foundation for my teaching journey with Year 7P.

**6.3.3 Knowledge of learners and their characteristics**

Knowledge of my students became an increasingly important factor that influenced my lesson plans, term plans, and even yearly plans. This was necessary for creating the basis for my lessons, and for assessing my teaching plans. My teaching journey with Year 7P was also a gradual process for me to better understand each student, so that the students and I were able to work more productively in a safe and secure teaching/learning environment.

**Knowing students’ names**

For a teacher, knowing students includes a variety of aspects. During my second term, 太阳花 (Tàiyáng Huā) required me to learn each student’s name as soon as possible, so I could effectively deal with them in the classroom. Knowing each student’s name was my first step towards knowing my students. Students care that their teachers know them. Calling them by their names, rather than just addressing them as “you” means
that they are more likely to know that the teacher respects them. While working with a Year 7 class, I helped do the roll call and sometimes disciplined students, which enhanced my memory of students’ names and helped me practise the instructional language that I learnt in the previous term.

At first, it was extraordinarily difficult for me to remember students’ names, largely because I was not familiar with pronunciation of English names. I found difficulty in articulating names, as well as remembering them. Unfortunately, sometimes students laughed at my pronunciation, which made me nervous about calling their names again. 太阳花 (Tài Yáng Huā) taught me the correct pronunciation of each student’s name. I practised them again and again, so that I could say their names correctly and confidently.

Since it took time to remember students’ English and Chinese names, I tried several strategies to help recognise my students and discipline them effectively using their names. One strategy was to give students ‘name hats’ before they went into the classroom. I made the hats of paper by myself, and wrote each student’s name on it. The following evidentiary excerpt from my reflection diary shows that this was not a good strategy:

It was such a terrible idea. They all put the paper hats on their heads, laughing at each other. “Hey, look at me, is it cool?” “Ha, you look like an idiot.” “This hat is too small for me.”… Instead of managing them using their names, I totally lost control of the class. I couldn’t stop them talking and laughing at each other, leaving me standing in front of the class. Oh, my God! (Reflection diary, 02/11/2010)

I had only thought about where and how to put students’ names, but I had not thought carefully about students’ reactions to the ‘name hats’. The ‘name hats’ were meant to help me remember their names, but I found they serve more to distract students’ attention. Students played with the hats, laughing and talking all the while without stopping. As a result, I lost control of the students. I learnt that in planning a strategy, it was necessary to anticipate the result.

The other strategy I have tried was to give my students ‘sticky labels’. “It is just a plain label with their names on it, so how could they play with it” (Reflection diary,
09/11/2010)? I thought that this strategy would cause no problems, but unfortunately, it proved otherwise:

I didn’t expect students to be so disobedient. They put their name labels on their bags and on the table. I told them to stick their name labels on their T-shirts, so that I can see them clearly as I am trying to get to know them. Few listened to me. It failed again (Reflection diary, 09/11/2010).

After having tried these strategies, I gradually realised that using aids to remember students’ names was not practical. It was a teacher’s important responsibility, first and foremost to know their students by names. It was the students’ first expectation of their teachers. Students want their teachers to actually remember their names without using aids.

Learning each student’s name is a powerful strategy for establishing a good rapport with them. Each time I took the roll call at the beginning of each lesson, I used this as an opportunity to practise my students’ names, and recognise them. However, it still took me time to match each student with their names. The following episodes show students’ reactions when I called their names wrongly and my own feeling when I could not say their names:

“Miss, I am Tyler, not Taylor. Oh…” (The student sighs) (Reflection diary, 16/02/2011).

Every time I call the girl’s name “Georgia”, she always laughs, and tells others, “She calls me ‘Georgia’, how funny it is! I don’t know what’s wrong with it, but I feel that they are laughing at me because of my funny English pronunciation. I feel upset (Reflection diary, 09/02/2011).

Oh, my God, it came again. I felt so hopeless and desperate when I looked at them, but couldn’t remember their names. Then I said, “Boys at the back stop talking.” They did not listen to me. I hated myself when I lost control (Reflection diary, 23/02/2011).

When I want to call a student, there pops up three names: Simon, Vondel, Haze. Oh, they look so similar to me, and I can’t distinguish them. I must remember students’ names again (Reflection diary, 06/04/2011).
These episodes demonstrate the importance of knowing each student’s name in order for teachers to establish authority and rapport with them in the classroom, especially in the first stage of teaching. The girl in the first episode felt sad when I could not figure out her name, while the girl in the second episode laughed at me because of my mispronunciation. 太阳花 (Tài Yáng Huā) told me, “You must remember students’ names from today, otherwise they will not recognise you as you can’t even say their names correctly” (mentor’s feedback, 23/02/2011). In addition, students’ names were a powerful tool for disciplining them. However, forgetting students’ names or not being able to match names with students, as shown in episode three and four, made me feel hopeless in front of the class. Therefore, it was necessary for me to remember students’ names in order to establish my authority as a teacher.

**Knowing students’ background as a whole**

I found that the students of Year 7 had a very low level of English language literacy. Therefore, my teaching needed more scaffolding, and the provision of a caring, safe, and supportive classroom. I demonstrate this here based on evidence from a lesson.

太阳花 (Tài Yáng Huā) recommended that a lesson begins with an explanation of the importance of the content that the students are going to learn. This is meant to help students recognise the value of the content to be learnt, and so become much more focused instead of seeing a lesson as a task with no purpose. Each time when I started my lesson, I told the students what they would learn, and why they should learn this:

Today we will learn greetings in Chinese. This is very useful and important, because saying hello is the first thing when you meet a person (Reflection diary, 23/02/2011).

This term our topic is numbers. How marvellous is it if we can say numbers in Maths in Chinese? How amazing is it if we can say prices in Chinese in a Chinese shop? So it is important to learn numbers as they are everywhere in our daily life (Reflection diary, 25/05/2011).

This lesson began with the introduction of the topic, and an explanation of the importance of learning this material in order to help students to concentrate. In the above excerpt, the students said hello to each other every day, and therefore learning to say hello in Chinese could be a useful part of their everyday socio-linguistic activities.
Similarly, students learn numbers in Maths; hence, learning numbers in Chinese could be important to them. Then students in Year 7 had recently graduated from primary school; they needed a teacher to tell them what, why and how they would learn. Once they saw the meaning and value of what they were asked to learn, they were much more focused during the lesson. This required me to select the lesson content from students’ perspectives, and search the reasons they would have for learning a particular content.

A safe and supportive learning environment needs to be manifested during lessons. I needed to consider this as part of my lesson planning based on my knowledge of the students. For example, 太阳花 (Tài Yáng Huā) and I found that students felt difficult in writing Chinese Hanzi (character), thus, in order to support their study, we spent much time in creating character stories according to the pictographic nature of each character. However, I could not anticipate everything that could happen during my lessons. Therefore, I needed to be observant and flexible enough to change or modify my teaching strategies based on students’ needs and reactions. The following excerpt describes how I changed my original lesson plan to better help students:

The second part is sentence writing. You have to make a sentence with the character within a sentence. Now you have 5 minutes to finish this part...Some are talking, some are looking at me, and some ask me directly, “Miss, what should we do?” I thought I have already made the instruction very clear, but they actually don’t get it. Then I changed the plan suddenly and said, “Now, Year 7, let’s do the sentence making together.” I make an example showing them what sentence making means (Reflection diary, 04/05/2011).

Because of some students’ low level of English language literacy, I needed to provide adequate scaffolding in order to facilitate students’ learning of Chinese. Although my lesson planning was important, it did not necessarily guarantee that my lessons would be effective. I also needed to know how to respond to students during my lessons when they found the tasks difficult. When they asked questions, I needed to know the different ways to explain and demonstrate with relevant examples. In the above excerpt, I took it for granted that the students knew the meaning of sentence making, but this was the first time that students had heard this term or did these kind of exercises. However, 太阳花 (Tài Yáng Huā) knew the confusion and difficulty the students
faced. She demonstrated how to do sentence making on the whiteboard. It took time for me to know this group of students, and to learn their understanding and to identify the cognitive demands that inhibited their learning.

A well-scaffolded lesson should also include teachers’ encouragement and caring attitude. Young students can feel intimidated and lack confidence in learning Chinese. 太阳花 (Tài Yáng Huā) recommended that I gave feedback on students’ performance, as a way of providing formative assessment. I learnt the following skill from 太阳花 (Tài Yáng Huā):

After each assignment, such as a listening activity, 太阳花 (Tài Yáng Huā) will ask students, “Hands up if you got 5 or more correct (assume 10 is the total mark). Hands up if you got 7 or more right. Hands up if you got all right. Well done, Year 7, you did good job” (Reflection diary, 25/05/2011).

It was necessary for me to conduct formative assessment after each task I assigned to students. On the one hand, students needed to know what they have achieved by praising their progress in learning Chinese, which was a driving force for maintaining their desire to learn the language. One the other hand, it was necessary for me to find out whether my teaching strategy resulted in the expected students’ learning outcomes, so I could make necessary improvements in my future teaching and lesson plans. In this example, 太阳花 (Tài Yáng Huā) praised students for their mark of 5, which gave them the opportunity to see their own learning outcomes. 太阳花 (Tài Yáng Huā) said, “Don’t give up on one student as they all do have potential” (mentor’ feedback, 25/05/2011). I learnt that it was my responsibility as a teacher to provide a positive learning environment so that each student can achieve his or her potential as much as possible.

Year 7P class had a high proportion of students with English language literacy issues. Therefore, in Term 3, I designed unit booklets to support their Chinese literacy learning needs. This modification in my preparation was also a manifestation of providing a safe and caring learning environment based on better knowledge of my students.
Knowing students as individuals

As time went by, I gained more knowledge about each student. This provided me greater confidence in designing my lesson plans so as to cater to each student’s learning needs. Hence, I became more supportive towards students’ learning rather than focusing solely on the content to be taught.

I learnt that some of my students had special learning needs. For example, one of the students in Year 7P had dyslexia and another one had language processing difficulties. In response to their needs, I copied the booklet and worksheets on green paper for the student with dyslexia, and provided extra help for the student with language processing difficulties. In this way, students felt that I cared about them and their learning. As a result, they felt safer in trying to learn Chinese. My differentiated approach to teaching my students encouraged student engagement and participation in Chinese learning.

Since I knew my students better, I could target those requiring specific behavioural management strategies. I found that in each class, there were always some students who would misbehave. However, I learnt that managing students was part of the art of teaching. Scolding them was not always the best strategy. 太阳花 (Tài Yáng Huā) provided the following advice:

G is really a hard girl. She is not scared of teachers. She wants to talk, to be the focus among the students, especially among boys. Have you found that T never sits together with G? They used to be good friends and sit together. Why? If you keep praising T with her good efforts, and call G’s name when she is talking, I would definitely be sure that G will say, “Oh, you always praise T, and scold me.” Then you say, “OK, then, show me your good behaviour.” Students need peer pressure, especially among good friends (Reflection diary, 22/06/2011).

M gets to be talkative these days. Don’t be so focused to discipline him, think about other ways. He actually writes the characters quite well. You could say, “M, look, your characters look amazing, good job.” You praise him a little bit. So next time you discipline him again, he would probably say, “Yes, Miss said my characters are good.” Therefore, praising helps them to focus on the tasks (Reflection diary, 15/06/2011).
Knowledge of students was beneficial for me in managing the class, and also for creating a positive learning environment. This was not so difficult once I knew how to deal with them using a ‘hook’, such as focusing on students’ advantages, or using peer pressure. Treating students positively instead of focusing on their misbehaviours provided to be a useful strategy for creating a positive learning environment.

Through my students’ performance in class and their achievements in assessments, I identified each student’s strengths and weakness. Thus, I had better knowledge about how to help them with specific aspects of learning Chinese. For example, two students were not good at speaking, so I provided them with more opportunities for drilling practice. Another example was that if a student was good at writing, I used his/her role play script (with his/her permission) as an example to demonstrate this to the whole class. These examples illustrated that my knowledge of each student made it possible to provide help for individual students on specific aspects of Chinese learning in appropriate ways.

My knowledge of students was built step by step. As I came to know students’ backgrounds and their intellectual capabilities, my experience in planning, delivering and evaluating lessons improved. This was also important as it helped me to expect the questions students might ask, and how I would address these. All of these knowledge helped me to create a safe, caring, supportive and challenging learning environment for my students’ learning of Chinese.

6.3.4 Knowledge of pedagogy

There are a variety of definitions of pedagogy (e.g. Young, 2010; Beetham & Sharpe, 2013). My working definition of pedagogy would be a dynamic and interactive decision-making process, depending on teachers’ knowledge of content and knowledge of students with the aim of students’ learning. To be specific, it is the choice of strategies that teacher-researchers use to present the specific content in an appropriate way which is based on their students’ needs and their learning difficulties. This definition places emphasis on students’ understanding. As Banks, Leach and Moon (2005) affirm that to shift the focus from “teachers’ knowledge to learners’ understandings, and from techniques to purposes” (p. 333) is a necessary pathway to
be a professional teacher. In addition, constant reflection on students’ learning eventually contributes to a teacher’s cumulative understanding of the content they are trying to teach, the students who are learning, and how students learn. This, as a result, influences teachers’ choices of pedagogical strategies. Figure 6.1 presents my understanding of pedagogy:

Figure 6.1: My understanding of pedagogy

In my teaching journey with Year 7P, my pedagogy included a combined grammatical/linguistic approach and a communicative approach. 太阳花 (Tài Yáng Huā) argued against a grammatical/linguistic pedagogy for making Chinese learnable. The following excerpt from my observation of a practicum teacher from China helps explain why a grammatical pedagogy is not appropriate.

Pen in Chinese is 笔 (Bǐ). Say after me Bǐ. 书 (Shū) in Chinese is book. Say after me Shū.” The whole lesson is word translation and direct repeating with no further explanation (Reflection diary 26/10/2011).

This evidentiary excerpt shows a typical grammatical pedagogy to teach Chinese that a considerable number of teachers from China employ in Australian classrooms. I could see that students were bored and they could not say what they had been taught, because the focus was not on learning but on teaching. For monolingual English-speaking students to learn Chinese characters, it was impossible for them to remember the
pronunciation and writing by using repetition only. I found that by creating stories and reconstructing the pronunciation as illustrated above was important for making the Hanzi (character) writing and pronunciation of Chinese learnable.

However, this does not mean that the grammatical/linguistic pedagogy has no role to play in making Chinese learnable. I learnt from 太阳花 (Tài Yáng Huā) how to teach relevant grammatical teaching strategies as part of my lessons:

After explaining characters and pronunciation, 太阳花 (Tài Yáng Huā) says to students, “Use your finger, point to the characters and say after me. This is a good way to practise and memorise as listening, reading and speaking work together” (Reflection diary, 23/02/2011).

As for reading passages, 太阳花 (Tài Yáng Huā) does this the same way. First, students read after the teacher each word or phrase, or sentence by sentence. Then, students practise in pairs while she walks around to help students. After that, she will pick the best pair to perform in front of the class. Students enjoy reading together and performing to their peer students (Reflection diary, 22/06/2011).

As for the reading comprehension exercise, 太阳花 (Tài Yáng Huā) used relevant grammatical approach to help her students better understand the meaning of the passage. She asked the students to translate the conversation sentence by sentence, and then she checked their answers. After that, students found it easier to work out the answers to the questions about the conversation. 太阳花 (Tài Yáng Huā) explained to her students, “This is a learning strategy. It is also an exam skill. Translate the conversation first, then you will find that it is actually very easy to answer the questions” (Reflection diary, 18/05/2011).

The above evidence indicates that drilling, rote-learning and word translation can be part of language education if used appropriately. This approach works well when knowledge is combined carefully with other appropriate pedagogies that are designed to promote learning in students.

However, communicative pedagogies have an important role in language teaching/learning in Western Sydney schools. Although there is no consensus on the definition and forms of this pedagogy, my understanding is that it aims to be beneficial
for students’ communication. Based on these understanding with the help of 太阳花 (Tài Yáng Huā), I designed a shopping activity and role play as formal assessments for Term 2 and Term 3.

In Term 2, the topics were numbers and shopping. I designed a shopping activity to assess whether students had grasped numbers and prices, so that they could use them in real shopping. Students wrote their shopping conversations in advance. I displayed the chocolates and lollies that my students liked. Then, they chose the product they wanted to buy and used the fake money to communicate with me and 太阳花 (Tài Yáng Huā). In this simulated language environment, students practised their Chinese, and felt proud of themselves.

In Term 3, the topic was hobbies and interests. Since 明星学校 (Míng Xīng Xué Xiào) is a sports school, I narrowed this topic to the names of sports which related to students’ daily life. By the end of Term 3, I organised students into groups, and asked them to write a script about their hobbies and interests. I was amazed by some students’ writing and performing talents.

My pedagogy also had to cater to students’ learning styles. I used a variety of resources to satisfy students’ different needs. I organised my lessons based on different forms, such as using flashcards for visual learners, using special activities for kinesthetic learners, and by using individual and group work. My lessons needed such variety so that more students would participate.

There is no such thing as the best pedagogy for making Chinese learnable. My goal was to find out pedagogies that were appropriate for Australian students’ learning. I found that grammatical and communicative pedagogies could work together. It took me considerable time to explore suitable pedagogies for making Chinese learnable for my students. This is the primary concern for both beginning and experienced teachers.

6.3.5 Other categories of knowledge

As discussed in Chapter 2 (Table 2.1) and Chapter 5 (Figure 5.1), there are other categories of knowledge, such as knowledge of content, knowledge of curriculum,
knowledge of self and knowledge English that are considered important for beginning teacher-researchers. For my eighteen months of classroom teaching experiences, I agree with Teacher 红 (Hóng) in relating to the importance of teachers’ knowledge of ourselves and our competency in English. My knowledge of curriculum is not fully demonstrated in this process, because I was guided by a local experienced teacher of Chinese-太阳花 (Tài Yáng Huā). Although I knew the importance of curriculum and syllabus as guidance for teaching a subject, I was directly guided by her. Therefore, I did not have to learn from the scratch.

After adapting myself to the teaching and learning context, my interest moved into the next stage, that is, what links can be made between my separate categories of knowledge to ensure successful students’ learning? The main difference between me and other VTRs was the mentorship. With the help of 太阳花 (Tài Yáng Huā), I quickly learned how to make each category of knowledge in a cohesive way to make Chinese learnable. This leads to my development and understanding of PCK, which is illustrated below.

### 6.4 My development of PCK through CSLI

As discussed in section 6.3.1, my beliefs and purpose for teaching Chinese is to incorporate language and culture together. Here the challenge is how to make Chinese learnable for English-speaking learners. After having obtained a better knowledge of the school context and my students, my focus moved to the pedagogies that 太阳花 (Tài Yáng Huā) used to make Chinese learnable for her students. Through this process, I developed specific knowledge of subject matter/content and knowledge of pedagogy.

If we review the definition of PCK again, it includes:

- most regularly taught topics on one’s subject area, the most useful forms of representations of those ideas, the most powerful analogies, illustrations, examples, explanations, and demonstrations-in a word, the ways of representing and formulating the subject that make it comprehensible to others (Shulman, 1986, p. 9).

The first question for me is, “What are the regularly taught topics in teaching Chinese?” this is difficult to define, because there are no fixed topics illustrated in the NSW Chinese K-10 syllabus (2003). However, if we think of the topics with respect to the
capabilities that students need to develop, then Chinese has the topic specific feature. In this study, I include four aspects, namely, Pinyin, Hanzi (Chinese characters), grammar and culture. What is important is that if the most useful and appropriate pedagogy is identified which, includes representations, analogies, illustrations, examples, explanations and demonstrations, then, we can aptly apply them to any topic. This is because in any given topic, there is a need to teach students the writing, pronunciation, grammar and cultural knowledge in any language teaching and learning.

My view on making Chinese learnable was influenced and shaped by 太阳花 (Tài Yáng Huā)’s perspective. For her, teaching a language was not only opening a window for students to know another language, but also having them to communicate by using that language. This was a step further to my initial idea. Based on this new formed understanding, I found a marked contrast between 太阳花 (Tài Yáng Huā) and I concerning the notion of what is language and the way to make a language learnable. Consequently, this spurred me to think what extra knowledge of subject matter/content I needed about Chinese in order to make it learnable for monolingual English-speaking students.

I found that the strategy 太阳花 (Tài Yáng Huā) used to make Chinese learnable was to draw upon students’ prior knowledge and then connected it to Chinese. This is the same idea with Ringbom (2007) that is using cross-linguistic similarities to scaffold students’ learning a new language. In addition, 太阳花 (Tài Yáng Huā) not only drew upon linguistic similarities, but also relied on socio-cultural similarities. Therefore, the concept of cross socio-linguistic interaction (CSLI) was used to analyse 太阳花 (Tài Yáng Huā)’s pedagogy to make Chinese learnable. Each aspect, including teaching Pinyin, characters, grammar and culture is illustrated below.

6.4.1 Teaching Pinyin (Phonological transfer)

Pinyin is the Roman alphabet version of Chinese pronunciation. Although Pinyin does help Australian students to pronounce the words, it is quite alien to them. 太阳花 (Tài Yáng Huā) did not teach Pinyin as a linguistic system, instead she wrote the Pinyin for
each word directly. What made her teaching innovative was that she connected the Pinyin with English pronunciation, which made it easier for her students to pronounce each word. She used the term “de-constructing pronunciation” (mentor’s feedback, 23/02/2011) to indicate how she used students’ prior knowledge of English to make Chinese pronunciation learnable. Table 6.1 provides some examples.

**Table 6.1: Example of de-constructing Pinyin**

<table>
<thead>
<tr>
<th>Characters</th>
<th>English</th>
<th>Pinyin</th>
<th>Pinyin de-construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>喜欢</td>
<td>Like</td>
<td>Xi Huan</td>
<td>Hseehwarn</td>
</tr>
<tr>
<td>七</td>
<td>7</td>
<td>Qī</td>
<td>Chee</td>
</tr>
<tr>
<td>九</td>
<td>9</td>
<td>Jiǔ</td>
<td>Jeeoo</td>
</tr>
<tr>
<td>十</td>
<td>10</td>
<td>Shí</td>
<td>Shí(r)</td>
</tr>
</tbody>
</table>

The above examples showed that 太阳花 (Tài Yáng Huā) found actual or assumed linguistic similarities between English words and Chinese Pinyin, although the tones may be different. For example, the letter ‘I’ in ‘Xǐ’ is similar to the pronunciation of the English word ‘see’. As an experienced Chinese teacher, she knew that the letter ‘q’ in “‘Qī’ is difficult for her students to pronounce. Therefore, she helped her students to assume ‘q’ is sound like ‘ch’ sound in English. The same applied to the letter ‘ǔ’ in ‘Jiǔ’. It is assumed to be similar to by ‘oo’ sound in English. In these examples, 太阳花 (Tài Yáng Huā) make use of cross linguistic similarities to help her students pronounce Chinese words correctly.

When 太阳花 (Tài Yáng Huā) taught Pinyin, she explained the pronunciation by reconstructing the Pinyin according to English pronunciation. As a non-native speaker of Chinese teacher born in Australia, she knew very well how to make Chinese pronunciation learnable for her students, and how to explain these words to students so they could say them. However, as a native speaker of Chinese teacher, I could not anticipate where students might experience challenges and how to deal with them.
Where did such an English version of Pinyin come from? When I asked 太阳花 (Tài Yáng Huā) this question, she answered, “No one tells me. I work them out by myself as I have the same learning experience as the students do. It is a process of accumulation.” The idea of creating an Australian rather than Chinese version of Pinyin was the result of 太阳花 (Tài Yáng Huā)’s own experiences as a foreign language learner. This was why she could anticipate the problems students might encounter and find the strategies to overcome them.

This is one aspect that I learnt most from 太阳花 (Tài Yáng Huā). As we taught the same content but for different classes, I took notes when I observed her lessons, and then applied them directly to my teaching. However, the problem was that I did not know much about why and how such a reconstruction was necessary as I had limited knowledge of English speaking learners’ pronunciation. Copying 太阳花 (Tài Yáng Huā)’s ideas word by word and then reading them to my students seemed too mechanical. As I became more experienced, it was of great importance and necessity for me not only to know the way to reconstruct Pinyin, but also to understand the reasons behind it.

6.4.2 Teaching Hanzi (characters) (Cultural transfer)

At first, I did not have any clue how to make Hanzi (characters) learnable for Year 7 students. After observing 太阳花 (Tài Yáng Huā)’s lessons, I found that she used imaginative pictures and stories to help students recognise and remember characters. 太阳花 (Tài Yáng Huā) told me that this idea originated from how Australian pupils learned the letters of the alphabet in their first weeks of schooling. They learned what the letters looked like and the sounds they made (see Figure 6.2). For example, the children would chant, ‘a’ likes an apple on a twig; ‘a’ says ‘a’; ‘b’ like a bat and ball; ‘c’ like a cake with a bit taken out.
Figure 6.2: How to teach letters of alphabets for Australian pupils?

Therefore, 太阳花 (Tài Yáng Huā) used the same idea in her character teaching in Chinese lessons. The following is an evidentiary excerpt from a lesson of 太阳花 (Tài Yáng Huā) I observed, which illustrates how she made the character “爸” (Bà, father) learnable using imaginative images and storytelling:

A diagonal line on left. Another diagonal line on right. Again two longer diagonal lines on both sides. Look, it looks like your father’s curved moustache. She demonstrates writing stroke by stroke on the board while explaining. Now let’s look at the down part. First draw a rectangular shape with the left side opening. Then, draw a very long vertical line to close your father’s mouth. Remember that there is a tick upwards in the end. Next time, you see a man wearing curved moustache talking, you know that is your father. You want him to stop talking, so you draw a line to close his mouth (Reflection diary, 05/18/2011).

This example showed how 太阳花 (Tài Yáng Huā) used the pictorial features of some characters to make them meaningful and understandable. For 太阳花 (Tài Yáng Huā), “父” looks like a father’s moustache, and “巴” looks like father’s opening mouth talking, and a long line closes the mouth. Such stories were designed to enhance students’ memory of the characters. 太阳花 (Tài Yáng Huā) used the verb “draw” to
tell the students that writing characters was as easy as drawing pictures. I did not think that it was an exaggeration to say that my students were frightened to write the characters when asked to do so the first time. Students found visualisation interesting and less threatening to write and remember characters. It would be interesting to know what images and stories the students might create to help them remember the characters. However, my research at this stage only focuses on 太阳花 (Tài Yáng Huā)’s pedagogy.

In some cases, however, stroke explanation on the whiteboard does not seem to have the same effect. Other aids had to be used to help the students visualise the characters. The following is a good example in this case:

Today, 太阳花 (Tài Yáng Huā) uses body language to support character teaching, which is effective. When teaching the character “好”, she uses her body pretending to be a woman doing a curtsy. She also tells students that when the queen in Australia meets the king, she has to give a curtsy. As for the right part “子”, she draws a baby with the baby’s head, body and arms, imagining that a female gives birth to a baby (Reflection diary, 04/05/2011).

Table 6.2: Character 好 (hǎo)

<table>
<thead>
<tr>
<th>Hanzi (Character)</th>
<th>Visual notes</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>好</td>
<td>(女 = )</td>
<td>Good</td>
</tr>
<tr>
<td></td>
<td>(子 = )</td>
<td></td>
</tr>
</tbody>
</table>

Table 6.2 illustrates 太阳花 (Tài Yáng Huā) uses cultural knowledge to make Chinese learnable. She explained that the left part “女” is a picture of a woman. You could remember this because to me it looks like a woman curtseying. Then 太阳花 (Tài Yáng Huā) used her body language to help her students visualise the characters. She also gave a curtsy with an explanation about a king and queen to give the students a mnemonic tip to help remember the left part “女”. This strategy built on students’ prior cultural knowledge. In addition, she explained that the right part “子” is a picture of a child. A small baby wrapped in a blanket with his/her head and arms sticking out.
Chinese people think that the ‘good’ thing in the whole world is the relationship between a mother and her baby. So in coming up a symbol for ‘good’, they put the picture of a mother and a baby together. She used a variety of social and cultural knowledge to establish the connection between the character and the students’ prior knowledge. When students could find such connections, they found learning Chinese less stressful.

This is how I learnt to teach characters from 太阳花 (Tài Yáng Huā). I applied this pedagogy in my teaching. When I taught a lesson, it always took me a long time to construct images and stories about the characters. Maybe having the students generate their own images and stories would be much more efficient in having them grasp easily and quickly. However, this is not my focus at this stage. Here is an example from Term 3 when I taught sports’ names to Year 7. I tried this pedagogy and it proved to be effective.

It is so hard for Year 7 students to remember the characters of sports names, not even to write them. They are so complicated with so many strokes. I tried visualization as 太阳花 (Tài Yáng Huā) demonstrated to me. For example, the character “排” in “打排球 (play volleyball)”. When I asked the students, “How do you think players will stand in the competition?” Some students showed their answers, “Three in front, three at the back.” “Yes, look, that’s what the right part of the character ‘非’ looks like, isn’t it?” (Reflection diary, 20/07/2011).

After I taught them all the names of the sports, I showed them the flashcards again. Students can quickly figure out the character “打排球”. That is good. Their memory is amazing (Reflection diary, 20/07/2011).

These two episodes demonstrate how I constructed images and stories about the characters using culturally shared knowledge to make them learnable. The use of visual aids proved very useful for students’ learning. I connected the character’s shape with a particular sport to help my students easily remember them. Using flashcards to assess students’ learning outcomes confirmed that visualising the character using a story helped my students’ learning. However, not every character has these graphic features, so it was difficult for me to make stories with pertinent images. In this challenging situation, I asked my students to show their creativity. They created far more creative
stories than I could as a single teacher. Therefore, I found that it helped students’ learning by making them take responsibility for creating character images and stories. This made character learning more interesting and meaningful for them.

Although I followed 太阳花 (Tài Yáng Huā)’s pedagogy to teach characters, there were differences between our specific strategies. For example, we differed on how to break down each character so that students can write them with no mistakes. The following excerpt illustrates how an experienced teacher-太阳花 (Tài Yáng Huā) scaffolds her students’ learning.

“What would you think this character ‘叫’ looks like?”太阳花 (Tài Yáng Huā) asked students. One of the students shouted, “0 and 4.”“Nice job, how brilliant you are! But when you write “4”, make sure that the line doesn’t cross the vertical line (Reflection diary 04/05/2011).

The difference between 太阳花 (Tài Yáng Huā) and my teaching was that she knew what mistakes the students might make when they wrote characters. She asked the students to demonstrate their understanding of each character, and so I learnt to do the same with my students. However, she also knew that students might make mistakes when they write the right part of “叫” as they might treat it as a “4”. Therefore, she reminded the students that this was not exactly a “4”, so that they could write it correctly. As a more experienced teacher, 太阳花 (Tài Yáng Huā) knew what mistakes her students might make, and how to take steps to mitigate this.

My teaching of characters reminded me of the pedagogy that was used by native speaker teachers of Chinese, who conducted their Master of Teaching (Secondary) professional experience at 明星学校 (Míng Xīng Xué Xiào). To a large extent, they taught Chinese in the way they were taught Chinese in China. Here are two examples:

This practice teacher uses totally different strategy to teach characters. When she taught the character ‘爸 (bà, dad)’, she told students, “the single word ‘父’ literally means dad, and the down part ‘巴’ indicates pronunciation. She further explained that most of the Chinese characters consist of two parts, one is the phonetic part (声旁, shēng páng), and the other is the shape part (形旁, xíng páng). I observed that the students were all confused, and some were whispering, “Oh, my
God, I cannot get it. I give up.” In the same way, she said, “‘女’ in ‘妈 (mā, mum)’ is the woman radical, literally meaning female, for example actress, waitress.” And then, she wrote “tress” beside the character “妈”. Just at that moment, I heard many boys singing “I have a tress. I have a tress…” My mentor told me that “tress” means “a secret lover” (Reflection diary, 18/05/2011).

Look at all the characters of body parts, such as 脸, 脚, 腿, 肚子, 胃. They all have ‘月’ radical, why? Looking at students’ confused eyes, this prac teacher explained, “Because the single word ‘月’ literally means ‘meat’. That is why most characters of body parts have the ‘月’ radical” (Reflection diary, 07/12/2010).

These examples showed that these two teachers taught characters based on the nature and characteristics of the characters themselves, instead of using students’ prior knowledge and imagination. The word ‘声旁 (shēng páng, phonic part)’ and ‘形旁 (xíng páng, shape/meaning part)’ are two linguistic words used to name aspects of Chinese, and see language as a system to be taught but not an everyday practice to be learnt. They were teaching university level linguistic aspects, but not making Chinese learnable for school students. It seemed impractical to ask students a question, such as what is the meaning of ‘月’? Because even for Chinese people, not everyone knows that the character ‘月’ means ‘meat’. As a teacher, it was important for me to remember that my non-Chinese background students know nothing about Chinese. In addition, I could not take it for granted that they know the meaning of some Chinese characters.

In contrast, 太阳花 (Tài Yáng Huā) used exactly the opposite way to teach the character ‘爸’. Using pictures and making stories, students can easily remember the character. In the example of ‘爸’, she explained, “The upper looks like your father’s moustache, and underneath is a rectangular shape with the left side opening, just like your father’s mouth, talking, talking and talking.” I heard some of the students chatting, “Yes, Miss, my father is very talkative.” It is clear that the pedagogy that 太阳花 (Tài Yáng Huā) used was more useful and appropriate for English-speaking learners.

After comparing the pedagogies of teaching characters used by an experienced non-native teacher of Chinese and inexperienced native-speaker teachers of Chinese, I found that there were two important points to be noted in order to make Chinese
learnable. First, native-speaker teachers of Chinese used Chinese linguistic pedagogies to teach characters and ignored the knowledge and imagination students might bring to the lessons. However, the non-native teacher of Chinese used pedagogies for making characters learnable for Australian students, focusing on their understanding. Second, it was not too difficult for me as a beginning teacher to learn appropriate pedagogies to make characters learnable for Australian students. However, it took time to be able to anticipate the difficulties students might have in their learning. The experienced Australian teachers knew more about students’ learning needs and the strategies to address them than did the teachers from China. This confirms that PCK is a unique body of knowledge that experienced teachers have (Shulman, 1986, 1987).

6.4.3 Teaching grammar (Grammatical transfer)

Although the ‘communicative approach’ has a dominant position in Australian language education, it does not mean teaching a language without grammar. However, the meaning of ‘grammar’ in Australia has to be distinguished from that used in China, where language education is constructed as learning grammar, bit by bit. In contrast, some educators and scholars in Australia believe that language teaching has to be communication-oriented. Teaching knowledge of grammar is meant to help learners better understand a language, and assist them to construct the language by themselves. Therefore, the way to teach and present grammar is quite different in Australia as compared to China. The following excerpt shows how 太阳花 (Tài Yáng Huā) introduced a point of grammar using a questioning technique.

Today, the topic is ‘how are you? (你好吗? Nǐ Hǎo Mɑ?)’. 太阳花 (Tài Yáng Huā) pointed to ‘吗 (Mɑ)’ and asked the students, “Do you find any difference from ‘吗 (Mɑ)’?” Some students responded, “There is no tone on ‘吗 (Mɑ)’.” “Yes, that’s right.” 太阳花 (Tài Yáng Huā) nodded with smile on her face. “Why is there no tone?” some students asked. “That’s a very good question. Because ‘吗 (Mɑ)’ is a question word, like punctuation in English. In English, we actually use voice to indicate a question, while in Chinese, there are question words. So next time when you try to make a question, do remember to add a question word and a question mark at the end of the sentence (Reflection diary, 23/02/2011).
This excerpt demonstrates that using a questioning technique can be an effective way to introduce a new concept. 太阳花 (Tài Yáng Huā) did not mention grammar, but the difference that the students found helped them to better understand the importance of the new concept. In addition, she made contrast linguistic similarities between Chinese and English so as to help her students better understand the use of ‘吗 (Mǎ)’.

This excerpt reminded me of my own lesson on the same topic. When I introduced the topic, my instructional language was so rigid, “Look at the question mark ‘?’ , it means that this is a question sentence.” I didn’t explain why it has no tone mark but emphasised that it made sentences into questions. To be honest, I had few clues about ways to explain this to my students. Even though it was important for my students to know the question sentence and question mark, I did not know how to present this to the students.

Compared to 太阳花 (Tài Yáng Huā)’s lesson, it was clear that there existed a considerable difference between an experienced and a beginning teacher. As an experienced language teacher, 太阳花 (Tài Yáng Huā) knew how to present the important grammar points to students, could anticipate what questions they would ask, and knew ways to explain these points so that students can better understand them. However, as a beginning teacher, although I knew the grammar points very well, I did not know how to transfer the concepts from my mind to that of the students. This again confirms that PCK is a point of difference between an experienced teacher and a novice teacher (Shulman, 1096, 1987).

Grammar teaching does exist in teaching Chinese as a second language in Australia, and is regarded as a necessary part of language construction. However, the way to teach grammar in Australia is not based on the idea of teaching language as a linguistic system, but as a tool for socio-linguistic activities. In addition, it is rare for me to hear the word ‘grammar’ in my Australian classes, because language teaching is communication-oriented. Therefore, the challenge for me as a beginning native-speaker of Chinese teachers is to learn to present the grammar of Chinese from the students’ perspective.
6.4.4 Teaching controversial culture (Cultural transfer)

Culture is increasingly favoured as a focus for second language teaching and learning, especially in an era when intercultural language teaching and learning gradually has become a major orientation (Byram, Gribkova, & Starkey, 2002; Baker, 2012; Sample, 2013). Culture adds meaning to language learning. In this study, I focused on evidence concerning controversial cultural issues within the whole culture dimension. This means that people from different countries hold different ideas and beliefs about the same cultural phenomena. I learnt that in a language classroom, it was importance to treat controversial cultural issues seriously and appropriately.

There was one impressive lesson which changed my view towards controversial culture totally. This was a conversation between Year 7 students and me. The topic for that lesson was animals.

“Miss, do you eat dogs?”
“Yes, we do.”
“What kinds of dog do you eat?”

I was just thinking how to respond to students, when 太阳花 (Tài Yáng Huā) interrupted, “Let’s focus on the task.” 太阳花 (Tài Yáng Huā) redirected students’ attention from an open-ended conversation for which I was unprepared to the task at hand. On one hand, I appreciated that she saved me from an embarrassing situation; but on the other hand, I was curious about why she did that. After the lesson, 太阳花 (Tài Yáng Huā) told me very seriously:

Never tell students that you eat dogs. You know what? Dogs are their pets. So how could you eat their pets—their best friends? They think that Chinese are so cruel. If you tell them that you eat dogs, they will suddenly treat you differently, and they will also see Chinese and China from a different perspective. So do not lose your status in students’ hearts (Reflection diary, 10/08/2011).
I had never treated cultural issues so seriously until that lesson. As a teacher from China, I wanted to tell my students the truth about my country, as part of the transfer of cultural knowledge to them. However, I least expected the outcome of students receiving that type of knowledge. In this excerpt, I was honest in telling students that at least some Chinese eat dog meat, but I had not realised the negative impression this would create about me and Chinese people if they knew this. This would affect my authority in students’ heart as they would probably think I was cruel because of eating their pets. 太阳花 (Tài Yáng Huā) further explained to me, “This doesn’t mean that I am dishonest, I just want the students to receive the information positively, that’s why I don’t tell them the whole truth” (mentor’s feedback, 08/10/2011).

Teaching culture required more skills than I had at that stage to deal with the issue of the whole truth about China. As an experienced teacher, 太阳花 (Tài Yáng Huā) knew how such cultural knowledge might be better taught to her students so that they held a positive attitude to the language, the people, and the country of China. In addition, she was better than me in explaining controversial cultural issues. Below I analyse two examples:

The first example was the ‘one child’ policy in China. Students did not understand why each family in China could have only one child. 太阳花 (Tài Yáng Huā) explained it this way, “Have you been in a crowded place with so many people? How do you feel?” “Oh, that’s crazy!” “I will not go to that place.” Students responded with a variety of answers. Then 太阳花 (Tài Yáng Huā) confirmed their answers, “Yes, that’s the reason.” She used questioning technique to have her students imagine themselves in the same situation. After thinking more deeply, this helped her students to understand some of China’s policies.

Another example concerned the Chinese Communist Party (中国共产党 Zhōng Guó Gòng Chǎn Dǎng). My students had so many questions about the Communist Party and its influences on Chinese people and the society as a whole. 太阳花 (Tài Yáng Huā) said, “I would tell them that it is just one type of government, which each country has. I would not go any further. If I go too political, it is meaningless. This is also not in the cultural outcomes in the syllabus” (mentor’s feedback, 10/08/2011).
These examples show how an experienced teacher deals with the controversial cultural issues. In teaching Chinese culture, 太阳花 (Tài Yáng Huā) recommended that it should be done carefully so that students receive a positive view of China. In the beginning, I wanted to tell students everything about the country. Later, as I gained experience, I came to know about the extent to teach about China. This included thoughts about where the students will criticise China, and how to explain controversial issues about China in a way that students might accept China.

My teaching journey was a process of learning from my mentor-太阳花 (Tài Yáng Huā). My aim is to incorporate these four aspects in each lesson so as to make Chinese a local Australian language. It should be clear from the above evidence that the way to make Chinese learnable for students in Australia was totally different from the initial ideas I had.

I have a good understanding of the Chinese language. However, when it came to teaching Chinese to monolingual English-speaking students in Australia, I faced problems. I tended to teach Chinese as a linguistic system, ignoring prior knowledge my students might have. However, 太阳花 (Tài Yáng Huā) is not only proficient in the Chinese language and have knowledge of China, but also have an advantage in being able to use appropriate pedagogies that the students might find acceptable. After more than fourteen years of teaching experience, 太阳花 (Tài Yáng Huā) is well aware of ‘what, how and why’ in terms of making Chinese learnable based on her knowledge of Australian students. After eighteen months of mentorship, I learnt much about how to make Chinese (Pinyin, characters, grammar and culture) learnable for Australian students by transferring students’ existing knowledge (English) linguistically and culturally to Chinese, and at the same time, comparing the similarities and differences between these two languages. This is 太阳花 (Tài Yáng Huā)’s theoretic-pedagogical framework on how to make Chinese learnable through her knowledge of socio-linguistic interaction (CSLI).
6.5 Summary

My one and half years’ of face-to-face classroom teaching experience as a VTR in 明星学校 (Míng Xīng Xué Xiào) provided me with invaluable opportunities to develop my pedagogical content knowledge. Compared to other VTRs, I experienced the same survival stage, for example, getting to know the different educational culture, and getting used to misbehaving students. What made it unusual was that I had an experienced mentor to help and guide me through every step of this journey. This helped to obtain a better understanding of how to make Chinese learnable via using cross socio-linguistic comparison in a short time.

I realise that as a language teacher, I need to have a thorough knowledge of the Chinese language (Mandarin) and Chinese culture. I also need to have the skills to draw students’ interests. It is not just a linguistic process of teaching students of structures and vocabularies, but it’s also about engaging them, wanting them to learn the language. This is because students are second/foreign language learners; they are not background speakers of Chinese in most cases. Therefore, I needed to be skilled in building the students’ interest and confidence in it, and making the learning interesting for them. That is what I learnt and developed through eighteen months of face-to-face classroom teaching guided by 太阳花 (Tài Yáng Huā). 太阳花 (Tài Yáng Huā) evaluated my professional learning in this way:

She has a good understanding of Quality Teaching practice and has consistently applied these practices to achieve success in her planning, delivering and assessment of content, as well as her classroom management. She effectively maintains a safe and challenging learning environment through consistent application of classroom rules and positive reinforcement of good behavior and high achievement. She also communicates effectively with her students. She clearly outlines learning goals for each lesson and task, employs a range of questioning techniques to support students learning and uses a range of teaching strategies and resources, including language games, quizzes, PowerPoint presentations and DVDs. She has also become more practised with using a variety of structures within her lessons, ranging from whole class to small group and pair work (15/09/2011, 太阳花 [TàiYángHuā]).

Throughout my teaching journey, I explored the idea of pedagogical content
knowledge (PCK). I found that knowledge of students was central to develop PCK. Only when I know my students’ learning needs and difficulties, then I can explore what extra content knowledge I need, and what pedagogy to use. I realise the importance of updating of my knowledge base (Banks, Leach, & Moon, 2005) so as to make decisions on teaching specific content to specific group of students. I term this process as the development of my “craft knowledge” (Van Driel, Verloop, & De Vos, 1998, p. 675).

The evidence of my teaching experience as analysed in this chapter suggests that there are differences between the PCK of an experienced and a novice teacher. 太阳花 (Tài Yáng Huā) provided a model for me to understand what is an appropriate pedagogy to teach Chinese as a second/foreign language for Australian students that makes Chinese learnable for them. This means that teaching experience is a source of the development of PCK (Shulman, 1987; Van Driel, Verloop, & De Vos, 1998).
应用创新 (Yīng yòng chuàng xīn)

Innovating educational medium
‘Connected Classroom’ via video conferencing

*Picture from Yiye LU’s ‘Connected Classroom’ Chinese lesson with students’ permission.*
CHAPTER SEVEN

TECHNOLOGICAL PEDAGOGICAL CONTENT KNOWLEDGE: AN INTRODUCTION OF VIDEO CONFERENCING MEDIA ACROSS THE CONNECTED CHINESE LANGUAGE CLASSROOMS

7.1 Introduction

We live, work and study in a highly technological century. As teacher-researchers, we know that possibly one of the most effective tools to teach curriculum entails the use of the technology. Technology is assumed to be a powerful pedagogical tool to engage and enhance students’ learning. It presents increasingly innovative way to teach subjects, especially those which the students mostly are unable to access. Although there are many modern technological resources that we have access to nowadays, most of these are not fully used.

One of the new technologies that are recently applied for connected learning is through the use of video conferencing, the interactive whiteboard and Web 2.0 tools (Hunter, 2011). In New South Wales (NSW) (Australia), there are more than 2240 public schools that have installed relevant infrastructure and will receive even more such services in order to support teaching and learning in the 21st technological centuries (Hunter, 2011). This significant approach is also closely related to the educational goals for young Australians documented in the schools’ taskforce. In Hunter’s report (2011), she cites the reasons for schools to give first priority to students’ learning with technology:

Successful learners have the essential skills in literacy and numeracy and are creative and productive users of technologies, especially ICT, as a foundation of success in all learning areas when students leave school, they should be confident, creative and productive users of new technologies, particularly information and communication technologies, and understand the impact of those technologies on society (Hunter, 2011, p. 66).

Technology has become a new key element for evaluation of successful learners. The ‘Connected Classroom’ that is supported by newest video conferencing technology
opens the door for every young Australian who would become ‘digital learners’ and
‘digital experts’. With the integration of new technology (video conferencing) into
teaching and learning, “digital education revolution” (Hunter, 2011, p. 66) is not a
dream that never comes true.

This study explored how teacher-researchers use pedagogical content knowledge
(PCK) as a theoretical-pedagogical concept to make cross socio-linguistic links
between English and Chinese. This study also incorporated a technological dimension
to PCK, namely, delivering Chinese lesson through ‘Connected Classroom’ using
video conferencing facilities. This allowed students to gain access to language
learning without which they could not learn otherwise. It also allowed teachers in one
school to benefit from the expertise of teachers from another school via team teaching
through the use of technology. The aim of my research here was to see if this builds
skills and confidence for using technologically mediated pedagogies in teaching and
learning Chinese. This chapter records the result of my investigation into a pilot
‘Connected Classroom’ course established by the NSW Department of Education and
Communities (DEC) for Chinese in Sydney (Australia).

This chapter begins with an introduction to ‘Connected Classroom’, which includes
what it is and how it is used. Following that, an analysis of a pilot ‘Connected
Classroom’ course for Chinese is presented. To be specific, this section illustrates
when and why this project was initiated, what was done, and what results had been
achieved. After that, the impression of the ‘Connected Classroom’ from teachers and
students are presented. This aims to build on teachers’ capabilities and confidence in
order to use this new technology as a teaching and learning medium.

7.2 Introduction of ‘Connected Classroom’

‘Connected Classroom’ is a new concept for me. In this section, I details what is a
‘Connected Classroom’; what it looks like from the perspectives of both teachers and
students; what equipment does it require; and how it could be used by beginning
teacher-researchers.
7.2.1 What is a ‘Connected Classroom’?

The idea of ‘Connected Classroom’ means two or more physical classes, whether they are down the hill, across the street or across the country, are visually and audibly linked through a special type of interactive communication technology, namely, a video conferencing facility. Thus, it is very different from a face-to-face teaching/learning. The teacher can see his/her students through TV who are sitting on the other end of the screen. When the teacher delivers lessons, he/she looks at the camera as if looking at the students in a class. The teachers’ hands work with the keyboard and mouse, indicating the lesson process. Since everything is realised through the TV monitor, a teacher’s TV presence plays an important role in establishing relationships and interacting with students. From the learners’ perspective, they can only see the teacher through the TV monitor, and look at the sharing desktop for lesson content. There is usually a classroom teacher with them, instead of a live delivering teacher. Figure 7.1 and 7.2 below provide a general structure of a ‘Connected Classroom’.

Figure 7.1: Receiving school end and broadcasting school end
7.2.2 What is the ‘Connected Classroom’ like to use from the teacher end?

What do I need to know if I am going to experiment with using this type of teaching? Since the ‘Connected Classroom’ largely depends on the technology, it is necessary for teachers to become highly proficient in the use of technology, software and all other associated devices. This includes having to know how to operate video conferencing equipment, using the interactive whiteboard, creating resources for use on the interactive whiteboard, and creating and joining meetings on desktop sharing applications like Bridgit.

Bridgit is a type of data or web collaboration program supported by the NSW DEC. It provides users with ability, in real-time to share information displayed on one PC screen with other PC(s) in remote sites (see Figure 7.3). Bridgit works best when used in conjunction with interactive whiteboard (IWB) and video conferencing, because it is used to separate the live video of the presenter and presentation materials. To make this happen, the PCs in different sites need to be connected to the site’s network or have their own stand-alone internet connection. For displaying content from one site to the other site(s), a data projector is also an indispensable part that is used in an interactive classroom.
7.2.3 What does a typical ‘Connected Classroom’ set-up process require?

A ‘Connected Classroom’ usually has the following basic facilities (see Figure 7.4): a flat screen wall-mounted TV monitor and TV remote; interactive whiteboard equipment (including Smartboard pens, eraser and speakers) and projector remote; a main cabinet (including a PC, Tandberg or Cisco codec machines and a telephone); ceiling mounted microphone; as well as front and back cameras.

As a beginning user of ‘Connected Classroom’, these facilities, including a flat screen wall-mounted TV monitor and TV remote; and projector remote; a main cabinet (including a PC, Tandberg or Cisco codec machines and a telephone); ceiling mounted
microphone; as well as front and back cameras, are all new to me. None of these can be found in the face-to-face classrooms, except IWB in some classrooms. This requires a beginning teacher-researcher, such as me to learn how to use these facilities and how to start a ‘Connected Classroom’ with distant schools.

7.2.4 How do I get started with ‘Connected Classroom’?

After familiarising myself with the facilities, then the next question is how to get it started. From analysing the diary record of my experiences, I identified nine processes.

Step 1

Turn the TV on by pressing the power button (see Figure 7.5), which is usually located at the bottom right hand corner at the front of TV monitor. Sometimes, it is located around the back at the bottom right hand corner. Alternatively, press the ‘power’ button on TV remote. After that, the TV should come on automatically with the DEC NSW video conferencing homepage.

Figure 7.5: A flat screen wall-mounted TV monitor, TV remote and DEC NSW video conferencing homepage

This step differs from traditional face-to-face classrooms where students and teachers see and talk to each other in person, rather than through TV monitor and camera. Therefore, in the ‘Connected Classroom’ setting, it requires me to learn how to use TV as a primary medium for connecting with students.
Step 2

Open the cabinet, if there is a central console in the cabinet (see Figure 7.6), press ‘PC’ and ‘V-CONF’ buttons on. However, if there is no central console in the cabinet, then turn the PC on manually by using the PC power button.

Figure 7.6: The main cabinet, central console and PC power button

In this step, I encountered some new concepts, such as a central console and cabinet. These are not used in the normal face-to-face classroom situations. Therefore, I needed to learn what they are, and how and what I need to do with them.

Step 3

Set up the Smartboard pens and eraser, and then turn the volume button on for the Smartboard (see Figure 7.7). After that, point the little grey/white remote control towards the Smartboard projector and press the red button to turn it on.
In this step, the main equipment is the Smartboard facility. First, I needed to put the Smartboard pens and eraser in the right place, matching the colours (see Figure 7.7); otherwise, it would not work. Second, turning up the volume is very important. This decides whether the audio files can be heard clearly by the students on the other end. Therefore, one should never forget to turn on the volume. In addition, I needed to learn how to control the volume. This is because if the volume is too loud, it adversely affects the sound quality. This is also because high volume usually affects teaching and learning next door. Therefore, the second tip is trying to maintain an appropriate volume for teaching and learning. Third, projector is the same as in the face-to-face classroom. It functions to project the teaching and learning materials on the board, so that students can see them all.

**Step 4**

After the first three steps, it is time to connect to the receiving schools. If a call is being initiated from another school or site, then one needs to wait for their video call prompt to appear on the TV screen, and then answer the call by pressing ‘ok’ button on the Tandberg or Cisco remote controls (not the TV remote) (see Figure 7.8).

However, if one is initiating a call to another place, the green telephone button on the Tandberg/Cisco remote should be pressed. Then, the school’s IP number is entered and the ‘call’ button is pressed. However, if one does not know the school’s IP number, he/she needs to arrow up and sideways to the book-shaped icon, which is the contact list for all DEC schools and offices. One needs to press ‘ok’ once on that icon, then
search down the list for the desired contact schools. After pressing ‘ok’, the school’s IP number should come up. The number should be selected, and the ‘ok’ button should be pressed again to embed that number back on the call up page. Then the green button on the Tandberg/Cisco remote should be pressed in order to make the call.

Figure 7.8: Remote controls for two video conferencing systems

This step is essential to successfully connect my school with other receiving schools. As a beginning user of ‘Connected Classroom’, I found this step a bit complex. This is not just because the connecting system was new to me, but also because there are two systems that are currently used in the NSW schools, namely, Tandberg system and Cisco system. I needed to get familiar with the remote controls. The second challenge in this step is how to make calls. If one is a receiving teacher, it is much easier. This is because the teacher only has to wait and answer it by pressing the ‘ok’ button. While if one is a broadcasting teacher, like me, then, he/she has to make calls. Therefore, one has to either get receiving schools’ IP numbers from them, or find their numbers in the system.

This step differs enormously from face-to-face classrooms. In the normal face-to-face classrooms, I usually walk into the classroom and the lesson begins. However, in the ‘Connected Classroom’, if connection is not established, the lesson cannot continue. Students and teachers cannot see and talk to each other. Therefore, I argue that connection is the first essential step for successful ‘Connected Classroom’.
Step 5

After getting connected with the schools, it is important to set up viewing arrangements in both locations for broadcasting and receiving schools. The ‘layout’ button on the Tandberg/Cisco remote control (see Figure 7.9) needs to be pressed to enable the teacher to have a small box showing his/her view on the TV screen.

![Remote controls for two video conferencing systems and self-view on TV screen](image)

Figure 7.9: Remote controls for two video conferencing systems and self-view on TV screen

This is one of the differences between ‘Connected Classroom’ and traditional face-to-face classrooms. In order for better interaction, I argue that self-view of the teacher is important. In this way, students feel that there is a real teacher on the other end so as to contribute to establishing a positive teaching/learning relationship between teachers and students.

Step 6

The teacher need to login to the school system where he/she is located, using the local area network to login in. Then, the teacher needs to go to Internet Explorer and search for the DET (The name of the Department has been changed to DEC, but the system is still called DET everywhere.) staff portal. Once in the Staff Portal site, the teacher uses the DEC username and password to login in. Then, he/she needs to go to ‘My Applications’, and then to ‘B’. The teacher then needs to find “Bridgit” and click on it. Finally, the teacher should click on the link in the Brigit site to set it up (see Figure 7.10).
In this step, I encountered new equipment called ‘Bridgit’. As explained in section 7.1.2, Bridgit is tool to connect different locations, so that the teachers’ teaching and learning materials on their Smartboard can be shared with students. This is vital in a ‘Connected Classroom’, because seeing the teacher through TV remote and verbal instructions are not enough for supportive teaching and learning environment (NSW Quality Teaching framework, 2003). Therefore, I needed to learn what Bridgit is all about and how to set it up.

**Step 7**

This step enables the teacher to share the desktop, so that students on the receiving end can see the lesson materials. If the teacher is the broadcaster of the ‘Connected Classroom’ lesson, he/she needs to establish a meeting on Bridgit. The teacher needs to go to ‘create meeting’ (see Figure 7.11) and follow the prompts to give the meeting a name and a password. Then the teacher informs the receiving end teacher the meeting name and password through mobile phone or informs them via TV conferencing system. After the teacher has that up and running, then ‘Share my desktop’ button needs to be clicked (see Figure 7.11). Then, the students should be able to see the Smartboard.

However, if the teacher is receiving a broadcast, then he/she needs to join a meeting in Bridgit. The teacher needs to press the ‘join a meeting’ button (see Figure 7.11) and follow the broadcaster to key in the meeting name and password that he/she has been given by the broadcaster. The Smartboard should appear on your Smartboard screen.
Figure 7.11: Creating meeting through Bridgit

This step is the follow-up of step 6. Sharing desktop is possible until both broadcasting and receiving sites join the same meetings. As a broadcasting teacher, I needed to create meeting every time before each lesson. My recommendation is to use the same meeting name and password, so that receiving teacher would get used to join the same meeting and save time.

Step 8

The most important step is to set up the camera angle and shot size. If the teacher is broadcasting, it is better to use the camera at the front of the room, directly above the TV or Smartboard. The teacher needs to press the camera icon button on the top left hand side of Tandberg remote control (see Figure 7.12) to activate the choice of cameras, making sure to select the front camera. In terms of Cisco system, a teacher needs to use the far left or far right buttons at top of Cisco remote control (see Figure 7.12) to select front or back cameras.
Set the camera angle up so that it is pointing to the far right. What the teacher is trying to do is enable himself/herself to look at the audience on the TV screen at the same time while looking into the camera. That way your audiences across multiple school sites feel like your attention is always on them and not darting the head back and forth between the screen and camera all the time. The camera can be moved by pressing the appropriate arrows on the central ‘wheel’ of the remote (see Figure 7.13).

In the ‘Connected Classroom’, the delivering teacher is on the ‘other side’ of the TV screen. In order to establish a closer relationship with students, receiving schools
prefer to have a ‘close up’ shot. Focusing on the delivering teacher’s head and shoulders is the best screen size to enable students to see how the teacher is pronouncing words and to feel closer despite the obvious distance. It is very difficult building a rapport with the class as a delivering teacher, therefore one needs to use any means possible to help reduce the ‘tyranny of distance’. You can choose your shot size (see Figure 7.14) by using the zoom buttons on far right of both Tandberg and Cisco remotes (see Figure 7.13). It is also recommended that the teacher sets up a lectern or table on which he/she can put notes, seating plan of students in the receiving classroom, the various remotes and a watch (see Figure 7.14), so that the teacher is ready for the lesson.

![Figure 7.14: A ‘close up’ shot and broadcasting school set up](image)

This step also differs to traditional face-to-face classrooms. Since teaching happens in a different context, I sometimes felt nervous. This step helped me to calm down and get ready for the lesson. This is because if the teacher is able to connect with the receiving school, it means that one is successful in connecting, and the rest is delivering the lesson. In terms of shot size self-view, it takes time to find and explore which layout is more appropriate.

**Step 9**

My experience tells that in the pilot ‘Connected Classroom’ project, technology is sometimes troublesome. On the one hand, it is difficult to anticipate what issues might occur; while on the other hand, it is even harder for beginning teacher-researchers,
such as me, who usually are not technology experts, to deal with such issues. This has a huge influence on a teacher-researcher’s confidence in delivering the lesson, and also negatively affects students’ learning outcomes. So what if things do not work? Here is some advice from my work on the pilot ‘Connected Classroom’ course. First, the teacher could ring the ITC hotline for help (see Figure 7.15). Then, they may suggest re-booting the codec system (Tandberg or Cisco). The teacher can then pull the codec power plug out of the power board at bottom front of cabinet, then wait 30 seconds, and then plug it back in. This works well in most cases.

![Figure 7.15: ITC hotline for help and re-booting system](image)

In summary, the above account of the ‘nine steps’ explains each step of the set-up process in reasonable detail. These are new concepts that are different from normal face-to-face classrooms. However, it may not be very complicated once the teacher familiarises with the set-up process. It takes time to get used to it but gradually I become a technology expert. This detailed explanation could possibly provide other teachers some guidance for connecting classrooms across school sites.

### 7.3 The pilot ‘Connected Classroom’ project in WSR

Up till now, there are two ‘Connected Classroom’ projects that are currently running for teaching and learning Chinese. One is in the Northern areas in Sydney, where most of students are background/heritage learners. In addition, the families for non-background learners are well educated and mostly value the learning of Chinese. The other one is in the Western areas in Sydney, which I report in this thesis. The learners’ backgrounds and their family backgrounds are different from that of the Northern areas. This affects teacher-researchers’ decision-making about pedagogies
so as to make Chinese learnable. It also highlights the importance of investigating ‘Connected Classroom’ in WSR. In this following sections, I explain how the WSR ‘Connected Classroom’ is initiated and how it has been developed.

7.3.1 Why initiate the ‘Connected Classroom’ for teaching/learning Chinese in WSR?

At the beginning of 2012, the School Development Officer for the then Western Sydney Region (WSR) approached my mentor- 太阳花 (Tài Yáng Huā) and me to see if we would be willing to conduct a pilot ‘Connected Classroom’ course for teaching Chinese. Later on, when I conducted an interview with her, I asked her reasons why she wanted to initiate the ‘Connected Classroom’ project. She explained:

I wanted to initiate the Project because I saw that it had the potential to deliver the Chinese language to broad our range of students in Western Sydney Region. I envisioned that through the “Connected Classroom” Project, students in schools where there are no Chinese language teachers could access Chinese language if they were interested. So I thought that a “Connected Classroom” Project, once it was developed and piloted could potentially deliver Chinese language lessons to any school in Western Sydney Region(Rose, 26/11/2012, UWS).

The vision is for ‘Connected Classroom’ to become a long-term media delivery system for education language across Sydney, especially those schools where there are no language teachers, but where students are keen to learn a language. Therefore, to pilot such a project for Chinese is matter of importance. For example, in 春日中学 (Chūn Rì Zhōng Xué), such piloting will enable students have some experience of China and regular exposure to Chinese language. This might gradually prepare fluent Chinese speakers for the 21 Asian centuries (Hunter, 2011).

7.3.2 Timeline for the ‘Connected Classroom’ project and the schools involved

太阳花 (Tài Yáng Huā) and I spent the first 3 terms of 2012 in programming term plans, designing resources, recording audio files, filming, designing assessments and doing test broadcasts at various locations. In term 4 of 2012, we began to deliver the course to a group of fifteen Year 7 students at Chūn Rì Zhōng Xué (春日中学). This
school was chosen because the Principal expressed a desire to be part of the ROSETE Partnership and had a Volunteer Teacher-Researcher. However, there were insufficient human resources to accommodate her. The Principal wanted to allow students from feeder primary schools, who had already participated in the ROSETE Partnership for several years, to be able to continue their learning of Chinese. The School Development Officer wanted to test the ‘Connected Classroom’ course to see if it would effectively support articulation with the feeder schools, as well as potentially solve human resource issues for distant schools across WSR. The course was offered to the Year 7 students on a voluntary basis. This was a Gifted and Talented enrichment course.

The students involved demonstrated a very good knowledge of the Chinese content in the listening test (see Appendix XXV) which I conducted at the end of the term. They also expressed joy for the most part with the ‘Connected Classroom’ learning experience, despite being somewhat frustrated at times by problems with technology, sound or the design of the learning activities.

Over the Christmas holidays of 2012, 太阳花 (Tài Yáng Huā) and I went back and improved some of the Smartboard activities, re-recorded some of the audio files and researched other modes through which we could use mobile phone technology (e.g. Poll everywhere) and more websites (BBC language website) in our teaching and learning.

From the beginning of 2013, we began delivering the improved CC1 (China Connected 1) unit of work to a new cohort of Year 7 students (N=25) at Chūn Rì Zhōng Xué (春日中学), as well as to a group of Year 8 students (N=15) at Fù Rì Zhōng Xué (富日中学).

The students at Chūn Rì Zhōng Xué (春日中学) have completed their listening test (see Appendix XXV), and mostly did very well. The average mark was 8/10. The lowest mark was 4/10. In Term 2, 2013, they started a new unit of work called CC2 (China Connect 2). The number of students who participated dropped a little from the beginning of the term, 2013. However, we retained a core group of 12 students,
which is a nice size to work with for language education. These students were highly engaged throughout, quickly grasped new content and demonstrated an effective learning in their unit booklet, according to the receiving teacher. We had very few problems with technology and sound. Moreover, we had no further problems with the design of our teaching and learning activities.

The context at Fù Rì Zhōng Xué (富日中学) was slightly different from Chūn Rì Zhōng Xué (春日中学). Fù Rì Zhōng Xué (富日中学) has used it as a Gifted and Talented extension course for Year 8 students who were selected to participate on a voluntary basis. Moreover, this school was able to follow the ‘Connected Classroom’ lessons with a face-to-face lesson with their on-site VTR. Fù Rì Zhōng Xué (富日中学) also has a strong relationship with a sister school in Ningbo (China), but up until then did not have a Chinese language course operating at the school. It was thought that perhaps the ‘Connected Classroom’ course can prepare students for attending the delegation to China later in 2013.

The Year 8 students in Fù Rì Zhōng Xué (富日中学) also completed their listening test (see Appendix XXV) and most did very well. The average mark was 8/10. The lowest mark was 5/10. However, for various reasons, they cannot continue with the brand new CC2 until this term. Instead, the Principal has asked us to deliver CC1 to a Year 7 class. She has also encouraged the French teacher to become involved for her own professional learning.

7.3.3 Analysis of CC1 and CC2

The first unit of work-CC1 was designed to cover the topics of ‘Greetings’, ‘How are You?’ and ‘What is your name?’ In other words, it focuses on basic introductions. The first 3 weeks of this unit also included a survey of students’ prior knowledge of the Chinese language and culture, as well as introducing basic fundamentals, such as tones, Pinyin and Hanzi (characters). I also made a link to Australian Aboriginal culture through the study of Hanzi (characters) as pictographs.

6The details of unit plans and teaching/learning materials are put in CD at back of this thesis.
Within each topic, I incorporated three important elements, namely, language, cultural connection and grammatical understanding. In terms of language teaching, I worked to develop students’ competency in listening, speaking, reading and writing. When I was designing the course in 2012, I interviewed several language education teachers who had previously been involved in ‘Connected Classroom’ pilots. They had designed units of work focussing on listening, speaking and reading. However, they had not attempted much to teach writing, particularly of Hanzi (character scripts). Moreover, they had not attempted to include assessments. So by including these aspects, our pilot project for making Chinese learnable broke new ground. This first unit was designed to be delivered in 9-10 weeks and each lesson was designed to be 50 minutes long. The next unit of work-CC2 was designed to cover the topics of Numbers, Dates and Special Cultural Festivals.

The decision on selecting topics for CC1 and CC2 relied on my beliefs and purposes of teaching and learning Chinese. My value for teaching and learning a language include the language itself and the cultural elements that go with the language. Therefore, topics, such as introduction to tones and characters, as well as linkage to Aboriginal culture were included. The selection of topics also based on my understanding of what Chinese is learnable for English-speaking Australian students. I chose content that is practical in students’ daily life, and also can be easily connected to their culture and other subjects.

7.4 Impressions of the pilot ‘Connected Classroom’ Chinese course

In order to collect evidence and analyse it to improve the Chinese ‘Connected Classroom’ course, I interviewed (see Appendix XIX) two DEC officers, two school principals, and one receiving teacher (N=5). Some of them had only observed one trial lesson, but others had observed several lessons. I also asked students to comment in their questionnaire (see Appendix XXIII). I present their impression of the ‘Connected Classroom’ as follows.

7.4.1 Teachers’ impression and evaluation

The question I asked teachers in their interview (see Appendix XIX) was, “What is your impression of the Chinese ‘Connected Classroom’?” From their interview
scripts, I captured adverbs and adjectives, which indicated their judgements, evaluations, attitude and emotions towards the course. My analysis focused on the frequency of such terms by counting how many of these same adverbs and adjectives they actually used (see Chapter 4, 4.5.2 for data analysis techniques). Table 7.1 provides a summary of words used in their evaluations.

**Table 7.1: Teachers’ evaluation of ‘Connected Classroom’**

<table>
<thead>
<tr>
<th>Interviewees (Pseudonyms)</th>
<th>Adverbs and adjectives used</th>
<th>Frequency of use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lotus (senior education officer)</td>
<td>very very impressed, excellent, very good, excited</td>
<td>2, 2, 1, 1</td>
</tr>
<tr>
<td>Rose (Education officer)</td>
<td>very good, impressed</td>
<td>2, 2</td>
</tr>
<tr>
<td>Lily (principal)</td>
<td>good</td>
<td>1</td>
</tr>
<tr>
<td>Peony (principal)</td>
<td>well, good</td>
<td>2, 1</td>
</tr>
<tr>
<td>Jasmine (teacher)</td>
<td>good</td>
<td>2</td>
</tr>
</tbody>
</table>

From Table 7.1, it can be seen that the interviewees gave high praise to Chinese ‘Connected Classroom’ course, using words, such as excellent, good, and well. Lotus and Rose also expressed their personal attitudes and emotions regarding the CC course learning experience, stating they were “excited” and “impressed”. In addition, all interviewees, provided reasons of why Chinese CC course was good. Lotus, Lily, Peony and Jasmine noted the potential of CC, because it is “good media” (Interviewee Lily, 19/11/2013, Lily’s office); a “good platform” (Interviewee Peony, 06/12/2013, Peony’s office); and a “good way and method” (Interviewee Jasmine, 06/12/2013, Jasmine’s office) to “deliver Chinese for students across the region” (Lotus, 19/11/2012, Lotus’s office). For them, it meant that students and teachers across a wide geographical area could access language education, which they could not otherwise. Making distance learning possible is one of the main advantages of
CC. Lily pointed out that another advantage of the CC is to maintain language education in secondary schools:

If you have a language education program, that ties very much to a teacher on its side. That teacher might leave, or retire. Then the language education program can stop with disappearance of that person. The advantage of the CC is providing the continuity of delivery which is always a problem (Lily, 19/11/2013, Lily’s office).

Apart from commenting on the Chinese CC course in terms of its potential advantages, especially compared to traditional face-to-face classroom teaching, the interviewees were also asked to comment on the lessons that I delivered through the CC when they assumed the role of themselves as learners. For example, Lotus said, “I liked the design, the content, the pacing, the way you sought the feedback, the reinforcement materials, and your ability through the connected classroom to engage people” (Lotus, 19/11/2012, Lotus’s office). Jasmine (Jasmine, 06/12/2013, Jasmine’s office) also commented on her observations of the students, saying, “I thought that our students actually engaged and enjoyed, just by virtue of their behaviour.” Learners’ enjoyment in learning Chinese is closely related to their success in learning the lesson content. More importantly, the activities to reinforce and interact with them depend upon a teacher’s power and ability to make Chinese learnable for the students. This requires a teacher’s enthusiasm and passion. Rose affirmed my positive presence on TV, saying, “I think you showed great energy and enthusiasm. You presented with lots of passion, and generated lots of interests among students” (Rose, 26/11/2012, UWS).

7.4.2 Students’ impression and evaluation

The participating students (N=11) were asked the following questions in the questionnaire (see Appendix XXIII): Do you enjoy learning Chinese through ‘Connected Classroom’? Numbers 1-5 were used to measure their enjoyment, with 1 meaning do not enjoy, and 5 meaning extremely enjoyable. Table 7.2 presents their expression of enjoyment.
Table 7.2: Students’ evaluation of ‘Connected Classroom’

<table>
<thead>
<tr>
<th>Measurement</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Results</td>
<td>●●●●●</td>
<td>●</td>
<td>●●●●●</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The results indicate a positive feedback, with all of the students expressing at least medium-level of enjoyment. What is more important is that almost half number of students (5 out of 11) expressed extreme enjoyment with the Chinese lessons through ‘Connected Classroom’.

Students were also asked the question in their questionnaire (see Appendix XXIII), “Do you want to continue learning Chinese? … in this way? 10 out 11 students expressed their desire to continue learning Chinese. Some also provided a variety of reasons for this. Table 7.3 presents some of the students’ responses and their reasons.

Table 7.3: Students’ evaluation of ‘Connected Classroom’ 2

<table>
<thead>
<tr>
<th>Students</th>
<th>Continue?</th>
<th>Not continue?</th>
<th>Reasons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student A</td>
<td>●</td>
<td></td>
<td>Chinese lesson is a relaxing time for me.</td>
</tr>
<tr>
<td>Student B</td>
<td>●</td>
<td></td>
<td>Chinese lesson is a way to enrich my knowledge.</td>
</tr>
<tr>
<td>Student C</td>
<td>●</td>
<td></td>
<td>It is funny.</td>
</tr>
<tr>
<td>Students D</td>
<td>●</td>
<td></td>
<td>It is funny and interesting.</td>
</tr>
<tr>
<td>Student E</td>
<td>●</td>
<td></td>
<td>We have more activities to do.</td>
</tr>
<tr>
<td>Student F</td>
<td>●</td>
<td></td>
<td>I feel more relaxed in Chinese lessons.</td>
</tr>
<tr>
<td>Student G</td>
<td>●</td>
<td>We have a lot of activities in the lesson.</td>
<td></td>
</tr>
<tr>
<td>Student H</td>
<td>●</td>
<td>It is a lot of fun.</td>
<td></td>
</tr>
<tr>
<td>Student I</td>
<td>●</td>
<td>I like seeing a person in the same classroom.</td>
<td></td>
</tr>
<tr>
<td>Student J</td>
<td>●</td>
<td>The Chinese culture is interesting.</td>
<td></td>
</tr>
<tr>
<td>Student K</td>
<td>●</td>
<td>It helps me learn more.</td>
<td></td>
</tr>
</tbody>
</table>

It is rewarding for me to see such positive feedbacks. Students A and F said that they feel more relaxed during the Chinese lesson. It might be due to the incorporation of a variety of activities. More importantly, it explains that Chinese becomes less stressful to learn. That is the purpose of my research, that is, to make Chinese learnable for English-speaking leaners.

Student I’s response is interesting. He likes teachers to be there in the classroom. I assume that he prefers more interpersonal teaching and learning strategies, including face-to-face lesson presentations. Seeing a teacher through a TV means it is only possible to see a tiny teacher on the screen. This may result in a less close relationship between a teacher and students, consequently, affecting students’ interest and patience to learn. For this student, ‘Connected Classroom’ may not be a good medium for learning, as such groups of students rely more on interpersonal teaching and learning style.

### 7.5 Future direction of Chinese ‘Connected Classroom’

#### 7.5.1 Maintaining long-term ‘Connected Classroom’ course

For the future development of the ‘Connected Classroom’ in schools in NSW, I argue the importance of school leadership, namely, systemic organisation of student participation. Both high schools involved so far have treated it as an extra-curricular gifted and talented enrichment course. This meant that student participation was voluntary and they were subject to pressure of meeting the demands of learning from
other subjects. A group of students from Fù Rì Zhōng Xué (富日中学) stopped
learning Chinese because they missed so many of their prescribed subjects. They
could not afford to attend my Chinese lessons. In Chūn Rì Zhōng Xué (春日中学),
the principal re-arranged the timetable and negotiated with the classroom teachers.
As a result, students felt more secure in learning Chinese while keeping up with their
other subjects. Therefore, it seems reasonable to conclude that the leadership of
schools need to ensure the regular participation of students in Chinese lessons within
the timetable. The leadership of secondary schools need to fully support students
who are interested in learning Chinese by accommodating it within the school
program. This will ensure that future long-term ‘Connected Classroom’ programs are
more possible.

7.5.2 Current ‘Connected Classroom’ progress

The pilot Chinese ‘Connected Classroom’ course will be finished by the end of 2013.
In a meeting held on the 8th July, 2013, when new VTRs, school principals and
representatives met, 太阳花 (Tài Yáng Huā) and I presented the pilot ‘Connected
Classroom’ project. We also invited piloting schools’ principals and receiving teachers
to talk about their experiences and students’ reactions from their perspectives. The
School Development Officer asked for interests from other schools.

We received seven schools’ interests in joining the pilot ‘Connected Classroom’
Chinese course. These schools’ situations are different from each other. Some have
Chinese teachers in their schools; some schools have background students with
non-background students in the same classroom; and in some schools, students had
prior knowledge of Chinese, either from their primary schools or weekend schools. In
addition, the schools’ purposes for joining this ‘Connected Classroom’ are different.
Some just want students to have exposure to a variety of teaching techniques; some
want specific topics to be taught; and some want assessments and others not. In short,
太阳花 (Tài Yáng Huā) and I have to make specific plans to tailor for each school’s
needs, rather than just relying on CC1 and CC2.
Due to the length of time consumed for planning, we finally chose four schools, including three primary schools. First, we put schools with no Chinese teachers into priority. Second, we wanted to experiment with primary schools, rather than only focusing on high schools. Third, we wanted to investigate the management of background and non-background students in the same classroom. Based on these three reasons, one primary school with background learners was piloted starting from terms 3, 2013 (15th July, 2013). Another two primary schools were chosen for piloting from week 8, term 3, 2013 (2nd September, 2013) to week 10, term 4, 2013 (20th December, 2013). So far, we have finished term plans for these three primary schools. The planning for one high school is in the process, and will be finished by the end of September. We plan to pilot in term 4, 2013 (7th October, 2013-20th December, 2013).

7.6 Summary

In summary, ‘Connected Classroom’ is a potential medium to deliver language courses and other subjects across distant areas, where no teachers and transport are available. The current ‘Connected Classroom’ course for Chinese has been developed based on at least five schools in WSR. However, there are some disadvantages to the ‘Connected Classroom’, which are analysed in the following chapter.

7Terms plans and teaching/learning materials for these two primary schools are put in CD at back of this thesis.
创新成果（Chuàng xīn chéng guǒ）

Witnessing fruitful results

‘Connected Classroom’ is a possibility

*Picture from:
L1tbkgEM9M:&imgrefurl=http://khokanson.blogspot.com/2009/07/leading-by-example.html&docid=GJXHoRYg7ek1_M&imgurl=http://img.skitch.com/20090713-dtau2wfkmfijq581wf9n4qi47.jpg&w=833&h=540&ei=s6EmUpPONsfcgXAY4GADg&zoom=1&iact=rc&dur=250&page=1&tbnh=141&tbnw=217&start=0&ndsp=45&ved=1t:429,r:32,s:0,i:178&tx=95&ty=57
CHAPTER EIGHT

THE DEVELOPMENT OF TECHNOLOGICAL PEDAGOGICAL CONTENT KNOWLEDGE FOR MAKING CHINESE LEARNABLE THROUGH ‘CONNECTED CLASSROOM’ VIA CROSS SOCIO-LINGUISTIC INTERACTION

8.1 Introduction

Video conferencing becomes a new educational medium for teaching and learning, especially for distance education (Roberts, 2011; Hussa, 2012). This study reports a pilot ‘Connected Classroom’ Chinese course using video conferencing facility. This chapter mainly explores the effectiveness of pedagogies that I learned and development from 太阳花 (Tài Yáng Huā) to make Chinese learnable for English-speaking learners. To be specific, my curiosities are: 1) Does the pedagogy to teach Chinese (Pinyin, characters, grammar and culture) via cross socio-linguistic interaction (CSLI) prove useful for other English-speaking learners in other schools in WSR? 2) Does the pedagogy work in ‘Connected Classroom’ teaching and learning context? 3) Are there any differences in terms of pedagogy between ‘Connected Classroom’ context and face-to-face classroom environment? 4) What are the potential, problems and challenges of teaching and learning in the ‘Connected Classroom’ context? In short, I explored the concept of technological pedagogical content knowledge (TPACK) in the ‘Connected Classroom’ context.

The new communication tools present different pedagogical challenges. This chapter documents my perceptions, knowledge and practice that I have developed in the ‘Connected Classroom’ with 春日中学 (Chūn Rì Zhōng Xué) and 富日中学 (Fù Rì Zhōng Xué). It is important to note that through trial, error and reflection, I have developed a set of teaching strategies for working in the ‘Connected Classroom’ environment.

This chapter provides a detailed analysis of the evidence of the development of my technological pedagogical content knowledge (TPACK) in the ‘Connected Classroom’
context. It addresses the questions, such as what are the challenges in teaching Pinyin and characters through ‘Connected Classroom’ and what are the strategies I have used for making teaching and learning possible and learnable. Within each aspect, I analysed students’ feedback of my teaching strategies. Following that, this chapter provides an analysis of the challenges and problems that I encountered when working on the ‘Connected Classroom’ program. Specific suggestions are put forward. Such reflection explores the building of my skills and confidence in order to use this new technology as a teaching and learning medium. After that, a discussion of teachers’ knowledge required for working in the ‘Connected Classroom’, and the meaning of TPACK for teachers in this teaching context is presented. In the end, this chapter provides the future vision for language education.

8.2 The development of my TPACK through CSLI

As discussed in Chapter 7, I started piloting ‘Connected Classroom’ in 春日中学 (Chūn Rì Zhōng Xué) and 富日中学 (Fù Rì Zhōng Xué). I used the pedagogies that I learnt from 太阳花 (Tài Yáng Huā) to incorporate Pinyin, Hanzi (characters), grammar and culture in my Chinese lessons. However, issues and problems appeared in the ‘Connected Classroom’ context. This required me to develop pedagogies that are appropriate for the ‘Connected Classroom’ settings. These strategies are presented below, accompanied by teachers’ and students’ feedbacks about them.

8.2.1 Teaching Pinyin through ‘Connected Classroom’

The first challenge that I encountered in ‘Connected Classroom’ context was how to teach pronunciation. Although many of the letters and sounds in pinyin system are easy for the students to grasp because of their similarity with English sounds, some of the letters and sounds are very different. In addition, oral presentation of pronunciation is not effective through a TV monitor. This reminds me of an interesting incident that I experienced when I first went to 春日中学 (Chūn Rì Zhōng Xué).

It was the first day when my mentor and I met the students and the principal in 春日中学 (Chūn Rì Zhōng Xué). I taught them a special routine for their first Chinese
lesson. Then I said ‘zài jiàn’ meaning ‘goodbye’. The principal who was very interested asked me that ‘is j’ in ‘jiàn’ pronounced as ‘t’ or ‘z’?’ My mentor helped me explain by saying that it likes the letter ‘j’ in the word ‘jump’. This was such a wonderful question! This confirmed that Pinyin de-construction is necessary for English-speaking learners (self-reflection diary, 21/08/2012).

This episode from my reflection diary confirms that I as the teacher of Chinese have to find the ways to make Chinese learnable for English-speaking learners, including the pronunciation of tones. In addition, teaching how a word is pronounced through a television screen is a challenge for me as a teacher. This is because the sound transferred to the other sites might be unclear and/or too soft. Likewise, I could not hear very clearly what the students at different sites were saying, so I could not give them an appropriate and corrective feedback. I developed the following strategies to address these challenges.

**Step 1: De-constructing Pinyin**

Since the Pinyin system uses Roman letters, there exist some actual similarities among letter pronunciations in Chinese and English. Therefore, students do not have to invest extra time in learning how to say all the sounds. I used corresponding letter sound in Chinese words to connect with students’ prior knowledge of English. Table 8.1 presents some actual similarities in sound between English and Chinese.

**Table 8.1: Actual similarities in sounds between English and Chinese**

<table>
<thead>
<tr>
<th>Roman letters/Pinyin</th>
<th>Explanations</th>
<th>Visual pictures</th>
</tr>
</thead>
<tbody>
<tr>
<td>b</td>
<td>like b in boy</td>
<td></td>
</tr>
<tr>
<td>d</td>
<td>like d in dog</td>
<td></td>
</tr>
<tr>
<td>f</td>
<td>like f in fox</td>
<td></td>
</tr>
<tr>
<td>Letter</td>
<td>Pronunciation</td>
<td>Image</td>
</tr>
<tr>
<td>--------</td>
<td>------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>g</td>
<td>like g in girl</td>
<td></td>
</tr>
<tr>
<td>h</td>
<td>like h in heart</td>
<td></td>
</tr>
<tr>
<td>j</td>
<td>like j in jeep</td>
<td></td>
</tr>
<tr>
<td>k</td>
<td>like k in fork</td>
<td></td>
</tr>
<tr>
<td>l</td>
<td>like l in ruler</td>
<td></td>
</tr>
<tr>
<td>m</td>
<td>like m in money</td>
<td></td>
</tr>
<tr>
<td>n</td>
<td>like n in nurse</td>
<td></td>
</tr>
<tr>
<td>p</td>
<td>like p in plane</td>
<td></td>
</tr>
<tr>
<td>r</td>
<td>like r in round</td>
<td></td>
</tr>
<tr>
<td>s</td>
<td>like s in snail</td>
<td></td>
</tr>
<tr>
<td>t</td>
<td>like t in tomato</td>
<td></td>
</tr>
<tr>
<td>w</td>
<td>like w in wood</td>
<td></td>
</tr>
<tr>
<td>y</td>
<td>like y in yesterday</td>
<td></td>
</tr>
<tr>
<td>ch</td>
<td>like ch in teach</td>
<td></td>
</tr>
<tr>
<td>sh</td>
<td>like sh in sheep</td>
<td></td>
</tr>
</tbody>
</table>

(Adapted from http://www.godsw.com/products/chinese_phonetic_alphabet.html)
However, for the pronunciation of some letters in Pinyin, there are no obvious actual similarities in English, so assumed similarities have to be established by comparing English and Chinese. Where such underlying similarities are difficult for the beginning learners to perceive, I, as a teacher-researcher play a fundamental role to help them find these possible similarities. To teach the students these letters, I used comparable sounds or letter blends in Australian English. Table 8.2 presents some assumed similarities that I found between Chinese and English. Of course, where possible, it is desirable to work with the assumed similarities that the students themselves make.

Table 8.2: Assumed similarities in sounds between English and Chinese

<table>
<thead>
<tr>
<th>Roman letters/Pinyin</th>
<th>Explanations</th>
<th>Visual pictures</th>
</tr>
</thead>
<tbody>
<tr>
<td>c</td>
<td>ts as in cats</td>
<td><img src="image1" alt="Visual pictures" /></td>
</tr>
<tr>
<td>q</td>
<td>ch as in chip</td>
<td><img src="image2" alt="Visual pictures" /></td>
</tr>
<tr>
<td>x</td>
<td>‘hssss’ as in the sound that snakes make</td>
<td><img src="image3" alt="Visual pictures" /></td>
</tr>
<tr>
<td>z</td>
<td>ds as in hands</td>
<td><img src="image4" alt="Visual pictures" /></td>
</tr>
<tr>
<td>zh</td>
<td>j as in jump</td>
<td><img src="image5" alt="Visual pictures" /></td>
</tr>
</tbody>
</table>

(Adapted from http://www.godsw.com/products/chinese_phonetic_alphabet.html)

For some blended letters and sounds, I tried to find similar pronunciations in Australia English word. In this way, I hoped to establish assumed similarities, or to work with students’ perceived similarities. Table 8.3 provides some examples.
Table 8.3: Assumed and perceived similarities in sounds between English and Chinese

<table>
<thead>
<tr>
<th>Pinyin</th>
<th>Explanations</th>
<th>English meanings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yuè</td>
<td>ue = wear, so yue = y wear</td>
<td>month</td>
</tr>
<tr>
<td>Sān</td>
<td>san = Sam + n</td>
<td>3</td>
</tr>
<tr>
<td>Jiào</td>
<td>ao = cow, so jiao = ji cow</td>
<td>called</td>
</tr>
<tr>
<td>Wǒ</td>
<td>wo = war, but in a third tone</td>
<td>I/me</td>
</tr>
<tr>
<td>Hěn</td>
<td>e = u, so hen = hun</td>
<td>very</td>
</tr>
<tr>
<td>Èr</td>
<td>r = rrr…. Sound like a pirate saying “Errrrrrrrrr”</td>
<td>2</td>
</tr>
<tr>
<td>Wǔ</td>
<td>u = oo, so wu = woo</td>
<td>5</td>
</tr>
<tr>
<td>Liù</td>
<td>i = ee, u = oo, so liu = leeee</td>
<td>6</td>
</tr>
<tr>
<td>Níán</td>
<td>n = kn, i = ee, an = en, so nian = knee en</td>
<td>year</td>
</tr>
</tbody>
</table>

Given the above procedures, here I demonstrate some specific examples. When I taught the Pinyin for ‘thank you’ and ‘good bye’, I de-constructed the Pinyin (See Table 8.4) by using of actual, assumed and perceived similarities between English and Chinese. My explanation was:

There is a very tricky letter in ‘xiè xie’. It is the letter ‘x’. “How would you say the letter ‘x’ in English?” … Yes, it is a ‘ks’ sound. While in Chinese, it is an ‘hs’ sound, like the snake sound. Then the second part ‘ie’ sounds like ‘air’, the ‘air’ we breathe. So we can re-write this Pinyin as ‘hsair hsair’. It is pronounced as ‘xièxiè’” (self-reflection diary, 07/11/2012).

In the Pinyin for ‘zài jiàn’, there is also a tricky letter. It is the letter ‘z’. “How would you say the letter ‘z’ in English?” … Right. It is the ‘zzzzzz’, a long ‘zzzzzzzzzz’ sound. While in Chinese, it is a ‘dz’ sound (self-reflection diary, 07/11/2012).

Table 8.4: Examples of de-constructing Pinyin

<table>
<thead>
<tr>
<th>Pinyin</th>
<th>De-constructing Pinyin</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xiè xie</td>
<td>x = ks in English, x = hs in Chinese ie = air so xie xie = hs + air x 2.</td>
<td>thankyou</td>
</tr>
<tr>
<td>Zài jiàn</td>
<td>z = dz, so zài jiàn = dzayjen</td>
<td>good bye</td>
</tr>
</tbody>
</table>
These two examples show how I used students’ prior knowledge of English to establish links with Chinese. As I accumulated teaching experience, I came to know that the letter ‘x’ is very tricky for Chinese teachers to teach English speaking students to say. Therefore, first, I asked them, “How would you say ‘x’ in English?” The students put up their hands and said ‘ks’. That is right. At this stage, students might assume that the letter ‘x’ is pronounced as the same in Chinese. Then, I said, “Well, in Chinese, the letter ‘x’ is pronounced as an ‘hs’ sound.” Such comparison raised students’ attention, and also instructed them how to say the ‘x’ sound in Chinese. In addition, in order to scaffold them with each part of the word pronunciation, I tried to use an English word with similar sound. In this example, I said, “The second part of ‘xiè xie’ sounds like the word ‘air’, the ‘air’ we breathe.” Thus, the Pinyin for ‘xie xie’ can be de-constructed as ‘hs+air x2’. Alternatively, it is possible for me to ask students how they would pronounce these two words, and get common agreement among students as to find the most likely perceived similarity and use that. This second similarity made by the students could provide another approach to teaching cross-linguistic similarities. This cross linguistic knowledge serves as a pedagogical tool to help students learn pronunciation.

I used the same strategy as I usually did in the face-to-face-classroom, but I also developed a worksheet like Table 8.4. In this way, students could look at the worksheet while listening to my explanation. This is the different strategy that I used in the ‘Connected Classroom’. The reason for this decision was that if students could not hear my instruction clearly through TV monitor, they could refer to the explanation on the worksheet. Thus, I tried to provide a supportive learning environment.

**Step 2: Tone explanation**

Once the links between Chinese Pinyin and similar sounds for English letters and words were established, the next issue was to present the contrast similarity, that is, how to say the tones. My idea was to scaffold students’ learning so as to build their success in learning Chinese. Tone is also difficult for Chinese teachers to teach English-speaking learners. First, I explained the meaning of tone. Here I used BBC
language website\(^9\) and opened through my Smartboard. I found in the ‘Connected Classroom’ context, website links are especially useful to demonstrate learning materials. Figure 8.1 and 8.2 from the BBC website helped students to understand what tones mean, what they are and how to pronounce them.

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\(^9\)BBC language website link:  
What differed from the normal face-to-face classroom was that I needed to emphasise on the tones and how to pronounce them whenever I taught new words. This was because in the ‘Connected Classroom’ context, I could not easily scaffold students’ learning, and could not obtain immediate feedback on students’ learning. Therefore, I found repetition was a good strategy to consolidate students’ learning. For example, when I taught ‘hǎo’ which means good, I explained, “When you say the third tone, your voice goes down to your voice box, and then goes up again.”

Step 3: Pronunciation drilling and correction

The first and second steps were supposed to make pronunciation of Pinyin learnable for students. The next step was to engage students in repeated practice of these words. Usually I worked with the whole class having them say the words after me. But sometimes, I asked individual students to have a go. If it was not correct, I demonstrated again, and had the class practice again. This was very similar compared to the face-to-face classroom teaching and learning.

8.2.2 Evaluation of Pinyin teaching strategy

How to pronounce Chinese is one of the major obstacles Chinese teachers have to face in teaching English-speaking learners. I wanted to explore pedagogical tools a teacher could use to make the learning of pronunciation easier. This meant studying the appropriateness and effectiveness of my teaching strategies, which is called ‘de-constructing Pinyin, repetitive practice and correction’. During interviews (see Appendix XIX) with the teachers who observed my class, I posed the question, “What do you think of the method that I used to teach Pinyin?” Overall, all interviewees expressed their likeness of this method. For example, Lotus said, “I thought it was good. It was completely different when I went to China” (Lotus, 19/11/2012, Lotus’s office). This confirmed my sense of the necessity and importance of investigating teaching strategies for beginning learners, which did not rely on Chinese methods in

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First tone is high-level tone. This is high and remains level.
Second tone is rising tone. This is goes up and is abrupt (raise your eyebrows while saying it).
Third tone is falling-rising tone. This falls in pitch and then goes up again (drop your chip onto your neck and raise it again).
The fourth tone is falling tone. This falls in pitch from a high to a low level (stomp your foot gently).
classrooms where the students do not have any background in Chinese. What I tried to do was to establish connections between students’ known language (English) with the new language (Chinese), step by step, to progressively impart to them knowledge of the Chinese language. Lily (Lily, 19/11/2013, Lily’s office) offered her understanding of my teaching method, explaining that, “I think that breaking that down into sections, and giving them the English of how it is sound. I think it is really good. It helped their memory.” Peony had been to China, but she cannot speak any Chinese. She told me that my method helped her gain a new perspective on how Chinese words work. She said:

What does help me being an old person learning Chinese is what the Chinese sounds like in a similar English word. The ‘r’ does not just sit there, but you know the way you say it. So that is really important. The same with ‘z’. That makes it much much easier for me looking at that word. It indicates how I am supposed to move my mouth. That makes it much much easier (Peony, 06/12/2013, Peony’s office).

Jasmine expressed the same argument, “I used these symbols to find positions in my mouth to de-construct the pronunciation. So for me it worked. The shape, the pattern which we were taught by you made it easier to recall and to de-construct” (Jasmine, 06/12/2013, Jasmine’s office). With reference to one example that used in the class, namely, ‘zhōng guó’ (China). She said:

Fabulous. It was wonderful. When you talked about zh=j sound, uo=war, sticking ‘g’ in front. I put my tongue here and there. I could switch my knowledge from English to Chinese. I could get it. The students are better than me. They can pick them out very quickly” (Jasmine, 19/10/2013, Jasmine’s office).

Some Pinyin letters and sounds are easy for learners, because they are pronounced as the same in English. Thus, words with these sounds are appropriate for teaching beginners. However, when it comes to the sounds of some tricky letters, teachers of Chinese are challenged to find ways to make them learnable for beginning learners. Lily, Peony and Jasmine gave positive feedback as my strategy of ‘de-constructing Pinyin’ by linking English and Chinese. I did this by breaking down the Pinyin to give them the sound like in a similar English word. This de-constructing technique helped them know how to move their mouths and say the words, and importantly helped to memories the words. From this perspective, by this method, I helped beginning learners to learn Chinese in a sensible and accessible way.
Knowing how to pronounce the words is the first step. This is followed by practice to acquire the correct pronunciation. The students’ learning is based on repeated but engaging practice. The concept of 熟能生巧 (Shú Néng Shēng Qiǎo) means ‘practice makes perfect’. Lotus enjoyed the way I demonstrated the pronunciation and then gave students feedback, saying:

You pronounce it for us, and then we repeat it. You gave us some corrective feedback. Then you had some individuals saying it after we gained confidence. That was good. Let it go for a little while to gain confidence. We are adults, but we had a bit of fun as well. That was good. What I liked about the lesson was that it was not too fast. You just took it slowly and thoughtfully to make sure we had an opportunity to practice (Lotus, 19/11/2012, Lotus’s office).

The effectiveness of teaching is based on how much and what students have learnt. Practice and correction lets learners try, get corrective feedback, listen, and get comments from their peers and me. It is important for students to participate so as to gain self-confidence before moving to the next learning point. Rose agreed:

Everyone participated in the lesson. That was useful. It is good that you demonstrate and then have class to participate. That was useful. That was very good. It helped the students to remember the sounds (Rose, 26/11/20112, UWS).

Practice and corrective feedback with individuals and the whole class is necessary for making Chinese learnable. Lily emphasised the importance of every student’s participation:

You actually made the students pronounce the Chinese carefully and thoughtfully. You had them to recite the Chinese. You listened to them. If they did not get it right, you asked them to say it again after modelling the correct pronunciation. So they heard you use the language and then they practiced the pronunciation. This was not much done in other Chinese lessons that I have seen (Lily, 19/11/2012, Lily’s office).

So, how did students feel about this pedagogy? In the questionnaire (see Appendix XXIII), students were asked, “Do you think the method that I used to teach you pronounce the Chinese words helped you learn this language?” The result showed that
10 out of the 11 students answered “Yes” to this question (see Table 8.5). I summarised the reasons that students provided me with.

**Table 8.5: Students’ evaluation of Pinyin teaching strategy**

<table>
<thead>
<tr>
<th>Students</th>
<th>Reasons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student D</td>
<td>I like the comparison in sound between English and Chinese.</td>
</tr>
<tr>
<td>Student A, B, C, H and J</td>
<td>I like Ms Lu demonstrating it and then we repeating after her.</td>
</tr>
<tr>
<td>Student E and G</td>
<td>I like to write down the de-constructed Pinyin.</td>
</tr>
<tr>
<td>Student I</td>
<td>I like lots of drilling and practice.</td>
</tr>
<tr>
<td>Student A, B, C, F and K</td>
<td>I find the correction after repeating is useful.</td>
</tr>
</tbody>
</table>

Most of the 11 students preferred that I demonstrated the pronunciation and then they repeated after me. Most students found that my correction after making them repeat was useful. This analysis demonstrates that ‘demonstration, practice, repeat, and correction’ is a key pedagogy for learning Chinese. In addition, what the students also indicated was that they liked the ‘de-constructing Pinyin’ technique. As a teacher-researcher, I found this to be a prerequisite for my second step, that is, ‘repetitive practice and corrective feedback’.

Three students (D, E, and G) had learnt Chinese previously. They told me that their previous Chinese teachers did not teach tones. When they learned new words, they always followed the teacher and practiced saying the words. My technique was different from these teachers, because I employed the first step, ‘de-constructing Pinyin’ before doing practice and repetition.

From the students’ comments, I found student C said, “It helps my memory.” Student D said, “You make learning pronunciation easy and interesting. Student E said, “You did it slowly and explained how to do it in detail. Student G said, “The comparison in sound between English and Chinese helps stick the Chinese into my mind.” These
evidences confirm that students recognise the importance of making explicit and useful comparisons between English and Chinese. This detailed comparison makes Chinese learnable by using a step by step confidence building process. That the students find the process helped to train their memory is the power of the ‘de-constructing Pinyin’ technique.

In a summary, my teaching to make Chinese learnable is all about experimenting as a way of professional learning. This was especially so in the ‘Connected Classroom’ environment. What I called ‘de-constructing Pinyin, repetitive practice and correction’ received good feedback from interviewees. This pedagogical technique creates a bridge by making comparisons in terms of the similarities and differences between Chinese and the English given that beginning learners know the latter. Practice and correction provides a good platform for consolidating what they have learnt. Another way to consolidate students’ learning of new vocabularies is through Edmodo that is set up within each individual school. After each lesson, I upload vocabulary recordings to Edmodo, so that students can access to them and revise them in their own time. In addition, further research might also focus on searching online resources, or even making videos about pronunciations with mouth demonstrations.

8.2.3 Teaching Hanzi (characters) through ‘Connected Classroom’

For teachers of Chinese as L2, making the Chinese script (Hanzi) learnable is the most difficult task they face in having English-speaking learners achieving competence in the Chinese language. Students C, G and H commented in their questionnaire that Chinese words (the characters) were the most difficult thing for them in learning Chinese, and they were difficult to remember. Therefore, when introducing beginning language learners to the written script (Hanzi), teachers have to sustain students’ interest and engagement in successfully learning the characters. This section analyse evidence of teaching characters (Hanzi) through a method that uses visual and aural associations which link Hanzi to the students’ prior knowledge and understanding of their Australian culture. This analysis focuses on applying this method to teach Chinese, and analysing the power of these associations to help students improve their memorising and recalling of the sound, shape, and meaning of the characters.
Teaching in the ‘Connected Classroom’ is a digital medium through the use of interactive web-based Smartboard and visual conferencing to deliver lesson content. A key question to be addressed is what is the best way to teach the writing of character (Hanzi)? After consultation with an ITC advisor in Educational office in WSR, I found out that one way to teach hand-writing stroke by stroke was through making mini-films about each character. This way the students could get a clear view of how to form the characters on their page, whereas teaching hand-writing live through the video conferencing system could be frustrating to students. Images that are written on the board, and then captured on the camera and received at a ‘Connected Classroom’ tended to be very fuzzy and indistinct. Moreover, the teacher’s movements could get in the way, and obstruct students’ view. Accordingly, I explored how technology might further be enhanced to efficiently engage the character (Hanzi) teaching when combined with the method that I learned and developed from 太阳花 (Tài Yáng Huā).

When teaching characters through making films, the first challenge for me as a teacher-researcher was to find out the most appropriate instructional language for teaching strokes. In China, there is a system for naming the basic strokes, which are the smallest unit of characters (see Table 8.6). However, using these special Chinese terms for strokes seems inappropriate for beginning English-speakers to understand. Therefore, I went to observe 太阳花 (Tài Yáng Huā)’s lessons, and gradually developed appropriate English instructional language for the strokes.

Table 8.6: Instructional language for basic strokes in Hanzi (characters)

<table>
<thead>
<tr>
<th>Basic strokes</th>
<th>Chinese names</th>
<th>English instructional language</th>
</tr>
</thead>
<tbody>
<tr>
<td>—</td>
<td>横(héng)</td>
<td>A horizontal line from left to right</td>
</tr>
<tr>
<td>丨</td>
<td>竖 (shù)</td>
<td>A vertical line from top to bottom</td>
</tr>
<tr>
<td>丶</td>
<td>撇 (piě)</td>
<td>A diagonal line to the left side</td>
</tr>
<tr>
<td>丶</td>
<td>点 (diǎn)</td>
<td>A dot</td>
</tr>
<tr>
<td>丶</td>
<td>掠 (nà)</td>
<td>A diagonal line to the right side</td>
</tr>
</tbody>
</table>

11 Characters films are put in the CD at back of this thesis.
Using the English instructional language that students are familiar with and the shapes that they have already known provide a useful pedagogical means to teach characters. In order to obtain a more direct connection between English and the other subject knowledge the students might have, I employed cross-curriculum knowledge (see Table 8.7).

**Table 8.7: Chinese combined strokes relating to cross-curriculum knowledge**

<table>
<thead>
<tr>
<th>Combined strokes</th>
<th>English instructional language</th>
</tr>
</thead>
<tbody>
<tr>
<td>『撇点 (piě diǎn)</td>
<td>‘less than’ sign in math</td>
</tr>
<tr>
<td>㇏横竖 (héng shù)</td>
<td>you write a 7</td>
</tr>
<tr>
<td>亅提 (tí) in the character 我 (wǒ)</td>
<td>a teacher’s tick</td>
</tr>
<tr>
<td>亻 in character 你 (nǐ)</td>
<td>T tipped on its side</td>
</tr>
</tbody>
</table>
| 亻 and 十 in the character 十 (shí) | 亻 = capital T  
| | 十 = little †                   |

After using this familiar instructional language to teach basic strokes, the next challenge for me was to consider how to present the whole character. Characters are usually made up of several pictographic components, although sometimes they are a single pictograph. This means that at least some characters are symbols or pictures which represent the meanings they are trying to convey. For this reason, Chinese characters are called ‘pictographs’. This makes learning to read and write Chinese characters easier. The example given by 太阳花 (Tài Yáng Huā) about the Character 好 (hǎo) (see Table 6.2) illustrates the meaning of ‘pictographs’.
Using the pictographic attributes of at least some characters gave me a pedagogical technique for generating imaginative pictures to relate to certain characters. I also experimented with using narrative stories to explain how the pictographic components of the characters work together to express the meaning. In other words, I taught the students how to memorise the meaning of characters by using narrative stories. Table 8.8, 8.9 and 8.10 provide some examples, but I divide them into three groups. They are stories based on my understanding of linguistic, socio and cultural similarities between English and Chinese. However, it may have been better to experiment with the students explaining their sense of these characters, and building on their shared sense of the characters.

Table 8.8: Narrative stories of characters from linguistic similarities

<table>
<thead>
<tr>
<th>Hanzi (Character)</th>
<th>Visual notes</th>
<th>English</th>
<th>My narrative</th>
</tr>
</thead>
<tbody>
<tr>
<td>嗎</td>
<td>Spoken question mark?</td>
<td>The left part “口” is a little square box which is the symbol for the word “mouth”. If you open your mouth, it looks a little bit like a square shape. Why do you think Chinese have the symbol for mouth in the character for a question mark? It is because you have to use your mouth to ask a question.</td>
<td></td>
</tr>
<tr>
<td>很</td>
<td>TR “tres bien”</td>
<td>very</td>
<td>To me, this character looks a little like the letters T and R. May you know French, the word for “tres bien” means “very good”. So the TR of this character may help you remember that it means “very” in Chinese.</td>
</tr>
<tr>
<td>不</td>
<td></td>
<td>no</td>
<td>To me, this character looks a little like an unhappy face, with sad eyes. So that this may help us remember that this is a negative word.</td>
</tr>
<tr>
<td>叫</td>
<td>called</td>
<td>Why does this character contain the “mouth” symbol? It is because you have to name someone using your mouth. This character looks like the two numbers 0 and 4.</td>
<td></td>
</tr>
</tbody>
</table>
putting together. I know this has nothing to do with the meaning of “called”, but it may help you to remember this character. The tricky thing is that a short horizontal line does not come through in the right part.

<table>
<thead>
<tr>
<th>Hanzi (Character)</th>
<th>Visual notes</th>
<th>English</th>
<th>My narrative</th>
</tr>
</thead>
<tbody>
<tr>
<td>五</td>
<td>5 strokes, there is a hidden 5 shape.</td>
<td>5</td>
<td>There is a hidden 5 shape.</td>
</tr>
<tr>
<td>七</td>
<td>Looks like an upside-down 7</td>
<td>7</td>
<td>This character looks like an upside-down 7. In some places, some people write 7 like this, with a little horizontal line across it.</td>
</tr>
<tr>
<td>九</td>
<td></td>
<td>9</td>
<td>It looks like a running ‘n’. n for nine</td>
</tr>
<tr>
<td>十</td>
<td></td>
<td>10</td>
<td>Little  for ten</td>
</tr>
<tr>
<td>今天</td>
<td></td>
<td>Today</td>
<td>When we say the word ‘today’ in English, our mouth looks like the bottom part of the character 今.</td>
</tr>
</tbody>
</table>

Table 8.9: Narrative stories of characters from social similarities
<table>
<thead>
<tr>
<th>Hanzi (Character)</th>
<th>Visual notes</th>
<th>English</th>
<th>My narrative</th>
</tr>
</thead>
<tbody>
<tr>
<td>您</td>
<td>心 = heart</td>
<td>you (formal)</td>
<td>The bottom part ‘心’ is meant to be a picture of a heart in Chinese. You can see that it looks like a heart if we imagine a heart that has been ripped out of a body with its arteries hanging out and little spurts of blood pumping out. The reason why there is a heart radical in ‘您’ is because you want to show your respect to someone older than you. You want to respect them with all your heart.</td>
</tr>
<tr>
<td>我</td>
<td>我</td>
<td>I/me</td>
<td>This character is made up of two symbols for the word dagger 戈 going two different directions. This is because in ancient times, you had to be ready to defend yourself. Therefore, the symbol for “I or me” is two daggers. I think it looks like a pirate with two curved pirate swords hanging off his legs. So if you remember the idea of defending yourself, you will remember this character for ‘I or me’.</td>
</tr>
<tr>
<td>六</td>
<td>6</td>
<td>This character looks like a cricketer hitting ‘Six’. It looks like a person, with his head, arms and feet. I then show this bodily pose in the lesson. What do people have to do with number 6? This reminds me of cricket match that I watched when I first came to Australia. I was told that the highest score that you can get in one hit is 6 points. So in this case, we can imagine that this character is a cricketer with his head, and his arms swinging back across, and he works really hard, and he gets the highest score 6 points.</td>
<td></td>
</tr>
<tr>
<td>八</td>
<td>Size 8 is the most common women’s shoe</td>
<td>8</td>
<td>This character looks like a high-heel shoe. It is interesting that size 8 is most common women’s shoe size in Australia.</td>
</tr>
</tbody>
</table>
Today we can also remember the character 今 means today, because it looks like us when we discover our homework is due today!

The character 几 looks like the image of ancient Chinese weight scale.

The above examples show how I used the pictographic nature of the characters to make meaningful stories. My stories appealed to the students’ prior knowledge. I made the linguistic, social and cultural comparison between English and Chinese based on what I assumed as similarities. In this way, I established whatever links I could between the new characters and what I saw as the students’ prior social and linguistic knowledge. An alternative approach would have been to have the students explain what they thought the characters looked like.

In order to demonstrate these narratives in a more effective way through CC, I made character mini films. I also designed students’ worksheets (See Appendix XXVI as an example) for them to take notes while watching the films.

Both instructional language for basic strokes and the narratives about the characters were used pedagogically because I tried to base them on students’ prior knowledge, both from linguistic perspective and the social and cultural aspects. I also made links between Chinese and other subjects’ knowledge that students have, such as mathematics.

8.2.4 Evaluation of character teaching strategy

In order to evaluate the effectiveness of this pedagogy for teaching characters, I asked the following question in the teacher interviews (see Appendix XIX), “What do you think of the method that I used to teach characters?” All interviewees expressed their support for this method. For example, Lily explained:

The strength of teaching the characters was to make it appear easy in terms of breaking down the parts of the characters, so the beginning
students could see how the character is came about, and the logic of that. Connecting it with something, like the woman and baby, made it easy to hold on to. Those stories helped to de-mystify the language. Therefore, in young students’ minds, it could make learning less difficult (Lily, 19/11/2012, Lily’s office).

This technique for teaching characters was meant to teach a form of Chinese that could be learnt by beginning learners, and retain in their long-term memory. Breaking the characters into parts is a necessary step in this process. Then I explained what each part represented by giving my meaning through reference to familiar shapes or other connections to make the characters meaningful. Having the shapes established, I expected that this helped the learners to understand them. Consequently, I hoped this made the characters easier for students to remember. In effect, I did all the work of making the cross socio-linguistic connections. Further research could investigate whether having the students themselves make such connections could be more effective.

Lily also compared my teaching method to other VTRs’ whom she had observed. She recognised that the VTRs have their own teaching strategies, which seemed to work well. However, none of them broke up the characters or made the connections with students’ prior knowledge as explicitly as I did. Without such memory cues, it seemed less efficient for students to remember how to write, how to understand the meaning, and finally stick into their long-term memory.

This teaching technique compared favourably to the one Lotus observed in classes in China, where teaching the writing of characters was “just a mechanical process” (Lotus, 19/11/2012, Lotus’s office). The teaching technique of moving from what I think students already know to the new knowledge, he said, “This is much clearer. He felt much more comfortable in terms of understanding. We were confident in what we were doing and why we were doing it. I liked your explanations; particularly your emphasis on the shapes” (Lotus, 19/11/2012, Lotus’s office). Lotus enjoyed this more engaging style of learning.

Jasmine argued that this pedagogy worked effectively, especially for visual learners:

I thought it was fabulous, because it was visual. This visual method connected the actual learning to some understanding that they
had, and moved towards to what they had to understand. For me, it really worked solidly. Now, as I do my shapes, I can remember all the shapes vividly, and I can recognise all of them. So it worked very effectively for me (Jasmine, 06/12/2012, Jasmine’s office).

This particular method, with its focus on a variety of shapes, symbols and patterns, is a good pedagogy for visual learners. What is more, the various explanations I experimented with were also important, as students’ existing understanding was addressed. For example, for the character“女” (nǚ, woman/lady), most teachers of Chinese use a girl dancing as an analogy; while some explain it as a woman doing curtsey. Therefore, the question for me was, “Which explanation is more suitable for beginning Australian learners of Chinese?” Of course, there is no fixed answer, because different teachers have their own preferences and different students have their own understandings. One strategy is to use both explanations to connect to different students. Another strategy requiring further investigation is to ask students what visual images they associate with each character and what stories they might tell to remember it. Lotus’s idea of “differentiating learning” (Lotus, 19/11/2012, Lotus’s office) means giving students more alternative understandings to connect to different individuals. This is because students learn in a range of different ways. In this specific example, some might connect with the dancing image; and others with the curtsey image. And of course, students might create their own images. Teaching Chinese is about teaching the students. As a good teacher-researcher, I had to develop knowledge of what works for individual students, how they interpret the information, and whether they have internalised their learning. Teaching is to engage all different learning styles.

The reading stories for each character explain the use of the component shapes or symbols in each character. In order to facilitate students’ understanding, I purposefully designed a notes column on the worksheet as I mentioned before. Jasmine thought that this idea was so useful.

These notes are really a good idea. Because when you work with people, you often found that they are doodle. Or if they can draw a picture of it, using their own words, then it is actually their way to connect to what they understand. Thus actually facilitate their understanding. I think this idea is great. That’s useful (Jasmine, 06/12/2012, Jasmine’s office).
My designing of notes column is for students to take memory cues as they watch character films. This might help them understand the logic of each component within each character. What is more, it is also a good revision cue for long-term memory. Jasmine’s comments give me a third advantage of notes column, that is, students ‘can draw a picture of it using their own words’. By doing this, students internalise learning and connect to their own understandings. For beginning learners, it is usually a teacher-researcher’s responsibility to establish actual, assumed and perceived similarities for learners. As the learning goes on, this kind of teaching triggers students’ own thinking process and learning strategy. This is what real learning means.

In summary, there is no consensus that this pedagogical teaching technique for Chinese characters is the best and correct way to go. However, this provides a new perspective of utilising students’ prior knowledge in linguistic and social aspects, making full use of their assumed and perceived similarity knowledge. Finally, it helps make the pictographic characters meaningful and easy to remember. This method is particularly useful for visual learners, but it is worth investigating a variety of other ways to cater to students’ different learning styles and different understandings. In addition, although teacher-researchers play a significant role in making more connected narrative stories for characters, it is also useful, or even better to involve students’ imagination and creation in making their own character stories.

In the same way, it is worthwhile to investigating students’ feedback from their learning perspective. Therefore, I designed the following question in the students’ questionnaire (see Appendix XXIII), “Do you think the method I used to teach and learn characters (symbols) helped you learn Chinese?” They were also asked to write down characters if they remembered and give reasons.

Nine out of eleven students expressed this as an enjoyable experience with regard to this teaching method. More specifically, they liked watching the character-films because they were helpful, clear and interesting. The narratives used in these mini-films taught them how the characters are written in detail. They appreciated that I explained at an appropriate pace, and gave them examples about what the
characters look like. This helped them to better understand and remember the stroke order, shape and meaning of the characters. Students F, I and K further stated that the notes column was useful as they found it helped them to remember how to write the characters more effectively. This method is quite different from students S, E, and G’s previous Chinese teachers, who asked the students to follow and write without any explanation at all.

My narratives won the favour of the majority of my students. I based my narratives on students’ prior linguistic and social knowledge. Of course, this knowledge was based on my perspective as the teacher. However, I found students making up their own character stories by making use of their assumed and perceived similarities between Chinese and English. This is actually a step further as my future research goes on, and is the final goal of my teaching. This is necessary to make Chinese learnable, and build the students’ desire to continue learning. For example, for the left part (女) of the character “好 (hǎo)”, student A thought it looked like her Mum when she was reading. That is very imaginative. I liked her story. If the students can establish such visual cross socio-linguistic similarities by themselves, then learning Chinese might become easier and even more interesting.

In my own reflective diary, I counted students’ facial expressions and body language while they were watching my character films, “They smiled. They showed their drawing to their classmates. I could feel that they really enjoyed” (self-reflection diary, 20/03/2013). However, I am aware that this pedagogy is especially useful for visual learners. As a teacher-researcher, I will explore other methods using cross socio-linguistic similarities and differences, in order to cater to a variety of learning strategies. However, using films to teach characters seemed to be a powerful pedagogy through ‘Connected Classroom’.

8.2.5 Teaching grammar through ‘Connected Classroom’

Grammar is difficult in any language, as Interview C (19/11/2012, Interview C’s office) said, “with grammar I struggled a little bit.” In Australia, where ‘communicative approach’ is promoted as the best pedagogy in language learning,
grammar has no role to play. This does not mean that teachers in Australia do not teach grammar, but it is not the same as the translation-based ‘grammatical approach’ that is popular in China for learning English as a foreign language.

In this study, I advocate incorporating grammar elements in learning the language, because it lays a solid foundation for students to understand the language, which is one of the core elements in Chinese syllabus. However, I did not list each grammar point in each lesson. Instead, I put it into the instructional language. In order to better facilitate students’ understanding, I also utilised their English knowledge as a backup to facilitate learning. By comparing and contrasting linguistically between English and Chinese, it is assumed that students can learn Chinese more easily and more effectively.

In the ‘Connected Classroom’ context, teaching grammar is very similar to the normal face-to-face classroom teaching. For example, by asking a question, I want students to draw on their linguistic knowledge from English, and make high-order thinking. The only difference is that I developed the worksheet with detailed explanations so that students could learn by themselves, even if it was difficult for them to follow and hear through TV monitor. Table 8.11 demonstrates one of the examples.

Table 8.11: Incorporating grammar in students’ worksheet

<table>
<thead>
<tr>
<th>Hanzi (characters)</th>
<th>Pinyin</th>
<th>English</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>们</td>
<td>Mén</td>
<td>(s) added to people words to make them plural</td>
<td>门 =</td>
</tr>
<tr>
<td>你们</td>
<td>Nǐ mén</td>
<td>You(s)</td>
<td></td>
</tr>
<tr>
<td>你们好</td>
<td>Nǐ mén hǎo</td>
<td>Hello you(s)</td>
<td></td>
</tr>
</tbody>
</table>

In this example, I put these new words in a more logical order, so that students can easily notice how these words relate to each other. More importantly, I built on their
linguistic knowledge from English, and found the actual similarities between English and Chinese.

8.2.6 Evaluation of grammar teaching strategy

In order to evaluate my pedagogy in teaching grammar, I asked a question to teachers in their interview (see Appendix XIX), “What do you think of the method I used to teach grammar?” most teachers stated the usefulness of explaining Chinese grammar by linking to English counterparts. For example, Lotus said:

I think, your explanation was very very clear. They make sense to us. They make sense in relation to, you know, our understanding of English, and how it works. So I think, you captured, er, you know, grammar in the context of how we understand the grammar (19/11/2012, WSR DEC Kingswood office).

I like Lotus’s expression of “grammar in the context of how we understand the grammar”. It is true that grammar is alien to students, and it is also difficult to grasp grammar points in Chinese language. However, if a teacher can capture grammar based on students’ prior knowledge of English, it is possible to make Chinese learnable. Rose used Table 8.11 as a specific example as below:

Well, it is useful by linking this to English where you say ‘mén’ for Pinyin, then ‘nǐ mén’ by linking it to the plural. I think that is useful and good to link what we understand in English. Grammar is integrated in the lesson (26/11/2012, UWS).

The pedagogy that I employed in transfer from ‘mén’ to ‘in mén’ is linking to the concept of plural in English by adding ‘s’ to ‘you’, although it is grammatically incorrect. In this way, students can better understand when and how to use the phrase ‘nǐ mén’. It is also assumed that such linkage help them to store this information longer in their memory.

Although “grammar is difficult in any language” (Jasmine, 06/12/2012, Jasmine’s office), the pedagogy of linking to English grammar provides a positive transfer between Chinese and English. As English-speaking learners, if they “had a good understanding of the English grammar, so they always have something in place, so they can check it. The way you taught it, it worked for me” (Jasmine, 06/12/2012,
Jasmine’s office). Therefore, teaching grammar as a formula and comparison to English grammar is a teaching strategy that I used.

I also asked students the same question in their questionnaire (see Appendix XXIII). The concept of grammar was difficult for students to understand, thus, I gave them specific examples, such as Table 8.11. The majority of students gave me positive feedback by saying “Yes, it helps us to learn.” (10/11 of students). Students E, F, G and H told me that I explained the grammar very well and in detail. This makes it easy to understand and retain it in their memory.

8.2.7 Teaching culture through ‘Connected Classroom’

Teaching culture is an indispensable part in my teaching of Chinese to Australian students. I employed the same pedagogy in the ‘Connected Classroom’ as I did in the face-to-face classroom. I taught cultural knowledge and then compared to that in Australia. For example, how are birthday celebrations similar and different in China and in Australia? More importantly, I incorporated the cultural elements into language, that is, language use in the construal contexts. For example, the greeting form ‘nín hăo’ is to person who is older than you or in high authority. And the form ‘nǐ mén hăo’ is to a group of people. However, in English, we use ‘hello’ to everyone. Such comparison emphasises the linguistic, social and cultural similarities and differences between English and China. I to help students understand how culture influence language use in the specific contexts.

However, in the ‘Connected Classroom’ context, I can easily search teaching/learning materials from online, and demonstrate them through interactive whiteboard via Bridgit. This helps me to create a diversified teaching/learning environment. This, of course, requires me to master general technological skills and capabilities to deal with emerging issues.

8.2.8 Evaluation of cultural teaching strategy

When I asked teachers to talk about their feedback about the strategies that I used to teach culture in the interview (see Appendix XIX), most of them stated that “providing the cultural cues and cultural connections are a part of my lesson” (Lily, 19/11/2012,
Lily’s office). This made students very receptive and “easy to recall” (Jasmine, 06/12/2012, Jasmine’s office). Rose used the example of three different greeting forms, namely, nǐ hǎo, nín hǎo and nǐ mén hǎo. She thought this “bring the dynamics of the Chinese culture into the language teaching” (Rose, 26/11/2012, UWS).

I also asked the students the same question in their questionnaire (see Appendix XXIII). Although 9 out of 11 students expressed that my teaching strategy helped them to learn culture, I found they understood culture as simply the culture itself. For example, students B, H and I said that they like culture as they are interesting. They learnt lots of culture, such as moon festival and moon cakes, as well as firecrackers used during special occasions. Then, I asked them to think about the culture in the language use. They told me that I explained every well and helped them to understand.

8.3 Other challenges in ‘Connected Classroom’

Through working on the ‘Connected Classroom’ course for 18 months, I encountered other challenges and problems. This helped me to evaluate the advantages and disadvantages of ‘Connected Classroom’ as an educational medium for teaching and learning. Each issue is illustrated below.

8.3.1 Creating a variety in lesson activities

Interactive whiteboard is a commonly used tool in the ‘Connected Classroom’ (Mitchell, Hunter, Mockler, 2010, p. 470). It provides key visual resources, in the form of writing notes, constructing diagrams, providing links to internet sites, and a screen through which to plan video materials. While teachers and students can see each other via the video conferencing tools, the interactive whiteboard provides the screen focus for the lesson and was complemented by the voice of the teacher. In this respect, video conference screen is secondary to the interactive whiteboard screen.

A further challenge that I encountered through ‘Connected Classroom’ was in creating a variety of lesson activities. A successful language lesson includes a variety of activities that emphasise student participation, and not a great deal of teacher talk. However, in the CC environment, as a broadcasting teacher, I did much of the talking and questioning. I learnt not to let the lesson become too teacher-centred. A good
strategy is to teach a concept, drill and then apply in an activity. In order to establish more teacher/students interaction, I found that Smartboard activities are a good medium for interactive classroom activities. Students also agreed that Smartboard activities are useful for applying their languages learning in the questionnaire. Although most of the activities cater to individual students working one at a time, even if they are all eventually contributing to a group effort, there is still much interaction and student participation. Lotus, who regarded himself as an adult language learner, provided his understanding of the interactive Smartboard activities:

Using the Smartboard, the interactive nature of that engages students. If the students know the answer, they click on the board. That was good. Even if someone else answers the question, in your own mind, you are saying that this one goes here, that one goes there. There is a level of reinforcement for all students whether they do or they do not touch the Smartboard. … Self-correction, when someone else gave a different answer which was right, made it possible for you to say why it is correct. There is a lot of going on in a lesson like that. Lots of interaction (Lotus, 19/11/2012, Lotus’s office).

Most of the Smartboard activities were for individual students. Sometimes, I needed to make it more interactive for the whole class. As Lotus suggested, I could ask students to think of their own answers, and give their reasons. Giving the rest of students some meta-cognitive tasks to work on, then the nature of interaction through Smartboard can be expanded to involve all students. The following example demonstrates how as a teacher-researcher, I involved more students:

When doing the ‘Poll everywhere’ activity, I asked all students who were willing to use their mobile phone to participate. However, I did not think through what the rest of students might do. After the lesson, the classroom teacher suggested that I should try to think of alternative ways. What are other students do if they do not have phones to participate. Maybe write down their answers? Otherwise, they will feel they cannot participate (self-reflection diary, 22/05/2013).

This was useful advice from the classroom teacher. In this lesson, I only focused on bringing mobile technology into class. This engages those students who have phones because it is a new technology application. I did not plan for other students who could not participate because they did not have phones. Therefore, they participated
In this sense, a teacher plays a significant role in making lessons more engaging for all students.

From students’ questionnaire (see Appendix XXIII) data, 7 out of 11 students said that in addition to the character films, Smartboard provided some interesting, engaging and useful activities for learning Chinese, because it showed useful visual cues through graphics, colours, and texts to represent ideas. It also served as a bridge to “implement the teacher talk” (Mitchell, Hunter, & Mockler, 2010, p. 470). This is especially true in the ‘Connected Classroom’ context. This, of course, demands teacher-researchers to master a sophistication of the interactive whiteboard slides and resources.

In terms of designing the Smartboard activities, several issues emerged as important. First, I had to pay attention to the size of texts, which needed to be large and clear enough, so that students at back rows could see them very clearly. Second, “every object, including pictures, text box and audio file icons need to be locked in place and grouped together” (self-reflection diary, 21/03/2013). Otherwise, it causes inconvenience and wastes time when having students do activities through Bridgit. Third, when displaying the Smartboard from my perspective as the broadcasting teacher, I had to place all lesson resources in the full-screen mode for easy viewing. Fourth, audio/listening activities in the Smartboard needed individual sound files for each segment, so that they could be easily replayed. In a self-contained classroom, I had more control over the whole of the sound file and students’ need for repeated playing. So I could recall all segments quite easily. In the ‘Connected Classroom’ environment, I had less control. Finally, the most important thing for me was to keep the Smartboard activities simple; they were almost too simple. In the ‘Connected Classroom’ context, I could not support students’ learning by walking around and checking individual student as I did in a self-contained classroom. The activities in the ‘Connected Classroom’ context could not be too challenging for students. Otherwise, students would not have more autonomy, and would not feel motivated because of failure.

I also found that competitive team games, group activities and craft/cultural activities are difficult to implement through ‘Connected Classroom’ unless there is a
Chinese-speaking language teacher to help me at the receiving end. This, of course, defeats the purpose of the ‘Connected Classroom’.

However, I had some success with using mobile phone technology. For example, for the lesson of ‘What do you know of China?’, I tried ‘poll everywhere’ website which aims to obtain audience responses through mobile phone. I asked students to use their mobile phones to respond to me. Once students found their reply shown on board, they were excited and discussed about it. Such positive feedback convinced that “mobile Assisted Language Learning” (Abdous, Camarena & Facer, 2009, p. 76) is gaining popularity, providing a new teaching/learning tool to the “net generation” (Oblinger & Oblinger, cited in Abdous, Camarena & Facer, 2009, p. 77). As the ‘Connected Classroom’ project develops, I will explore other mobile assisted tool (Ipad, Ipod, personal multimedia players) and internet websites to support a variety of teaching/learning activities, to gain teacher-student interaction, to involve students’ engagement and to improve learning efficacy.

8.3.2 Designing assessment for ‘Connected Classroom’

Designing assessments was also a challenge in the ‘Connected Classroom’ context. I came to the conclusion that listening, reading and writing assessments are best done on hardcopy test papers. However, these needed the help of the receiving teacher or I personally supervising the test live. Also, having a teacher physically administer listening test allowed me to re-play the audio when necessary. I also experimented with on-line Moodle-style quizzes. However, they did not allow for enough range of qualitative answers. When assessing how culture is expressed through language use, there is a need to allow for a broader scope of answers, rather than just right or wrong. Interestingly, discussions with teachers from the Open High school showed that they had come to the same conclusion. Therefore, greater use of technology as part of the assessment processes is an area for further exploration for me, and for teacher education (Mitchell, Hunter, Mockler, 2010).
8.3.3 Building a positive rapport with students

Building rapport with the students was an issue for me in the ‘Connected Classroom’ environment. From my broadcaster’s position, the students appeared quite fuzzy and indistinct. “I felt frustrated that I could not see my students’ faces. I could only see their general body, height, hair. It did affect my relationship with the students” (self-reflection diary, 16/03/2012). It was difficult to pick out distinguishing details of the students. However, I developed some important and necessary strategies to build positive rapport with students.

First, I met students face to face before their first ‘Connected Classroom’ lesson. This really helped me. Meeting the students just before teaching them via video conference meant we knew each other. I always went to their classrooms to introduce myself. This always helped to build a nice rapport between the students and myself. It also helped me to recognise them on camera and remember their names. Otherwise, their image remained so vague.

Second, a seating plan was essential to help build a rapport with students as quickly as possible. The seating plan was essential for classroom management and lesson pace: “Today, I forgot to bring the seating plan. I had to describe students, which row, and which column. It slowed the pace of the lesson” (self-reflection diary, 16/03/2012). Therefore, it was necessary to get a seating plan from the receiving teacher before the first lesson. This facilitated my use of the students’ names throughout the lessons. However, even with a seating plan at hand, it was still important and necessary to remember students’ names, and to encourage students not to change their seats. Otherwise, I called the name of the wrong student, which negatively affected my authority as the teacher in front of the class. Remembering students’ names was also a powerful tool in my classroom management: “Some students were talking or not working on task, but I did not know their names. I wanted to name one student who acted up, but I could not call out his name” (self-reflection diary, 16/11/2012). This evidence illustrated my frustration when I could not remember students’ names. Getting to know students begins with knowing their names. Thus, in a CC context, having fixed seating plan played a significant role in building teacher/student rapport.
Third, when students achieved good results, it was necessary to reward them. To maintain students’ interest in learning Chinese involved making them feel a sense of success. Apart from encouraging words, such as “Good job, well done, fantastic”, I also gave them Chinese food through receiving teachers’ help. It was a little reward for their hard-work, and a good bridge for incorporating Chinese culture.

Another challenge posed by video conferencing for me was getting to know the students’ learning process. Delivering lessons through a camera meant it was not possible to know what the students were doing in their worksheets, and therefore, to observe any learning difficulties they might have, or whether they were on the right track. To solve this, I obtained help and cooperation from the classroom teacher in the receiving school. However, while in most cases, the classroom teacher was a good helper, but he/she was not a language teacher, and not a teacher of Chinese. Of course, if they were there, it would be no reason for ‘Connected Classroom’. Therefore, their contribution was not as effective as it could be, except in matter of classroom management. This, to some extent, also influenced my relationship with the students.

It is always necessary and important to build a positive relationship between a teacher and students. However, it was more difficult and challenging through ‘Connected Classroom’ environment because there was a pre-set physical distance. In order to bridge this barrier, the above strategies were quite effective. As a broadcasting teacher, “I could feel that the good relationship with students was developing gradually. Sometimes, they said ‘hi’, or ‘nǐ hǎo (hello)’ through camera to me. Or they even waved their hands to me” (self-reflection diary, 16/11/2012). This encouraged me and gave me the confidence to continue delivering my Chinese lessons to them.

**8.3.4 Cultivating a TV presence**

One key difference between normal face-to-face lessons in a self-contained classroom and connected classroom lessons was my appearance as the teacher. I was familiar with the situation where I could see the students physically in front of me; I found it uneasy and strange when I could only see images of the students through the
TV monitor. I call this a TV presence. So what is it? Lily provided an understanding of this concept in her interview:

You have got a nice presence on camera. Sometimes you have a presence in the classroom as a teacher, so that people will watch or listen to you. You have to have that presence on screen. It is actually hard to say how you do this. You have to have certain ingredients to have an on-screen presence. Enthusiasm is there, which is part of the presence you create. Your presence includes the interest and passion you demonstrate. You are able to pass that on to your audiences, the students in this case. You use your voice quite well in terms of being clear and the pace of your talking in the character video. The pace was good. You did not speak too fast, and you didn’t speak too slowly (Lily, 19/11/2012, Lily’s office).

The concept of a TV presence is difficult to define. It includes passion and enthusiasm, and the ability to transfer learning information to students. It also includes the lesson pace and a teacher’s pleasant voice. It is the teacher’s ability to act as a television hostess or host to attract students and grab their attention. A happy, positive, enthusiastic teaching and learning environment has to be created by the on-air teacher. I noticed that if I was happy, the audiences-the students followed me, and were happy. If I made the learning interesting, the students enjoyed learning. My presence through TV monitor was larger than life presence.

For me, a bright TV presence also means being well groomed, positive, energetic and vibrant. It means trying to make lessons via a camera as positive and encouraging as possible so that students are excited about learning through this media rather than being bored by it, “A big smile is essential for creating a positive learning environment. I need to maintain a high level of energy and dynamism. There is the potential for the students to turn off, so I need to continuously project my TV presence not just appear on the screen” (self-reflection diary, 16/03/2012).

I discovered that there was an affective aspect to learning to teach. For me, becoming a teacher involves developing particular attitudes towards students, as well as preparing appropriate tasks for teaching and learning. It also involved me in developing an appreciation of myself and my relationship to my teaching role (Calderhead, 1991). I found that being a teacher was stressful, especially in the ‘Connected Classroom’ environment. The task of teaching exposed my personality and required me to have a
TV presence, in a way that most other occupations do not. As a broadcasting teacher, I was constantly being watched by students, teachers, and other school staff. I obtained constant explicit and implicit feedback about my performance of the task and also about myself as a person. Coping with the task of teaching and with the stress of becoming a good broadcasting teacher required my development of self-knowledge and self-confidence.

8.3.5 Encountering technological issues

Setting-up video conferencing

Technology can be a powerful pedagogical tool for enriching lesson content, engaging students, and making teaching effective (Abdous, Camarena & Facer, 2009). However, I discovered huge unexpected issues when I tried to use it. In this sense, technology is a double-edged sword. Whilst broadcasting the lessons through ‘Connected Classroom’, I encountered a variety of technological challenges, such as the server being down, incompatible file endings which did not allow for the broadcasting of audio or visual texts, and when Bridgit failed. There were difficulties with the time lag when interacting with students, as well as difficulties in enabling the audience—the students to share the use of the broadcaster’s Smartboard. I had no answers to the software and equipment failures. However, I learnt to appear outwardly calm and patient, whilst inwardly sweating profusely. But allowing a time lag of 3 seconds delay for student responses to my questions seemed to help with interaction issues.

In order to get contacted with the receiving school, setting up the video conferencing equipment was the first step. However, being a novice teacher, plus a beginning user of video conferencing, it was such a major challenge for me. I continued experimenting to learn how to be a smart user. The following episode from my reflection diary describes my worries, nervousness, and lack of confidence before the start of the lesson on the first day of the ‘Connected Classroom’:

Today was the first Chinese ‘Connected Classroom’ lesson, I felt so excited. But, I was also nervous, very nervous. Why? Technology! I am not a technology girl. Every time there is always a computer teacher to assist me when we test technology or connection issues, but
this time only me. I started the Projector and the computer. I also established the Bridgit. It was all good. But when I started the TV, it said, ‘no signal’, then appeared ‘not programmed’. I re-started the TV, and the same frightening words appeared. Oh, no, what should I do? There were only 20 minutes left before the lesson began. I became more nervous. I tried to call the computer teacher in this school who usually helps me, but he didn’t pick up the phone. Another computer teacher was not in his office. But there was another computer teacher who had helped me. He rang DEC technology office using the phone in the cabin to get technology help. Although he is not a video conferencing expert, at least he was better with the technological terms than me. Finally, we got connected before the lesson began. Oh, my god (self-reflection diary, 19/10/2012).

This episode vividly describes how my emotion changed before my first ‘Connected Classroom’ lesson began. My emotion went from excitement to nervousness, from nervousness to even greater nervousness, and then I finally relaxed. The reasons for my nervousness are varied. I relied on computer experts too much (but there was much more that I needed to learn.). I was not familiar with the equipment, so more learning was required. More importantly, I did not know how to deal with emergency issues, such as how to solve ‘no signal, not programmed’ problem. This, of course, required a teacher to obtain more knowledge of video conferencing equipment, and skills to solve emergency problem. However, I did learn how to get rid of ‘no signal, not programmed’ issue. The issue arises when the TV cannot recognise the signal. What I learnt to do was to pull the ‘encoded’ cable out, then waiting for ‘not programmed’ to disappear, and then ‘no signal appeared. After that, I plugged ‘encoded’ cable into the cabin and waited for the TV to recognise it.

Knowledge-based practice helped me become a better teacher. Not only was I able to face the same issue next time more confidently, but it also helped me to learn new skills in coping with other problems. The reflection diary where I recorded my knowledge (below) illustrates how frustrated I was while dealing with the same setting up issue but failed:

Today was the second connected classroom lesson, but in a different school. I felt more confident in setting up everything. But, the same issue happened – ‘no signal, not programmed’. At first, I did not feel nervous because I knew what I could do to fix it. Based on my last experience, I tried to pull the ‘Encoded’ cable out, waited, and plugged into, but it did not work. I tried again, still no working. Why? Now I was getting worried. Only 10 minutes left before the lesson. I
had no choice but to call the DEC IT office using the phone in the cabin for help. The expert asked me which video conferencing system I was using. It was ‘Cisco’. That was the issue. Then he asked me to choose ‘HDMI1’ from the ‘input’ button on the TV remote control. It worked. Oh yeah, I survived again! (self-reflective diary, 25/10/2012).

This lesson taught me knowledge about the existing two video conferencing systems that are currently used in WSR schools. One is the ‘Tanberger’ system, and the other is the ‘Cisco’ system. The former is an ‘AV’ input, while the latter is a ‘HDMI’ input. This lesson enlarged my knowledge of video conferencing equipment and the skills I needed for setting up equipment. This added to my knowledge for later lessons. My reflection diary states: “This was the fifth lesson. I was getting better at setting up. Lesson went smoothly, and I was more confident” (self-reflection diary, 16/11/2012).

Setting up and getting the video conferencing equipment ready was vital for ‘Connected Classroom’, because it hugely affected my confidence and worries before my lessons. As a result, it definitely influenced my lesson delivery. It was necessary for me to get to know the video conferencing system as a whole and get insights into how to use it. This knowledge enabled learning through practice, and enabled me to gain confidence in the mastery of how to use it.

**Time lag**

Time lag was another obstacle in my teaching through the video conferencing equipment. It hugely affected my teaching and students’ learning in a variety of ways. For example, in the sixth lesson (self-reflection diary, 22/11/2012), I conducted a listening Smartboard activity for the topic “what is your name?” (See Figure 8.3). I designed seven Chinese names for the seven dwarves. The surname ‘Gāo’ literally means ‘tall’ in Chinese. I thought students would get the joke when I asked them: “How funny is that name for dwarves?” it took a long while before some of the students smiled.
Figure 8.3: Listening Smartboard activity for the topic ‘what is your name?’

Time lag made my teaching less efficient, because the ‘Connected Classroom’ was less than effective. In the above lesson, using ‘Gāo’ as a contrastive surname for dwarves seemed like a good idea, but when I asked the humorous question to attract students, the result was not the laughter that I expected. Time lag delayed the humour. However, a lesson in a self-contained classroom, there would be intense teacher and student interaction which would capture students’ attention more easily. They would notice the funny surname for the dwarves.

Time lag affected the effectiveness and efficiency of my lessons, and also became an influential element in my lesson planning. What I could do in a lesson in a self-contained classroom often would not fit into the ‘Connected Classroom’. I had to save time to finish the lesson content. For example, a self-contained classroom lesson, it was common for me to ask my students ‘why’ in order to check their understanding. However, in the ‘Connected Classroom’, much time was wasted in getting the students’ answers. Through ‘Connected Classroom’, it was not as easy to interact with students and to de-construct their answers as I usually did in the self-contained face-to-face classroom. Therefore, as a teacher, I had to give up some of the Quality Teaching elements (NSW Quality Teaching framework, 2003), such as high order thinking and deep understanding in order to focus on the lesson content.
Sound transfer

In addition to time lag, sound transfer was another major challenge for the ‘Connected Classroom’. Sound quality is of vital importance for lesson delivery, especially for language lessons. Without good sound quality, there is no guarantee that students understand the lesson content. Likewise, it was hard for me as the teacher to get timely feedback from the students’ to check their responses. In my Chinese lessons, I did pronunciation drilling for new vocabularies. However, because of the poor sound quality through the video conferencing equipment, I found that it was very difficult to make decisions about the drilling exercise. My reflective diary below shows my frustration during the fourth lesson because of slow and light sound transfer:

It was really hard to hear the students’ pronunciation at the other end from their classroom. “Nǐ, the third tone, your voice goes down to your voice box and goes up again.” ...... “Nǐ, let’s practice one more time.” Why did the students pronounce “Nǐ” in a second tone? Did it mean that they did not have the right tone? Is this a sound transfer issue caused by the technology? I did not know. Do I have to demonstrate it again? What if they actually knew how to say it, but the sound transfer via the technology had distorted it? Repetition could bore them. It was really hard for me to make a teaching decision (self-reflection diary, 08/11/2012).

Language teaching and learning includes a focus on pronunciation drills, and immediate correction after practice. Being a tonal language, Chinese requires considerable emphasis on pronunciation practice. Since tone is vital to indicate meanings in Chinese, I tried to correct my students’ pronunciation. However, in the ‘Connected Classroom’, it was very difficult for me to hear students’ pronunciation clearly. So it worried me as to what teaching strategies to implement and when to use them. In contrast, in the face-to-face classroom, I could hear students clearly, so that it was never be a problem for me when deciding to help scaffold their pronunciation.

Bridgit

Bridgit is the Data Collaboration Software supported by the NSW DEC for use in an Interactive Classroom. It is a type of web collaboration program, which facilitate instant and remote data collaboration. In other words, from the Interactive Classroom,
Bridgit software provides users with the ability to share and collaborate on information displayed on an interactive whiteboard (IWB) with one or more additional sites in real time.

Therefore, in the ‘Connected Classroom’ project, Bridgit provided an indispensable platform sharing and working on teaching and learning resources with students. However, it was common for the whole Bridgit system to fail. This was a nightmare for me as a teacher who had no backup lesson plan. The following two episodes that happened in my ‘Connected Classroom’ demonstrate the worse result with Bright:

Today was the third lesson. Mrs Jasmine (the librarian) was the being a classroom teacher for the first time. I came to the classroom half an hour before the lesson just in case there were some technological issues again. See, true, I could not run Bridgit. I tried 6 times, but it still did not work. I became worried. I contacted Mrs Jasmine to see the situation in her end. The same issue. The Bridgit system was totally down. Only 2 minutes left before the lesson. “Ok, stop trying again, and let’s go to plan B”. I told to Mrs Jasmine: “Go to Moodle, open this file, that file, and that”. I orally instructed to Mrs Jasmine (self-reflection diary, 02/11/2012).

During the lesson, there was a Smartboard activity about matching characters with shapes and meanings. No Bridgit connection, I could not see what the students were doing on their board. Therefore, I needed to orally instruct, “XXX, go to the board. What picture will you match the first character in the first column?” Even though I tried to make my meaning more clearly, students still could not get what I meant. “Ms Lu, which one?” XXX asked. After XXX finished this Smartboard activity, he clicked “check”. The result was 60, which meant that two pictures were matched incorrectly. Oh, god, how could I know which one? “Mrs Jasmine, could you tell me which one is wrongly matched?” It was so difficult for her to explain to me. They were all Hanzi (characters) which were not familiar to her. Then I had to describe the pictures, and told the students which characters to match with which, telling them the answers again. Oh, this lesson was terrible. So terrible! That was a bad lesson (self-reflection diary, 02/11/2012).

The above two episodes from my reflective diary describes a typical lesson mishap that occurred due to the failure of the Bridgit connection. Without Bridgit, the lesson became a disaster. What knowledge I learnt from these lessons as to always preparing a backup lesson plan. Of course this means more work. In this lesson, I orally instructed the classroom teacher Mrs Jasmine on what to do before the lesson.
However, I had not organised what I could say and do during the lesson, especially for the Smartboard activities. For example, I had not thought about how to use clear language to guide students to do the activities and how to check the answers. As a result, Smartboard activities became less interactive and students felt less confident. The Smartboard activities, which were usually students’ favourite activities in my language lessons, suddenly lost its favour. With Bridgit, teaching and learning can be interactive and interesting, but without it, teaching and learning become terrible and challenging in a ‘Connected Classroom’.

In the ‘Connected Classroom’ teaching context, technology plays such a vital role. As a well-prepared teacher-researcher, I was good at delivering the content through pedagogically powerful techniques. However, too often I had no other option but just wait until the technological problem was fixed. When the technology failed, I was at a disadvantage. If the technology issue happens before the lesson, it largely affected my confidence and anxiety in delivering the lesson. If it happened during the lesson, it also influenced the students’ engagement and interest. The following episode from my reflection diary illustrates students’ emotional changes:

When I asked volunteers for Smartboard activities, I could see that all the students had their hands up. However, when facing technological failure, for example, many times the mouse did not work through Bridgit. I could see the disappointment and frustration on their facial expressions. Then I had to experiment to see why the mouse would not work. I enabled students again and then tried again. Oh, it wasted lots of time (self-reflection diary, 20/03/2013)

The usefulness of the technology was closely related to the success of my lesson delivery. When the technology did not work, it slowed the pace of my lesson, wasted lesson time, and depressed the teachers and students. What was more frustrating was the recurring technological failure which caused the loss of students’ interest and enjoyment. This issue was raised by most of the students when I administered the questionnaire. They suggested that I ‘double check that everything works before everyone comes inside’ (Students’ questionnaire). As a teacher-researcher, I have tried my best to ensure that everything works before lesson, but sometimes, the technological issues arose unexpectedly and no one had the knowledge to fix it.
However, through planning and designing this ‘Connected Classroom’ project, I gradually increased confidence in technology integration after raising, consulting and overcoming them. I acquired knowledge of new applications. I learnt the limitations, advantages and disadvantages of Edmodo and Moodle as repositories for the course material, as well as Tanderberg/Cisco TV conferencing. I learnt many applications within Moodle, as well as how to use Smartboard software and how to design Smartboard activities using templates. Although there are issues with my use of technology, the positive perceptions about technology enormously influenced my effective use of it in the classroom.

8.3.6 Improving communication

The usage of English in terms of clear and concise instructional language was another challenge for me as a Chinese teacher-researcher teaching Chinese in Australia, which is predominantly an English-speaking country. In the ‘Connected Classroom’ context, I was very aware of the need for clear communication. My knowledge of how to make my instructional language as clear as possible became even more important for conducting successful lessons. On the one hand, the lesson time is very similar to the normal classroom. It was 50 minutes. But it was less efficient because of a variety of technological issues (see 8.3.5). Therefore, my classroom language needed to be less repetitive and more concise. On the other hand, the issues of time lag and sound transfer, and the technology added to more communication breakdowns and problems. For these reasons, I had to develop my own lesson scripts (see Appendix XXVII for lesson script example) to ensure the greatest clarity of communication. I always asked 太阳花 (Tài Yáng Huā) to check the lesson scripts carefully for clarity.

As a teacher-researcher, I was very much worried about students’ understanding of my speech. In order to evaluate my improvement of English, I posed the following question to the students in the questionnaire (see Appendix XXIII), ‘Did you understand what the teacher was talking about in the classroom?’ The result was that ten out of 11 students answered ‘Yes’. The reason they gave was that my explanation was slow and clear. This confirmed the usefulness of lesson scripts I prepared. Clarity of communication is one of the important elements for me in creating
effective lessons though ‘Connected Classroom’. For the students, clear instructions and explanations are important for their successful learning.

8.4 Reflection and advice to offer

‘Connected classroom’ is a new medium, especially for language teaching (Mitchell, Hunter, Mockler, 2010). Through my eighteen months of extensive work experience in the ‘Connected Classroom’ project, I built skills associated with using interactive whiteboard and video conference technology, developed much of the new pedagogical knowledge, worked through various technological issues, and created a new learning environment. I also encountered numerous challenges and difficulties. I have adapted these and developed considerable knowledge and skills in dealing with these issues. My understandings of what constitutes an effective and successful lesson through ‘Connected Classroom’ is summarised below.

Allowing adequate time to set up

Allow adequate time to set up the equipment and get ready for the class. The ‘Connected Classroom’ context is closely related to the available technology. The problems cannot be fully anticipated before or even during the lessons. Therefore, it is important to come earlier to the classroom and set up the equipment. If there are issues with technological setup, then there should be enough time to contact receiving teachers and discuss the backup lesson plan which needs to be prepared well in advance.

Setting up the camera

Before each lesson, the teacher must take time to pre-set the camera angles that will be used. The teacher must practice looking at the camera as much as possible. It is natural to look at the students’ faces on the television screen. However, if the camera was not located above the television, and when the teacher looked at the students, it might look as if he/she was looking away from them. Therefore, pre-setting ensures the smooth transitions during lesson times. A big shot was of vital importance for establishing a close relationship between me as the teacher and all the students.
Establishing a good communication with receiving teachers

Establishing a good relationship and continuous communication with the receiving teachers is also important. It is necessary for me to train the receiving teachers on how to set up video conference equipment and how to use the software needed to deliver the lessons. It is also essential to practice before beginning the program in school, so that we all know what would work and what would not. Anticipating problems with the technology, I also trained them in the use of optional methods of accessing course material, and let them know the lesson backup plan in advance.

As a teacher-researcher, I used evidence-driven reflections as a way to improve my teaching and students’ learning. This ongoing communication with receiving teachers was vital. This includes obtaining the feedback after each lesson and about the lesson materials I have prepared before each lesson. Double checking the lesson content and lesson materials before each lesson with receiving teachers was essential. The following episode from my reflection diary demonstrates a disaster lesson:

Today, the lesson was a disaster. Bridgit did not work. There was no worksheet for “greetings, farewelling and thanking” in the booklet. I should have called the receiving teacher yesterday. I mistakenly assumed that everything was ready and in the booklet (self-reflection diary, 13/03/2013).

Communication with the receiving teachers about the lesson content and materials proved essential. In this instance, the lesson time was wasted. This also affected my authority as the broadcasting teacher within the team, because the students might thought that I was not well organised.

In the ‘Connected Classroom’ context, the receiving teachers are in charge of classroom management, and also are important helpers during the lesson. For example, I ask them to select volunteers, and hand out worksheets. Thus, cooperation with the receiving teachers during lessons was important for the success of my lessons. It would be better to have one more trained receiving teacher, because if one is away, the other teacher can be the replacement.
Establishing and maintaining ‘Moodle’

It is also important to establish a sharing platform, like Moodle to keep, share and update lesson materials. In this ‘Connected Classroom’ project, I store and update all teaching/learning materials on a high school’s ‘Moodle’. Moodle is also used as a backup plan when the other technologies fail. Students are also able to access all lesson resources by themselves through Moodle for purposes of lesson revision.

Creating a good pace for lessons

It is important for to set a good pace for each lesson. As I had gained a fair degree of experience, I become better at ensuring my lessons progressed at a good pace, fast enough to sustain students’ interest and slow enough to ensure learning. Through experience, I learned to anticipate what activities would successfully maintain the pace. I also identified the activities that would be slowed down by technology and students movement from chairs to the Smartboard. This required me to gain teaching experience, and advice from experienced language teachers.

Preparing for detailed planning

Considerable planning is required to work in the ‘Connected Classroom’ environment. Being able to ‘wing’ a lesson is not an option because materials are needed to be ready and prepared for sharing via the interactive whiteboard. Planning is also important to structure the integration of technology in the lesson, the issues, and the interaction between my students and me.

8.5 Discussion of teacher-researchers’ technological pedagogical content knowledge

My focus for teaching Chinese to English-speaking learners is trying to make the language more learnable, to build students’ interests, and also to link the learning with what they have known already. Working through two different teaching/learning contexts, namely, traditional face-to-face classroom and ‘Connected Classroom’, I have developed a better understating of how to use PCK as a theoretic-pedagogical
form to make Chinese learnable via CSLI. More importantly, I have developed a better understanding of TPACK through working in ‘Connected Classroom’ situations.

Pedagogical content knowledge (PCK) is an integration of knowledge of content and knowledge of pedagogy (Shulman, 1976, 1987), although other categories of knowledge are also important, such as knowledge of learners and knowledge of context. What is the relationship between technology and PCK? The following Table 8.12 (using Table 2.3 from Chapter 2: Seven constructs in relating to TPACK) as a framework to demonstrate my understanding of seven constructs in terms of TPACK:

Table 8.12: My understanding of seven constructs in terms of TPACK

<table>
<thead>
<tr>
<th>Seven constructs</th>
<th>Research understanding</th>
<th>My understanding through “Connected Classroom”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technological knowledge (TK)</td>
<td>Knowledge of how to operate computers and relevant software.</td>
<td>Knowledge of video-conferencing, Bridgit, interactive whiteboard, Smartboard design, and internet resources.</td>
</tr>
<tr>
<td>Pedagogical knowledge (PK)</td>
<td>Knowledge of how to plan instructions, deliver lessons, manage students, and address individual differences.</td>
<td>Knowledge of how to use appropriate instructional language, deliver lesson in good pace, establish positive relationship with students, and design lesson and worksheet according to students’ needs.</td>
</tr>
<tr>
<td>Content knowledge (CK)</td>
<td>Subject matter knowledge such as knowledge about languages, Mathematics, Sciences, etc.</td>
<td>Subject matter knowledge such as my knowledge of Chinese culture, and Chinese language linguistic system and development.</td>
</tr>
<tr>
<td>Technological Content Knowledge (TCK)</td>
<td>Knowledge of how content can be researched or represented by technology such as suing computer animation software to represent how Chinese characters are written stroke by stroke.</td>
<td>Knowledge of how content can be presented by interactive whiteboard, and how to use online resources and software to support my teaching and to facilitate students’ leaning.</td>
</tr>
<tr>
<td>Pedagogical Content Knowledge (PCK)</td>
<td>Knowledge of “the ways of representing and formulating the subject that make comprehensible to others” (Shulman, 1986, p. 9)</td>
<td>Knowledge of how to make Chinese learnable by CSLI.</td>
</tr>
</tbody>
</table>
Technological Pedagogical Knowledge (TPK)

Knowledge of how technology can facilitate pedagogical approaches such as using mobile technology to survey students’ prior knowledge on a web-based discussion forum.

Knowledge of how technology can facilitate pedagogical approaches, such as using ‘Poll everywhere’ to establish students’ prior knowledge, and using Smartboard to present lesson content.

Technological Pedagogical Content Knowledge (TPACK)

Knowledge of facilitating students’ learning of a specific content through appropriate pedagogy and technology. The expertise to bridge students’ learning difficulties about the subject matter with appropriate pedagogies supported by technologies is in essence the focus of the TPACK framework.

The ‘Connected Classroom’ offers a new understanding of TPACK. It is not supposed to address students’ learning difficulties with appropriate pedagogy supported by technology. It creates pedagogy for teaching and learning. Therefore, it poses challenges for teacher-researchers of how to use this medium (technology) for alternative teaching and learning.

The major contribution of investigating ‘Connected Classroom’ is providing a new understanding of TPACK. The advanced technology development of video-conferencing creates a new pedagogy for teacher to experiment and explore its potential for language teaching and learning. Making Chinese learnable to appeal to students’ interests through ‘Connected Classroom’ is an ongoing learning journey.

### 8.6 National Broadband Network: The future of language (Chinese) education

The current video conferencing systems remain slow and unreliable, because of low-speed Internet (National Broadband Network, 2011). However, technology infrastructure for the ‘Connected Classroom’ expects greater bandwidth capability and reliability, authenticated and filtered internet browsing services and faster speed (Hunter, 2011). Therefore, increasing the Internet speed is expected to reduce time lags, and technical difficulties currently experienced in using these technologies for educational purposes. The NBN is expected to increase the efficiency of conducting video conferences across multiple locations (National Broadband Network, 2011). However, I am not sure that the problems of technology that I experienced through ‘Connected Classroom’ are related to the speed of Internet. However, it seems that language education through video conferencing is likely to become more viable.
through the NBN, due to increased speed of the Internet for schools. NBN might provide a future blueprint for ‘Connected Classroom’ development.

8.7 Summary

The innovative Chinese ‘Connected Classroom’ Project intended to create a “large connected and collaborative learning community” (Hunter, 2011, p. 65) of teachers and students, who can go online for information, resources and communication anywhere, anytime across distance. Using video conferencing to teach language is a useful medium for students, who like to learn digitally (Hunter, 2011). Through this pilot Chinese ‘Connected Classroom’ course, I, as a teacher-researcher, developed a better understanding of pedagogical use of information and communication technology (ICT), especially video-conferencing facility to enhance Chinese language teaching/learning. As for students, it is a novel experience for them; some said they were bored with the daily face-to-face teaching and learning experience of the classroom.

However, the pilot course reported here also tells that to some extent, the ‘Connected Classroom’ has limitations compared to face-to-face classrooms. Although it is advantageous in creating curriculum options for students in distant schools, there are limitations. It does not provide the same flexibility and opportunities to conduct more practical lessons, or to facilitate the potential to build a strong sense of class community. Technological issues are rampant. This study provides evidence to the Department of Education about the urgent need for technological improvement and implications for teaching and learning. For the future development of ‘Connected Learning’ through video conferencing, it is important and necessary to enhance infrastructure for ICT in schools. Maybe face-to-face teaching is better for language education? This is a question for all teacher-researchers to think. However, the ‘Connected Classroom’ is still the last option that I will use as a teacher of Chinese.
满载而归 (Mǎn zǎi ér guī)

Knowledge is learnt, experience is reflected
Start returning home to the East
CHAPTER NINE: CONCLUSION

9.1 Introduction

With the growing status of China in Australia and globally, the teaching and learning of Chinese could become a marketable product. In Australia, the release of the White Paper, called “Australia in the Asian Century” (Australian Government’s White Paper, 2012) has drawn even more intensive interest in Asian language teaching and learning for educators and teachers. The former Australian Prime Minister, Julia Gillard stated that in shaping Australia’s future for the 21st Asian Century, all school students are encouraged to learn Asian languages, among which Chinese is the first priority (Government’s White Paper, 2012).

This study investigated how to make Chinese learnable for largely English-speaking students in Australia. It made original contribution to 1) building a knowledge base which is necessary and important for beginning teacher-researchers from China to adapt to the Australian educational culture, as well as to support the teaching of Chinese to English-speaking learners; 2) investigating an Australian pedagogy which is appropriate for making Chinese learnable for Australian learners; 3) exploring the potential and challenges of using video conferencing as a medium to deliver Chinese language lessons in Australia. This chapter provides a brief summary of this research, including the teacher-researcher capabilities I developed, key findings, implications for policies and pedagogies, limitations and de-limitations, recommendation for future research and my reflections (in Epilogue). The first section summarises the study I conducted through this PhD project.

9.2 Summary of this study

In this section, I summarise each chapter in this thesis. I also record what I have learned and developed through working on each chapter.

Chapter 1 provides a blueprint for this thesis covering the process of writing the thesis and displays the major contribution to knowledge by this study. I learned how to establish and display the statement of thesis, which is:
The main purpose of this study was to investigate a pedagogy that might make Chinese learnable for English-speaking learners in Australia. In order to achieve this goal, this study first looked into a knowledge base that beginning VTRs informed and developed through their journey as beginning teacher-researchers. Once such knowledge base was established, and then it was important to research how to take full advantage of this knowledge base and to convert into effective teaching. A particular term for that teaching knowledge is called Pedagogical Content Knowledge (PCK) (Shulman, 1986, 1987), which was explored through my journey as a teacher-researcher. In addition, cross socio-linguistic interaction between English and Chinese linguistically, socially and culturally was investigated to see if they provided possibilities in making Chinese learnable. Finally, this research investigated the pedagogical application in making Chinese learnable via ‘Connected Classroom’ using video conferencing equipment. I analysed the evidence of the potential and challenges of ‘Connected Classroom’ as a medium for language teaching and learning.

Working on Chapter 1 also helped me learn to 1) connect to my personal background and learning experiences to my research direction, and identify its importance and value for this study; 2) critically review scholarly debates in the research literature and identify major gaps in the field; 3) define and refine both the main and contributory research questions which provided the focus for the study reported in this thesis; 4) explain and justify the research methods, including data collection and analysis principles and procedures.

Chapter 2 constructs an account of the scholarly debate in recent literature in terms of teachers’ knowledge, pedagogical content knowledge, and technological pedagogical content knowledge. The creation of a theoretical framework through my own understating of these concepts in terms of addressing the research questions is one of the key contributions to knowledge made in this thesis. Through selecting and organising a comprehensive yet focused literature review, I learned to 1) search for relevant articles using online databases; 2) organise and categories these studies under different themes related to my research focus; 3) read, think and write critically, so as to help me to establish gaps in research-based knowledge in the field, namely the lack of pedagogical content knowledge to assist beginning Chinese teacher-researchers, especially whose mother tongue is Chinese, to make Chinese learnable for
English-speaking learners in Australia. Identifying this absence in the research literature helped me make a small, but nonetheless significant contribution to knowledge in this field. I also learned to 4) cite references as part of locating my work in an intellectual conversation so as to avoid plagiarism, and 5) use Endnote to organise the large amount of references I generated.

Chapter 3 provides an account of cross-linguistic similarities in language learning based on Ringbom (2007)’s ideas. I came up with a concept of ‘cross socio-linguistic interaction’ to help me think about pedagogy for making Chinese learnable. This concept together with the theoretical framework developed in Chapter 2 were used for analysing evidence in a bid to address the research questions posed in Chapter 1. Specifically, I developed the capability for identifying the relations between these two concepts by creating a concept map to inform my data collection and data analysis. I now have a better understanding of what ‘evidence-driven theories-informed’ research means.

Chapter 4 elucidates the principles guiding the educational research reported in this thesis including the methodological framework and the flexible research design used for this case study. I revised and improved the initial research design so as to upgrade for Masters to PhD. I learned to use interviews, self-reflection diary, documents, and questionnaire as major data sources. I learned the art of designing interview and questionnaire questions, as well as to conduct interviews. I collected a large amount of data and used various data analysis strategies to ensure a reasonable level of validity, reliability and rigour for this research. Knowledge of research ethics was new to me, but I strictly followed the ethical principles and procedures to protect all research participants from any potential harm. All these research attributes which I developed will be useful for my teaching and research in the future.

Chapters 5 to 8 present the results of the analysis of primary evidence. The analytical focus was on the beginning teacher-researchers’ development of pedagogical content knowledge to make Chinese learnable for English-speaking learners in Australia by using cross socio-linguistic interactions. Chapter 5 analyses what knowledge VTRs learned and developed in order to adapt into Australian educational culture, as well as to support the teaching of Chinese in Western Sydney schools. Further Chapter 6
investigates the use of pedagogical content knowledge to make Chinese learnable. It addressed the following issues: 1) What content is learnable for Australian students; and 2) How this content can be made learnable for them. Chapters 7 and 8 analyse the effectiveness of pedagogies presented in Chapter 6 in a different teaching context, namely, ‘Connected Classroom’ via video conferencing. I investigated the following issues: 1) What is ‘Connected Classroom’; 2) What does it look like; 3) How to use it; and 4) What are the similarities and differences in teaching between ‘Connected Classroom’ and face-to-face classroom; 5) What are the potential and challenges of using ‘Connected Classroom’ as a medium to deliver Chinese lessons; 6) What extra pedagogies and skills are required for teacher-researchers.

During the initial phase, I stopped analysing data, because I found it difficult to combine the data which were gathered from different teaching context, namely, ‘Connected Classroom’ and face-to-face classroom. However, I found ‘Connected Classroom’ was a brand new aspect of technology in language teaching/learning and education, thus it helped me to make an original contribution to the understanding of technological pedagogical content knowledge. Therefore, I decided to present an account of the knowledge developed through this study as moving from a general knowledge base, to concrete concept of pedagogical content knowledge, through to a brand new concept of technological pedagogical content knowledge (TPACK). The use of TPACK in Chinese language education is one of the major contributions to knowledge of this study. The research attributes that I developed and learned through working on these four evidentiary chapters included:

1) Selecting and combining different data coding methods;
2) Reading, interpreting and analysing primary evidence critically, not just focusing on what participants said as ‘truth’, but adding my critical thinking that needs justification and interrogation;
3) Avoiding over-generalising claims based on the analysis of evidence;
4) Connecting theoretical concepts and literature with primary evidence by using theoretical tools to analyse evidence and using evidence to question and even challenge some concepts;
5) Making more nuanced analysis of data through searching for and addressing rebuttals and counter-claims;
6) Using advanced academic English to make the argument more focused, consistent and scholarly;

Chapter 9 provides a summary of this research. Here I have reflected on skills and the knowledge that I developed through this research journey. Below I summarise the key findings from this research. These are explained and justified in the next section.

9.3 Key findings

The study reported in this thesis investigated beginning teacher-researchers’ development of pedagogical content knowledge via using cross socio-linguistic interaction to make Chinese learnable for English-speaking learners in Australia. It explored pedagogies used in both face-to-face classroom and ‘Connected Classroom’ via video conferencing. The evidentiary Chapters from 5 to 8 were arranged to demonstrate my analysis of primary evidence of different categories of knowledge, PCK in particular. More importantly, I obtained a better knowledge of what Chinese to teach and how to teach, as well as usage of different pedagogies for different teaching contexts. In each of these evidentiary chapters, I answered one of the contributory research questions. Below I present the key findings:

**Chapter 5 addressed the question of what is the prerequisite ‘knowledge base’ that VTRs learned and developed in order to support their Chinese teaching as part of the ROSETE Partnership in Western Sydney schools.** The key findings are as follows:

*VTRs, as beginning Chinese teachers, needed to develop a holistic understanding of different categories of knowledge so as to adapt themselves into new educational culture and minimise enormous cultural shock so as to support their teaching of Chinese in later stages.*

There is an increasing number of Chinese background students or/and teachers from China who teach their L1 across the world. Due to the cultural and language differences in most cases, some people encounter difficulties when they move from home to a different linguistic and academic environment. They can find this both
socially and psychologically challenging (Cemalcilar & Falbo, 2008; Ingleby & Chung, 2009). They need to learn about the local educational policy, school teaching context, more importantly the classroom situation. One of the major challenges for beginning teacher-researchers who have been educated in China, such as the VTRs in this study, is that classroom management is the most difficult aspect for them to cope with. It took a long time to learn classroom management techniques, such as using language to discipline, setting up classroom rules, and dealing with individual problems. Teacher-researchers also learn to change their attitudes to students’ (mis)behaviours. Instead of hating and scolding them, there is a need to recognise their innate nature, and how to deal with that. Second, there is a need to learn about them as a whole and as individuals, so that teachers know what they are interested in, in order to shape our teaching according to their interests. If they see the value of learning Chinese, and sense that Chinese is learnable, they might be keen to learn, and their (mis)behavior will be less of an issue. Third, students’ feedback and opinions about lessons should inspire teachers to think about appropriate pedagogies, such as role play, project task, so that these factors can lead to positive learning outcomes. In other words, developing comprehensive knowledge of students is very important, especially at the very beginning of the teacher-researcher journey. The knowledge of students also plays a vital role in choosing appropriate pedagogies.

Teaching our mother tongue (Chinese) in an English-speaking country leads to another important issue, namely, our knowledge and fluency of English. Here, English is very broadly used. It includes teacher-researchers’ academic English to write theses, as well as practical English to write term programmes, lesson plans, and students’ reports. It also includes teachers’ appropriate use of oral English for casual conversations with staff and students, as well as formal conversations with parents. What I found to be particularly important in this study was the importance of proficiency in English for classroom instructions. For example, using appropriate language to discipline students, to explain concepts to students, and to scaffold students’ learning. Therefore, teaching Chinese in an English-speaking country requires a high level of proficiency in English.

Teaching is an art. Being a professional teacher requires us to give our best performance in each lesson. In order to present the lesson content in a powerful and
understandable way, teacher-researchers from China need to know what they can do, how to do it, and why they are doing it. For each decision they make about the content to be taught, there has to be a valid reason. Beginning teacher-researchers also need to be prepared to learn, as teaching and research are never-ending learning processes. Knowledge of pedagogy and knowledge of self play crucial roles.

Lastly, the most important issue is knowledge of subject matter. As teacher-researchers from China, they are supposed to be experts in our teaching area, that is, Chinese. However, when teaching, there are numerous unanticipated questions from students about Chinese for which the teachers do not know how to answer. Then, the teachers realise that teaching is not simply about imposing our knowledge to students. It is actually a very complex process of how to teach the content to students in an understandable and acceptable way. Unfortunately, this is usually ignored by beginning teacher-researchers during the first stage of their teaching. That is the reason why investigating PCK is of particular interest to me as a teacher-researcher, because I tried to find out the pedagogy that teachers could use to make Chinese learnable for English-speaking students.

Through an in-depth analysis of Teacher 红(Hóng)’s thesis and interview data, first, I found that she developed all sorts of knowledge bit-by-bit separately. Such development was vital for her to survive during the first stage of teaching and also helped her in later stages of teaching. Second, as a beginning teacher, she had not thought about how to teach her subject matter (Chinese), but instead randomly chose interesting topics to attract students’ engagement. The Chinese that was taught was not important for English-speaking learners. Therefore, she decided to use Chinese culture as the main focus to interest students, rather than teaching more boring and difficult Chinese language. This also confirmed that that PCK was an abstract concept for her, as a beginning teacher-researcher to construct and develop. Third, some categories of knowledge, such as knowledge of curriculum is vital for students’ learning and teacher professional development, but it was not fully developed in this beginning teacher’s journey.

In short, to improve classroom teaching in a steady and lasting way, the teaching profession needs a knowledge base that grows and improves (Hiebert, Gallimore,
&Stigler, 2002). As a summary, I develop a prerequisite knowledge base (Figure 9.1) that VTRs need to learn and develop during their first stage of teaching.

**Figure 9.1: A summarised knowledge base for beginning teacher-researchers**

Chapter 6 focused on the question of how might VTRs use ‘cross socio-linguistic interaction’ as a guide to inform, interact and interweave with ‘pedagogical content knowledge’, with the aim of making Chinese learnable for English-speaking learners in Western Sydney schools? The key finding is:

*In order to demonstrate teacher-researchers’ pedagogical content knowledge in making Chinese learnable for English-speaking learners, cross socio-linguistic interaction provides a concrete tool to make that possible.*

This study finds that pedagogical content knowledge needs to be understood in terms of two interrelated levels. The first level is what content to teach, namely, what Chinese to teach for Australian students. I argue that Chinese Hanzi (characters), Pinyin, grammar, and culture are all important for these students’ to develop Chinese proficiency and competency in aspects of listening, speaking, reading and writing. The second level, which is a key challenge for beginning teacher-researchers from China,
concerns how to teach each aspect in a pedagogically acceptable way so as to reduce the cognitive load in order to make Chinese learnable for students to learn and to build their desire to continue learning the language. Therefore, cross socio-linguistic interaction, which uses students’ prior knowledge of English to link to the new knowledge of Chinese, proves to be a possible and effective tool for making Chinese learnable. The following figure (Figure 9.2) illustrates my understanding of these two concepts, which is my ‘theory of practice’

Figure 9.2: The relationship between PCK and CSLI

PCK refers to the unique body of knowledge required for teaching and learning (Shulman, 1987). It includes the most useful forms of analogy, instances and demonstrations to explain the content. In terms of making Chinese learnable, it means to draw upon students’ knowledge of language, English in this case, to find out what
they see as possible similarities as a starting point for scaffolding their learning. As for Chinese and English, their similarity relationship is complex. It is important to begin with students’ assumed or perceived similarities of Chinese so as to make learnable connections. Therefore, the concepts of PCK and CSLI inform, interact and interweave with each other (Figure 9.2, see arrows ). In other words, there is a potential relationship between each other, which can be powerfully used in language teaching and learning.

In addition, in order to use these concepts effectively, as a teacher-researcher, I need to develop a holistic knowledge base as discussed in Chapter4. Such knowledge is the basis for developing PCK and CSLI (Figure 9.2, see arrow ). My argument is that PCK is a holistic view linking all the sub-categories of knowledge. Without one, PCK cannot be fully developed. In particular, I acknowledge that such a model must involve the importance of subject knowledge within the curriculum as much as the knowledge of pedagogies for teaching. Banks, Leach and Moon (2005) agree that “subject” (p. 338) is necessary because without a sound understanding of Chinese, it would be difficult for me to make analogies and explanations. In addition, knowledge of students also plays extremely important role in making Chinese learnable. This is because PCK means that as a teacher-researcher, I have to find out learning achievements and difficulties, as well as students’ successful conceptions of Chinese and misconceptions according to students from different ages and backgrounds. It is also because CSLI relies on students’ understandings of the similarities and differences between the Chinese and English. It is an interaction between teachers’ and students’ perceptions, rather than just relying on a teacher’s understanding of these two languages. Knowledge of such pedagogy is also vital for teacher-researchers educated in China for making Chinese learnable for English-speakers in English-speaking countries. This study finds that in order to make Chinese earnable, communicative and grammatical approaches need to be integrated together, but in appropriate ways to the needs of learners.

The knowledge base for teaching and research is not fixed and final (Shulman, 1987). Some knowledge develops early, and others later as the contribution for teaching and research changes. For example, after three years of Chinese teaching experience, I still find it “difficult to write an exam paper. I know little about criteria for students’
achievement, and how to set criteria to distinguish different levels of students” (self-reflection diary, 24/05/2012). Knowledge of itself is developing, so do the conceptions of PCK and CSLI (Figure 9.2, see arrow [arrow]). Development of such knowledge, expertise and beliefs, that is, the development of teacher-researcher professionalism, is a lengthy process requiring considerable intellectual and practical engagement on a personal level (Parker & Heywood, 2000; Van Driel, Beijaard, & Verloop, 2001). This investigation identifies that evidence-driven reflection on teaching experience informed by innovative concepts is a major source of PCK, and that adequate subject-matter knowledge appears to be a prerequisite (Van Driel, Verloop, & De Vos, 1998). Their development and eventual interaction between each other lead to making Chinese learnable.

Chapter 7 investigated the question of what does technological pedagogical content knowledge (TPACK) mean for making Chinese learnable through a pilot ‘Connected Classroom’ project in Western Sydney schools? The key finding is:

The technological aspect of PCK means using video conferencing as a medium to support teaching/learning of Chinese. It is very different from face-to-face teaching and learning, requiring additional knowledge of technology for teachers in order to successfully conduct lessons. However, it proves to be a potentially useful medium for language education.

The ‘Connected Classroom’ provides a bridge to visually and audibly connect two or more physical classes. Through video conferencing, I could be connected. This required me as a teacher-researcher to develop extensive knowledge of technology, such as how to set up TV, camera, and Bridgit. More importantly, as a teacher-researcher, I needed to be well prepared for dealing with the technological issues and had the knowledge about how to solve them. Compared to traditional classroom setting, this required extra technological knowledge for teachers.

Keeping up with technology requires continual learning and education (Mishra, Koehler, & Kereluik, 2009). Teachers who do not keep up with the “latest educational technologies will almost certainly fall behind, unfortunately, stay behind” (Mishra et al., 2009, p. 50). This statement is especially true for teachers working in a ‘Connected
Classroom’. This is because if I was not prepared to learn the new technology, and to learn the strategies to solve the issues, ‘Connected Classroom’ would not have been possible. Let alone making Chinese learnable through ‘Connected Classroom’. Therefore, I needed to be willing to learn new technologies, always seeking to make connections between these new technologies and my pedagogies (Mishra et al., 2009).

The ‘Connected Classroom’ is a potential medium for language education, especially for schools which are in distant areas and/or schools where there are no language teachers. The pilot schools in this study belonged to the latter category. The students in this pilot project were non-background learners. I decided to choose basic but interesting units, such as ‘what do you know about China?’ to link their prior knowledge of China and Chinese culture; ‘tones and characters’ to present the unique nature of Chinese language; ‘what is your name?’ to give them Chinese names so as to attract their interest and engagement.

Overall, by referring back to Figure 2.3: TPACK theoretic-pedagogical framework (see Chapter 2), this chapter responds to three questions as listed in Chapter 2. First, the relationship between technology and PCK in teaching/learning Chinese is proved to be determined by the teaching context. In the ‘Connected Classroom’ context, the technologically mediated video-conferencing facilities encourage teachers to adopt a
Chapter 8 How do VTRs develop technological pedagogical content knowledge (TPACK) for making Chinese learnable via CSLI through a pilot ‘Connected Classroom’ project in Western Sydney schools? The key finding is:

As a beginning user of ‘Connected Classroom’, I encountered numerous and challenges and problems of technology, which inspired me to explore, and leaded to my development of PCK and TPACK.

In the ‘Connected Classroom’ context, students and teachers can only see each other through TV monitors by using cameras. This presents a major pedagogical challenge for teacher-researchers. In this study, I used a desktop sharing application (Bridgit) to present my lesson content. I also used Smartboard to maintain students’ interest, and to consolidate and assess their learning. In order to maintain a variety of classroom activities, I also experimented with the use of mobile technology.

In the ‘Connected Classroom’, I needed to re-think about the content I wanted to deliver. Because of the time lag, I found difficult to fit normal lesson content into a ‘Connected Classroom’ lesson. More importantly, I needed to carefully consider how to present the content. In terms of pedagogy, the major challenge for me was how to teach Hanzi (characters). This study found that creating and using mini-films, with imaginative pictures and stories was a good pedagogy to link students’ prior knowledge and to help them better remember the characters.

There were other challenges, such as how to design assessment; how to build a positive rapport with students and classroom teachers; how to cultivate a TV presence; and how to maintain a long-term course. These issues were closely related to my knowledge of curriculum and assessment, knowledge of students, knowledge of English, knowledge of self, and knowledge of context. All of these laid a solid foundation for my development of PCK and TPACK.

The discussion of my understanding of seven constructs in terms of TPACK (see Table 8.12 in Chapter 8) demonstrates that teachers need to develop a certain level of PCK and TK prior to forming their TPACK (Angeli & Valanides, 2005, 2009; Koehler, Mishra, & Yahya, 2007; Chai, Koh, Tsai, & Tan, 2011). This means that they develop
generic sources of knowledge (i.e. TK, PK, CK) before they are able to consider these jointly (i.e. PCK, TCK, TPK, and TPCK). This is especially true through my journey for making Chinese learnable from traditional face-to-face classroom teaching to ‘Connected Classroom’ teaching situations.

The TPACK frameworks with seven constructs emphasise the role of teachers as decision makers who design their own educational pedagogical and technological environments as needed, in real time, without fear of those environments becoming out-dated or obsolete (Mishra, Koehler, & Kereluik, 2009). Using this approach, teachers do not attend to specific tools, but instead focus on technologies that are appropriate for their specific needs. The ‘Connected Classroom’ is a starting point to look at educational technology in a new way.

My main research question was how do, and what factors influence beginning VTRs’ knowledge development and use of (technological)pedagogical content knowledge as a tool to make Chinese learnable for Australian students as L2 learners in the Western Sydney schools? The key findings are:

1) Beginning teacher-researchers’ development of general knowledge, PCK and TPACK is a gradual iterative process.

First, VTRs tried to learn the new educational culture, and gradually developed a variety of knowledge, such as knowledge of context (see Figure 9.3). This stage (Stage 1) helped them to adapt to the new teaching/learning context, and survive the cultural shock. Second, VTRs’ focus moved from teachers to students, more importantly from teachers’ own accommodation to students learning, namely, how to teach the subject. Therefore, they went into the Stage 2 to explore how to use PCK to make Chinese learnable for English-speaking learners. Third, with the development of technology, “Connected Classroom” becomes a potential medium for language education. Thus, they moved into Stage 3, focusing on how to combine technology with Chinese teaching/learning. Figure 9.3 presents my understanding of this process:
The most important form of teacher knowledge goes beyond each of these pieces of knowledge taken in isolation. What made teaching and learning effective is that it brings together each category of in a creative and integrated manner. This is PCK or TPACK. This is not just knowledge of Chinese, software, pedagogy, or teaching, but rather the teacher-researchers’ ability to bring together the often contradictory demands of these disparate domains to develop a powerful educational experience (Mishra et al, 2009). This is the art of teaching. If we aim to that, then, making Chinese learnable for English-speaking learners is not a mission impossible.

2) There are several factors influencing VTRs’ knowledge development and their professional learning.

The first factor is the ROSETE Partnership. There is a growing agreement among educators that one-off-workshop for teacher professional development needs to be changed to “collaborative inquiry” (Wong, Gao, Chai, & Chin, 2011, p. 232). It means that instead of transmitting expert knowledge in one way from researchers/educators to the teachers, they need to interact and collaborate in an active learning process, from which teachers are more likely to advance knowledge and action. The rationale behind “collaborative inquiry” (Wong, Gao, Chai, & Chin, 2011, p. 232) is that diversity of perspectives and expertise helps teachers to make better decisions.

In this study, ROSETE Partnership provided a possible innovative model of teacher-researcher education. Educational officers from DEC and researchers from
UWS organised weekly workshop, encouraged critical discussion between VTRs and them on the teaching context, lesson materials, students’ learning results and challenges encountered, and provided possible solutions, as well as the meaning of research/theories-informed teaching. Such positively teaching/learning environment promotes the desired “democracy” (Harste & Hoonan, as cited in Wong, Gao, Chai, & Chin, 2011, p. 233) in which all participants are expected to arrive at understandings, rather than providing fixed answers.

Zhang and Li (2010) argue that there are not many educational programs which can provide school teachers of Chinese to share ideas and also learn from each other. ROSETE Partnership is a good example to fill gap in teachers’ professional development. This is particularly useful for VTRs’ knowledge development and professional growth. They do not physically receive knowledge from authorities, but frequently discuss, reflect, negotiate on confusion and questions. This helps teacher-researchers to change the original agenda, research questions, or modify the teaching strategies. In Chinese, there is a Chéng Yǔ called ‘一举多得 (Yījǔ Duōdé)’, which means ‘achieving many things with one action’. It is a perfect metaphor for the ROSETE Partnership, because it provides VTRs a platform to develop competencies in both teaching and research. The Research informs teaching, and vice versa. What is more, by engaging in this Partnership, VTRs, like I, are able to produce high quality research outcomes in terms of contributions to knowledge, and also providing teachers insights into making Chinese learnable for English-speaking learners. This Partnership not only stimulates the professional growth and learning of each VTR to varying degrees, but also the Partnership itself generates new knowledge to inform future directions in this filed, and to give guidance to similar teacher-researcher education programs. Therefore, this collaborative Partnership benefits for all three parties (see Figure 9.4), with the same aim of making Chinese learnable for English-speaking learners in Australia.
Figure 9.4: Collaborative-based students-centred ROSETE Partnership
(Figure 9.4 is adapted from “The synergy and the potential sources of tension in the tri-party collaborative inquiry project” from Wong, Gao, Chai and Chin, 2011)

Through ROSETE Partnership, VTRs are able to share their teaching difficulties, lesson materials and students’ learning achievements, as well as the meaning of research-based theoretically informed teaching. This is the platform for sharing, discussing and finding solutions to making Chinese learnable for English-speaking students. Our aim is to make Chinese learnable for Australian school students.
The second factor is the mentorship at school. The mentor’s role is to support students in their learning experiences and to help orient them into thinking about teaching and learning (Parker and Heywood, 2000). The main difference between me and other VTRs was the mentorship in school. With the guidance of my mentor-太阳花(Tài Yáng Huā), I was able to quickly accommodate myself to the teaching environment, and took less time to explore how to teach Chinese to Australian students. More than that, she helped me to find the teaching problems and explore the solutions; she gave me lesson feedback, and invited me to a variety of school activities. All of these were vital for me as a beginning teacher-researcher to develop my professional learning. Moreover, this process was interactive, because I also influenced her teaching with my knowledge of pedagogy and knowledge of Chinese. Together we worked to make appropriate teaching decisions based on our knowledge, skills, attitudes, and awareness.

The third factor is teacher’s self-reflection on knowledge from practice and in action. Personal reflection on the teaching/learning process has emerged in the past decades as being a fundamental part of teacher education (Parker & Heywood, 2000), as teaching is a never-ending learning process. Even 太阳花 (Tài Yáng Huā), who has taught Chinese in Australia for fifteen years, is still prepared to learn new theoretic-pedagogical knowledge, while coping with new issues that occur in the classroom. In this learning pathway, I believe that knowledge is gathered and accumulated from practice, namely, knowledge-in-action. Therefore, I regard self-reflection as a key part of my professional learning process. It helped me to record issues, challenges, good teaching pedagogies and students’ reaction. All of these helped me to prepare for the next lesson, the next term plan, and even for my own life-long learning.

More specifically, this study investigated how teacher-researchers use PCK as guidance to make Chinese learnable through adopting the concept of cross socio-linguistic interaction. This study found that linking students’ prior knowledge of English as a starting point, then searching for actual, assumed and perceived similarities between Chinese and English was an effective way for making Chinese learnable. Thus, this study makes original contributions to knowledge of teaching
Chinese, namely, teaching Hanzi (characters), Pinyin, grammar and culture. However, this study has some limitations.

9.4 Limitations

This study used multiple data sources including VTRs’ completed Masters’ theses accessed through hard copies, interviews, self-reflection diary, and students’ questionnaires. However, like all research, this study has some limitations.

First, the number of VTRs’ theses analysed could be larger. Although research on learning to teach Chinese has grown over the past decade, there is much that we do not know about the nature of teachers’ knowledge, about the relationship of knowledge to practice, and about the contexts which influence the growth of professional knowledge and practice (Calderhead, 199). There were only seven VTRs’ theses ready to be analysed when I began to conduct this research. Since my PhD was upgraded from Masters, I found it difficult to re-design the research and made full use of the resources at hand. I might have included more VTRs’ theses if I had designed this study as PhD project from very first beginning; however, this was not possible. In addition, these seven VTRs went back to China, so I could not observe their lessons. Otherwise, I could have obtained a better understanding of what and why they used certain knowledge based on their lesson content, their use of PCK, their pedagogies in making Chinese learnable, and the factors that hindered or facilitated the development of their decision-making. Such kind of data would be more vivid and faithful than data in their theses.

Second, the ‘Connected Classroom’ could have been piloted in more than one school with more students. However, I had only a short period for data collection for my PhD, so the sample size was small. If I had more time for data collection from more schools, including high schools and primary schools, and also different levels of students with a diversity of students’ backgrounds, then, I could have obtained more rich (similar and contrast) data. This would have given me more useful insights into the potential of ‘Connected Classroom’, and also the effectiveness and students’ reaction to pedagogies. Despite these limitations, this study still has implications for policy and pedagogy.
9.5 Implications for policy and pedagogy

This study has implications for teacher professional development, which is a major issue in educational reform (Wong, Gao, Chai, & Chin, 2011). ROSETE Partnership provides a good model of collaborative-based teacher education and development. Course work may hold the promise of imparting knowledge about teaching (Grossman & Richert, 1988), but I found the course training provided by NMEB was not related with the teaching context in Australia. Instead I learned about teaching Chinese during field experiences through self-reflection and peer discussion. Through practice, I built confidence in pedagogy and making Chinese learnable. Thus, the role of teacher-researchers becomes extremely important for effective teaching/learning and teachers’ professional self-development. Such educational partnership also promotes the exchange of knowledge and culture between Australia and China.

This study also has implications for pedagogies in making Chinese learnable. Although Chinese is seemingly difficult for English-speaking students, this study found that linking to students’ prior knowledge of English, and making connections with Chinese linguistically, socially and culturally was a powerful pedagogy to reduce the cognitive load so as to make Chinese learnable, and build the interest and success needed for continued learning. Specifically, this study provided insights into how to teach Chinese Hanzi (characters), Pinyin, grammar, and culture to Australian students. This, of course, is not the ‘best’ pedagogy or the ‘only’ pedagogy that can be used, but at least appeals to students’ interest and stimulates their passion for continuing to learn the language. The Figure 9.1, 9.2, and 9.3 provide a theoretic-pedagogical framework to encourage both further understanding of and evaluation of these practices (Banks, Leach & Moon, 2005).

This study also has implications for designing Chinese teaching and learning materials for overseas learners, and also for providing teacher professional learning. Hanban-Chinese National Office for Teaching Chinese as a Foreign Language produces a variety of textbook for learning Chinese every year, but few of them are actually used in the overseas classrooms. Why? This is because they are designed based on Chinese background students’ capabilities, but are not suitable for non-background students’ cognitive development and language learning. My study
provides insights into important issues, such as what are the characteristics of non-background students and their language abilities; what might be the suitable lesson contents and effective learning activities; how to form possible pedagogies for teaching Hanzi (characters), Pinyin, grammar and culture. This study also provides guidance for educators to train language teachers, such as what training contents might be included; what the focus of such training is; and how to design training materials.

This study also has implications for the language teaching and learning. ‘Connected Classroom’ as a new technology, is a brand new medium for language education. Compared to traditional online learning, this medium is more interactive and vivid. This study provides a new direction for future development in language teaching/learning. The next section provides recommendations for future research.

9.6 Recommendations for future research

The teaching of Chinese on an increasingly large scale is a relatively new phenomenon in Australian and in other English speaking countries, and therefore, it is not well researched. It follows that there will be continued debates about and research into the most appropriate content and methods in teaching Chinese as a second/foreign language, and also the model for teacher training and professional development. For the time being, there are a considerable number of Chinese school teachers who are not clear about what they can do in terms of research-based classroom teaching, and some are not equipped with the necessary knowledge and skills for making Chinese learnable. At the same time, activities and opportunities for teachers to exchange information and learn from others’ best practices are limited (Zhang and Li, 2010). Teacher professional learning is a complex process, highly personal and difficult to predict. Teaching is a social activity but learning is a private activity with understanding being constructed by each individual teacher (Parker & Heywood, 2000). Therefore, it is recommended that research into individual teacher’s classroom teaching is needed and merited, so that their practice for making Chinese learnable can be shared, debated, learned and discussed.

This study uses cross socio-linguistic interaction to make Chinese learnable as just a starting point. I mainly focused on my creation of imaginative pictures and stories to
teach Hanzi (characters), and based on my assumptions about sound similarities between Chinese and English letters to teach Pinyin. It is desirable to investigate the assumed and perceived similarities that the students themselves make. For example, when teaching the pronunciation of some words, teacher-researchers might ask the student show they would pronounce these words, and get common agreement among students so as to find out the most likely perceived similarity and use that to investigate its potential for making Chinese learnable. When teaching Hanzi (characters), it may worthwhile to experiment with the students explaining their sense of these characters, and building on their shared sense of the characters to see whether this helps in making Chinese learnable. This could involve studying the students’ creation and their high-order thinking.

When involving students’ thinking in the process of making Chinese learnable using the concept of cross socio-linguistic interaction, it is necessary to take individual learner’s characteristics into consideration. While some learners appear to be oblivious to cross-linguistic similarities, others are too prone to assuming similarities when they do not actually exist. A teacher needs to strike a balance between encouraging learners to make use of actual similarities and preventing exaggerated reliance on assumed similarities (Ringbom& Jarvis, 2009). I have many questions. For example, to what extent, should teachers make use of the actual and assumed similarities between Chinese and English? To what extent, do teachers need to inspire students’ to make assumed similarities? What are the most efficacious teaching/learning strategies for students to learn the four language modalities (listening, speaking, reading and writing). There is considerable space for research in this direction, and further research is encouraged.

More interestingly, most of the students in Australia come from multi-cultural backgrounds. This means that they might know other languages other than English. When these languages are closer to the Chinese than English, learning may be facilitated by focusing on the similarities between these languages and Chinese rather than English. This was not the focus of this study, but is worth of further study.

Other than the above, future studies might also focus on theories and practices of teaching English as a second language through connected classroom technology, and
how these ideas might better facilitate English teaching in China through the medium of technology. Such research would contribute to innovative pedagogical developments and policy making in the field of English education in China.

In terms of ‘Connected Classroom’, future research might focus on a comparative study of language learning. In this study, the Chinese ‘Connected Classroom’ was based on one lesson each week. However, the difference between 春日中学 (Chūn Rì Zhōng Xué) and 富日中学 (Fù Rì Zhōng Xué) was that the latter had an onsite VTR’s Chinese lesson to consolidate my lesson. Consolidation after the class is essential for students to attain the good learning outcomes. Therefore, it could be interesting and worthwhile to investigate and compare students’ learning outcomes with or without a follow-up lesson for learning Chinese through “Connected Classroom”.

Future research might also investigate the similarities and differences in teacher education model for classroom teachers and ‘Connected Classroom’ teachers. With the revolution of digital education, teacher professional learning requires the integration of ICTs into pedagogical practice to connect learning and to meet students’ needs. In this study, the use of ‘Connected Classroom’ provided a useful and empirically grounded understanding of “digital education revolution” (Hunter, 2011, p. 66). The questions that now arise are: What are the extra requirements for teachers? How to train them to use ‘Connected Classroom’? What pedagogies will teachers use in their subject matter teaching? What is the potential for using ‘Connected Classroom’ for other teaching areas, apart from language (Chinese)? These are very interesting topics that are worth of investigating.

Integration of ICT in teaching and learning is now recognised by almost all teacher education institutes (Chai, Koh, Tsai & Tan, 2011). Therefore, much research is needed for addressing the need to scaffold beginning teachers’ development of expertise for ICT integrated teaching. In this way, it increases the likelihood of developing teachers’ technological skills, and then incorporating ICT in their classrooms. They need to design, evaluate, and refine ICT integration in order to make good pedagogical sense of technology in terms of their subject areas. The expertise to bridge students’ learning difficulties about the subject matter with appropriate
pedagogies supported by technologies is in essence the focus of the TPACK framework (Chai, Koh, Tsai & Tan, 2011). More research is welcomed to investigate teachers’ TPACK in their teaching areas and in different teaching contexts, such as in ‘Connected Classroom’.

9.7 Summary

I end this thesis with this very encouraging quotation:

When you improve a little each day, eventually big things occur. Not tomorrow, not the next day, but eventually a big gain is made. Don’t look for the big, quick improvement. Seek the small improvement one day at a time. That’s the only way it happens—and when it happens, it lasts (Wooden, 1997, cited in Hiebert, Gallimore, & Stigler, 2002. p. 13).

I believe teaching is a long journey, and I am now better prepared to learn more. I value what I have learned from these three years of PhD study. Carrying all of these valuable assets with me, I can now move on to the next phase of my professional career.
Through working on the teacher-researcher project reported in this thesis, I developed various skills and knowledge which parallels those ‘graduates’ attributes’ expected by the University of Western Sydney (UWS, 2011a). These include:

1) Communication skills: I learned to communicate more effectively through reading, listening, speaking and writing in English in diverse contexts. Throughout this journey as a beginning teacher-researcher, I read an extensive range of published articles and books, which helped me to find research gaps in knowledge in my field of study; construct and re-construct my research questions; analyse evidence; and argue and against my research findings. At the same time, I attended weekly teacher-researcher training workshops and supervisory panel meetings, as well as research seminars and conference inside and outside university, so that I was able to share ideas with peers and critically re-think my research. This helped my listening and speaking skills enormously. I developed from not understanding and daring not to speak to understanding and expressing quite well. I remembered the three locals, who asked me the same question, “How long have you been in Australia?” I answered, “Almost three years.” After they heard me saying that, they were so surprised at my oral English proficiency. My enhancement of listening and speaking skills is also attributed to my intensive involvement in school teaching environment, which the ROSETE Partnership provided for me. In addition, I developed my academic writing capabilities bit-by-bit and day-by-day. To be honest, I was so worried about my writing, but my principal supervisor inspired me, by saying, “academic writing is nobody’s mother tongue”. With such care and encouragement, I gradually improved my capabilities in these four areas.

2) Social interaction skills: I have become a more self-reliant learner who works effectively in groups and teams. The ROSETE Partnership encouraged me to share my ideas with others. I learned the great value of transformation from being a silent listener to a critical thinker, active speaker and a thoughtful questioner. I learned the value of knowledge exchange rather than holding ideas to myself. Being part of the research, my school-engaged Chinese teaching
experience helped me to talk, negotiate, discuss, and share with staff our thoughts on teaching and learning, good pedagogies, students’ background and lesson plans. As a result, I worked closely with my mentor 太阳花 (Tài Yáng Huā) as a team, and worked out Chinese programs for 6 schools. Those programs suited the Australian school students, and aimed to make Chinese learnable for them.

3) Information and technology literacy: I have accessed the university library, searched and evaluated the relevant information for my study, solved problems one by one, and continued learning until I finalised this thesis. I also obtained Endnote training and applied this tool to organise references related to this study. More importantly, through working on the NSW DEC ‘Connected Classroom’ project, I learned how to operate video conference equipment; how to use an interactive whiteboard to present lesson content using the desktop sharing application like Bridgit; how to create teaching/learning resources by using Smartboard; how to edit and store teaching/learning materials and resources using Moodle; and how to provide lesson content for consolidation and revision using Edmodo. I became highly proficient in using video conferencing technology required to deliver Chinese lessons. I also developed the ability and knowledge in using technology and to better facilitate, engage and assess students’ learning, such as mobile technology-Poll Everywhere, Audacity and Edmodo.

4) Demonstration of Indigenous Australian knowledge: I learned that Indigenous people are an indispensable part of the whole Australian nation, so that I, as a teacher-researcher needed to acknowledge and value Indigenous students in schools. I incorporated similarities between Indigenous written language and that of Chinese Hanzi (characters) into one of the lessons (see Appendix XXVIII). This showed my appreciation of the culture, experiences and achievements of Indigenous Australians. As my career as a teacher-researcher moves forward, I will focus more on developing knowledge and skills and provide support to Indigenous students. Most importantly, I will encourage the responsibilities of other students to value Indigenous students’ identity, so that they have more
5) Demonstration of comprehensive, coherent and connected knowledge: Through this study, I developed knowledge of subject matter (Chinese), knowledge of pedagogy, and knowledge of students in order to develop my in-depth understanding of pedagogical content knowledge. I also witnessed the possibility of making Chinese learnable for English-speaking learners in Australia through using cross socio-linguistic interaction. My research findings provide original contributions to knowledge about Chinese teaching and learning, language education and beginning teacher-researchers’ professional development. In terms of the research itself, I applied in-depth knowledge of research methodology, such as the recruitment of participants, the design of interview questions and students’ questionnaires, data analysis, and extracting findings. I also developed a better understanding of ‘transnational knowledge exchange’, so that I now see great possibilities for knowledge from China and the West be exchanged, negotiated, and equally valued. That was why I used Chinese educational concepts, such as 成语 (Chéng Yǔ), 俗语 (Sú Yǔ) and metaphors to critically analyse my arguments, and to discuss with Australian educational philosophies and concepts.

6) Applying knowledge through intellectual inquiry in professional or applied contexts: One of the unique features of ROSETE Partnership is that it enables me, as a teacher-researcher to relate teaching with research, theory and practice, knowledge and action. By reading extensive literature, I identified the research gaps and decided on my research topic. By teaching in school, I refined my research focus and obtained first-hand primary evidence. Both of these things worked side by side. I integrated theoretical and practical knowledge into the teaching of Chinese, critically reflected on each lesson, and made informed decisions to improve later lesson plans in order to improve my students’ learning of Chinese. Being a reflective teacher, I improved my understanding of pedagogical content knowledge and cross socio-linguistic interaction in order to make Chinese learnable for English-speaking learners in Australia.

7) Bringing knowledge to life through responsible engagement and appreciation of
diversity in an evolving world: I now have a better understanding of ethical issues when conducting educational research, especially when working with children. I learned to think through the process of flexible research design, in which participants could experience less pressure and coercion. I learned to acknowledge other educators’ and scholars’ work, as part of an intellectual conversation, in which I was involved, not just the need to reference and cite them appropriately in the writing.

These research attributes have been developed through the whole journey of my PhD candidature through different teacher-researcher processes, including the review of literature, the establishment of theoretical framework, data collection, data analysis, the identification of original contributions to knowledge and the refocusing and refinement of thesis. All of these helped build up the above attributes.

One of the unique roles in the ROSETE Partnership is being a teacher-researcher. Through three-year of PhD project, I have developed enormously in various aspects, such as teaching and doing research. The following three concepts helped me to re-position myself as a teacher-researcher.

**I never knew I was a bilingual**

When I was at university in China, I used to be afraid of speaking in English even though I was an English major student. I did not want to be embarrassed. I admired those who could speak fluent English, and imagined that one day I could become an excellent English speaker like them.

Later I started my Masters’ research degree in Australia. I did not dare to talk to others, or share my ideas with colleagues in the workshops, seminars and conferences. I would rather be an obedient listener than a speaker, especially in this pre-dominantly English speaking country. I dared not communicate with staff in schools where I taught Chinese because of my poor English, so more than often I confined myself to the classroom doing my own work. I was worried about whether people could understand me and whether I could understand what the Australians were talking about. I kept thinking that my English was not good, which negatively affected my
self-esteem. I assume this might be a common phenomenon among Asian background international students, especially Chinese students.

Ultimately, I tried to re-consider my identity after I encountered the term “multi-competence” (Pavlenko, 2003, p. 262) which was introduced to me by my principal supervisor. Multi-competence suggests that “people who know more than one language have a distinct compound state of mind, not equivalent to two monolingual states, and can be considered legitimate L2 users” (Pavlenko, 2003, p. 262). Through discussion with my principal supervisor, I began to see my competence differently. I knew English, and I could use English for particular purposes at some points in my daily life. For example, I was able to read a rental contract written in English, and I could help people to translate its English meaning into Chinese. In this sense, I am actually a “bilingual” (Pavlenko, 2003, p. 261). I realise that I could live my life through the use of more than one language.

The concepts of multi-competence, bilingualism and L2 user offered an appealing alternative to re-position myself with regard to my English capabilities. I re-shaped myself as a L2 user and a good bilingual who has a larger and richer repertoire of linguistic and cultural knowledge. I was not a reluctant English speaker any more, and this helped my English to progress considerably. I caught myself talking much more in public and in the workshops, seminars and conferences. I was speaking English which was one of my languages. I enjoyed talking to people in English because I am such a social person. I am proud of speaking fluently in English. Being a bilingual, I was also able to use my intellectual and theoretical assets as valuable resources. I used my bilingual capabilities to teach Chinese, and to present my study here in this thesis.

**Western knowledge**

For many international students from China, two of their major aims for studying abroad are to learn ‘Western knowledge’ and to improve their English. In my case, it was the same. When I first joined this academic culture, I was cautious and humble. I wanted to learn everything ‘Western’, such as theory, methodology and English. I did not realise I was actually using intellectual assets from China to assist my study until my principal supervisor pointed it out and encouraged me to do more. For instance,
when coming across a new English term, I would translate it into Chinese and searched for Chinese definitions, or Chinese articles about this concept. This was using my own bilingual capability to do research. My supervisory panel helped me to “generate a new sense of professional agency and legitimacy” (Pavlenko, 2003, p. 251). With the progression of my study, I began to have a better understanding of the importance of engaging Chinese intellectual assets. This is philosophically and ideologically significant in the context of internationalising research education.

Re-imagining myself as multi-competent and bilingual allowed me not only to view myself positively, but also to transmit these views to others and to engage in active attempts to re-shape the surrounding contexts (Pavlenko, 2003). It is worthwhile to think that knowledge is negotiable, transferable and could be constructed. This does not mean saying ‘no Western knowledge’. Instead, knowledge needs to be exchanged between different cultures in productive ways. When others argue with my opinions, I always felt embarrassed because I thought it must be my mistake. I never knew that I was being engaged in an academic conversation that presumed intellectual equality. There was no right or wrong, and no good or bad. My principal supervisor taught me to value my own original thinking, and to feel open to argue with others. My PhD study helped me to recognise my intellectual assets and be ready to argue with Western and Chinese knowledge.

**Be a critical thinker and writer**

There are many previous studies which claim that Asian students’ lack of critical thinking (e.g. Egege & Kutieleh, 2004). They claim to explain that this is because of Confucius educational culture, which supposedly emphasises “learning as a one-time process for the young as a group” (Kingson & Forland, 2008, p. 210). Therefore, Asian students supposedly learn to memorise others’ theories and philosophies, and then work out their own knowledge. I was no exception to this generalisation. I took the other scholars’ opinions as true. I was not good at making practical inquiries. I did not even dare to argue with them by putting forward counter-claims even if I thought of some. Gradually, with the help of my principal supervisor, I began to understand the importance of critical thinking and writing, because it could help me find the gap in the previous research; it could generate deeper thoughts of the issues and thus help me
make an original contribution to knowledge. I learned to look at other research studies critically. In this thesis, I have challenged Ringbom’s (2007) concept of cross-linguistic similarities, and pointed out the importance of social and cultural similarities between Chinese and English in making Chinese learnable. I also pointed out that language comparison is a dynamic interaction between teachers and students, and it also accumulates as teachers develop their capabilities with teaching experiences. That was why I put forward the concept of cross socio-linguistic interaction. I appreciate the equal conversation between me and Ringbom (2007), and with other researchers and scholars.

Confucius culture might justify some of the reasons for my apparent lack of criticality. However, I think that it is because Asian students are not being taught and encouraged to do critical thinking. Instead of stating that they are not capable of doing so, my principal supervisor pre-supposed I was capable of critical thinking, and worked with me to verify this. My PhD study has shown me that with appropriate instructions and practice, I have the capability to be a critical thinker and writer. This will greatly benefit my future career and my daily life.

Critical thinking is also demonstrated during my professional teaching development. I learned the importance of reflecting on my lessons, classroom teachers’ feedback and students’ reactions, so that I could make improvements in the next lesson. Gradually critical reflection helped me to deliver an efficient lesson, as well as to improve my professional development as a teacher. I also used theories or concepts from academic areas to inform my teaching as a teacher-researcher. I learned how to be a good teacher-researcher to improve my professional learning through numerous teaching experiences.

**Plagiarism**

Plagiarism is a serious issue when doing educational research. For me, at first, I thought writing a thesis was not a big deal at all, because I could always borrow from others. However, later I learned that using others’ words was about engaging in intellectual or scholarly conversations. I needed to acknowledge those whom I was conversing by using appropriate in-text citations and referencing. This was a new idea
for me. Referencing is not given enough emphasis in research education in China. When I was doing my Bachelor degrees in China, none of the courses I studied addressed this issue. I did not know the various styles for referencing and citation or the conventions for direct and indirect quotations. But with the help from my supervisory panel, I learned APA 6th Edition (American Psychological Association, 2010). I realised that writing a thesis in Australia is more of a scholarly conversation between I who provide the primary evidence and other scholars. Referencing and citation are a matter of academic professionalism.

Now if I re-view Shaw’s calamitous insult to teachers and the teaching profession as I put in the prologue, I have developed a more sophisticated understanding of teachers, teacher-researchers, and teaching profession. If teachers are not the most ‘can’ persons in the world, they are at least the more ‘can’ ones. In order to achieve that, teachers need to be prepared for the long learning journey so as to create artful teaching that encourages students’ meaningful learning.

I did not intend to judge whether Shaw’s calamitous claim is right or wrong, rather I propose my own understanding and Cochran, DeRuiter, and King’s (1993) thoughts to thinking deeper:

“He who can, does; he who understands, teaches.”

(Yiye LU, 2013)

“I understand, therefore I teach. I teach, therefore I understand.”

(Cochran, DeRuiter, & King, 1993, p. 270)
REFERENCES


Hussa, J. (2012). Distance education in the school environment: integrating remote classrooms by video conferencing. *Journal of Open, Flexible and Distance Learning, 2*(1), 34-44.


Merriam, S. B. (2009). Qualitative research: A guide to design and implication (2nd ed.).


APPENDICES

Appendix I: Cultural assignment-Spring Festival vs Christmas

<table>
<thead>
<tr>
<th>Similarities</th>
<th>Differences</th>
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</table>
Appendix II: Cultural comparison between Spring Festival and Christmas

Christmas and Chinese New Year are both important festivals. They are similar and different in several ways.

One way that they are similar is …

Another way that they are similar is …

One way that they are different is …

Another way that they are different is …

In conclusion, Christmas and Chinese New Year are important festivals celebrated in both Australia and China. By learning about the customs associated with these festivals, we can become better global citizens, because we can become more aware of the practices of peoples and cultures both in Australian multicultural society and overseas.
Appendix III: The dimensions and elements of the NSW model of pedagogy

<table>
<thead>
<tr>
<th>Elements</th>
<th>Intellectual quality</th>
<th>Quality learning environment</th>
<th>Significance</th>
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</thead>
<tbody>
<tr>
<td>Deep knowledge</td>
<td></td>
<td>Explicit quality criteria</td>
<td>Background knowledge</td>
</tr>
<tr>
<td>Deep understanding</td>
<td></td>
<td>Engagement</td>
<td>Cultural knowledge</td>
</tr>
<tr>
<td>Problematic knowledge</td>
<td></td>
<td>High expectations</td>
<td>Knowledge integration</td>
</tr>
<tr>
<td>High-order thinking</td>
<td></td>
<td>Socio support</td>
<td>Inclusivity</td>
</tr>
<tr>
<td>Metalanguage</td>
<td></td>
<td>Students’ self-regulation</td>
<td>Connectedness</td>
</tr>
<tr>
<td>Substantive communication</td>
<td></td>
<td>Student direction</td>
<td>Narrative</td>
</tr>
</tbody>
</table>

(Copied from Quality teaching in NSW public schools, 2003)
Appendix IV: UWS research course arrangement details 1

ROSETE 3 MEd (Hons) Research Seminars – July-December 2010
Michael Singh
Centre for Educational Research, University of Western Sydney
Western Sydney Region, New South Wales Department of Education
Ningbo Municipal Education Bureau
RESEARCH ORIENTED, SCHOOL ENGAGED TEACHER EDUCATION

This MEd (Hons) program is a key part of “BRIDGES TO UNDERSTANDING,” an international partnership between the Western Sydney Region, New South Wales Department of Education Ningbo Municipal Education Bureau, and the Centre for Educational Research, University of Western Sydney, which aims to:

1. stimulate the teaching and learning of Mandarin in Western Sydney Region schools
2. produce knowledge based on an analysis of evidence of your classroom experiences of contributing to this goal
3. help build a productive working relationship with the partner organisations and key stakeholders.

By early November ROSETE 3 candidates are required to submit and explain your research proposal (10,000 words) as a Conformation of Candidature meeting.

Postgraduate Essentials

<table>
<thead>
<tr>
<th>Starting HDR</th>
<th>Information for research candidates including candidate responsibilities, managing the candidature, reporting milestones, &amp; University policies etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Using library</td>
<td>UWS library services and resources for researchers</td>
</tr>
<tr>
<td>Searching the literature</td>
<td>Overview of literature review</td>
</tr>
<tr>
<td>Manage the research project</td>
<td>Planning the early candidature and time management</td>
</tr>
<tr>
<td>Research partnership (WSR Orientation)</td>
<td>Integrating teaching with research</td>
</tr>
<tr>
<td>Preparing for CoC</td>
<td>How to write a research proposal for CoC</td>
</tr>
<tr>
<td>Writing a literature review</td>
<td>Forming research questions</td>
</tr>
</tbody>
</table>

Key readings (in addition to those set by supervisors and those sourced by candidates)


N.B. Schedule of workshop activities may vary from that listed below. Candidates receive new readings each week, in addition to those assigned by their supervisors and those they are expected to locate, read and review themselves.

<table>
<thead>
<tr>
<th>Topics: Research, knowledge &amp; literacy</th>
<th>Workshop activities</th>
<th>Required readings</th>
<th>Writing Tasks</th>
</tr>
</thead>
<tbody>
<tr>
<td>23 July: Introduce the ROSETE 3 to SoE at morning tea &amp; pizzas lunch</td>
<td>Introduce of research candidates (autobiography) &amp; supervisors – introduce ROSETE Program (MS), CoC to examination (DZ), NEAF</td>
<td>NEAF application, Core readings</td>
<td>Autobiography – (Career planning scenarios)</td>
</tr>
<tr>
<td>Date</td>
<td>Activity</td>
<td>Notes</td>
<td>References</td>
</tr>
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<tr>
<td>30 July</td>
<td><strong>Knowledge</strong> – work, study and life experiences</td>
<td></td>
<td>Autobiography – (Career planning scenarios)</td>
</tr>
<tr>
<td></td>
<td><strong>Researcher &amp; supervisor</strong> (NEAF)</td>
<td>using autobiography as data to be turned into evidence using theoretical concepts</td>
<td>NEAF application</td>
</tr>
<tr>
<td></td>
<td><strong>Research literacy</strong></td>
<td>CoC/ NEAF – linked to SERAP – Sections 1 – title &amp; summary of project (first draft) 2 Researchers (introduction to role as research candidates &amp; supervisors’ roles) 3. resources 4. prior reviews</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>research literacy – how to write summary &amp; title</td>
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</tr>
<tr>
<td></td>
<td><strong>Project proposal</strong> (NEAF)</td>
<td>Proposal for CoC</td>
<td>UWS CoC requirements, Paltridge &amp; Starfield, ‘Writing a research proposal’</td>
</tr>
<tr>
<td></td>
<td><strong>Knowledge</strong> – two or more languages</td>
<td></td>
<td>Draft project title &amp; summary description</td>
</tr>
<tr>
<td></td>
<td><strong>Research literacy</strong></td>
<td>Decide on project focus and draft preliminary overview based on key elements in an abstract</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Project title and summary description</strong> (NEAF)</td>
<td></td>
<td>Re-draft project title &amp; summary description</td>
</tr>
<tr>
<td></td>
<td><strong>Knowledge</strong> - schooling and high education</td>
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<tr>
<td></td>
<td><strong>Research literacy</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Research questions</strong> (NEAF, SERAP)</td>
<td>Introduction to formulating research questions</td>
<td>NEAF application, Flick, ‘Research questions’</td>
</tr>
<tr>
<td></td>
<td><strong>Knowledge</strong> – secondary sources of Chinese research</td>
<td></td>
<td>Draft research questions</td>
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<tr>
<td></td>
<td><strong>Research literacy</strong></td>
<td></td>
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<tr>
<td></td>
<td><strong>Research problem</strong> (NEAF, SERAP)</td>
<td>Introduction to formulating research problem</td>
<td>NEAF application, Stake, ‘Stating the problem’</td>
</tr>
<tr>
<td></td>
<td><strong>Knowledge</strong> – Chinese concepts useful for theorising Australian education</td>
<td></td>
<td>Re-draft research questions</td>
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<td></td>
<td><strong>Research literacy</strong></td>
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<tr>
<td></td>
<td><strong>Reviewing the literature</strong> (SERAP)</td>
<td>Introduction to the literature review</td>
<td>Flick, ‘Making use of the literature in qualitative research’</td>
</tr>
<tr>
<td></td>
<td><strong>Knowledge</strong> – Chinese theorists</td>
<td></td>
<td>Draft literature review chapter (10,000 words)</td>
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<tr>
<td></td>
<td><strong>Research literacy</strong></td>
<td></td>
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</tr>
<tr>
<td></td>
<td><strong>Reviewing the literature</strong> (SERAP)</td>
<td>Refining the research problem through the literature review</td>
<td>Stake, ‘Review of the literature’</td>
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<tr>
<td></td>
<td><strong>Knowledge</strong> – China’s intellectual contributions to the West</td>
<td></td>
<td>Continue drafting literature review chapter (10,000 words)</td>
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<tr>
<td></td>
<td><strong>Research literacy</strong></td>
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<tr>
<td></td>
<td><strong>Reviewing the literature</strong> (SERAP)</td>
<td>Refining the research problem through the literature review</td>
<td>Paltridge &amp; Starfield, ‘Writing the background chapters’</td>
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<tr>
<td></td>
<td><strong>Knowledge</strong> – Chinese critiques of Western</td>
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<td>Continue drafting review chapter (10,000 words)</td>
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<tr>
<td>Topic</td>
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<td>Methodology/Approach (SERAP)</td>
<td>Knowledge</td>
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<td>intellectual hegemony</td>
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<tr>
<td>Research literacy</td>
<td></td>
<td>Introduction to research methods</td>
<td>Paltridge &amp; Starfield, ‘Writing the Methodology chapter’</td>
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<tr>
<td>Research methodology/approach (SERAP)</td>
<td></td>
<td>Introduction to research methods</td>
<td>Flick, ‘The qualitative research process’</td>
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<tr>
<td>Knowledge – how China engages foreign ideas</td>
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<tr>
<td>Research literacy</td>
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<td>Introduction to research methods</td>
<td>Flick, ‘Quality criteria in qualitative research’</td>
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<tr>
<td>Research methodology/approach (SERAP)</td>
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<td>Introduction to quality research</td>
<td>Stake, ‘Experiential understanding’</td>
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<td>Knowledge – engaging foreign knowledge</td>
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<td>Research literacy</td>
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<td>Introduction to quality research</td>
<td>NEAF application, Flick, ‘How to design qualitative research’</td>
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<td>Research design (plan &amp; aims, goals) (NEAF, SERAP)</td>
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<td>Introduction to research design</td>
<td>NEAF application, Flick, ‘Entering the field’</td>
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<tr>
<td>Knowledge – interactions and feedback loops</td>
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<td>Research literacy</td>
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<td>Resources feasibility &amp; sites (NEAF)</td>
<td></td>
<td>Identify research sites, issues of access &amp; project feasibility in terms of resources (e.g. time)</td>
<td>NEAF application, Flick, ‘Entering the field’</td>
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<td>Knowledge – networks</td>
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<td>Research literacy</td>
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<td>State procedures for identifying &amp; recruiting participants</td>
<td>NEAF application</td>
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<td>Participants (NEAF)</td>
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<td>Overview of data gathering procedures</td>
<td>Stake, ‘Methods’</td>
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<td>Knowledge – diffusion</td>
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<td>Research literacy</td>
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<td>Data collection (SERAP)</td>
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<td>Knowledge – alternation</td>
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<td>Data collection (SERAP)</td>
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<tr>
<td>Knowledge – ‘oriental globalisation’</td>
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<td>Research literacy</td>
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<tr>
<td>Data collection (SERAP)</td>
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<td>Knowledge – global dynamics</td>
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<td>Research literacy</td>
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<tr>
<th><strong>Data analysis (SERAP)</strong></th>
<th><strong>Knowledge - transformative flows</strong></th>
<th><strong>Research literacy -</strong></th>
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<tbody>
<tr>
<td></td>
<td>Introduction to data analysis</td>
<td>Flick, ‘Documentation of data,’</td>
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</table>

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<tr>
<th><strong>Data analysis (SERAP)</strong></th>
<th><strong>Knowledge – medicine</strong></th>
<th><strong>Research literacy -</strong></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Introduction to grounded, thematic, content &amp; global analysis</td>
<td>Flick, ‘Coding &amp; categorizing’</td>
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</table>

<table>
<thead>
<tr>
<th><strong>Data analysis (SERAP)</strong></th>
<th><strong>Knowledge - case study</strong></th>
<th><strong>Research literacy -</strong></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>More on data analysis</td>
<td>Flick, ‘Analysing conversation, discourse &amp; genres’</td>
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</table>

<table>
<thead>
<tr>
<th><strong>Data analysis (SERAP)</strong></th>
<th><strong>Knowledge - case study</strong></th>
<th><strong>Research literacy -</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Taking data apart and putting it together</td>
<td>Stake, ‘Analysis and synthesis’</td>
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</table>

<table>
<thead>
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<th><strong>Data interpretation (SERAP)</strong></th>
<th><strong>Knowledge - case study</strong></th>
<th><strong>Research literacy -</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Introduction to data interpretation</td>
<td>Flick, ‘Text interpretation’</td>
</tr>
</tbody>
</table>

<table>
<thead>
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<th><strong>Research ethics: Minimisation of risk or harm, level of disruption (SERAP)</strong></th>
<th><strong>Knowledge - case study</strong></th>
<th><strong>Research literacy -</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Introduction to research ethics</td>
<td>NEAF &amp; SERAP applications, Flick, ‘Ethics of qualitative research’</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Research ethics: Researching with children &amp; dependents (NEAF)</strong></th>
<th><strong>Knowledge - case study</strong></th>
<th><strong>Research literacy -</strong></th>
</tr>
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<td>Ethics of researching children</td>
<td>NEAF &amp; SERAP applications, Stake ‘Advocacy and ethics’</td>
<td>Continue drafting statement on ethics of researching children</td>
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<table>
<thead>
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<th><strong>Research ethics: Confidentiality &amp; privacy (NEAF)</strong></th>
<th><strong>Knowledge - case study</strong></th>
<th><strong>Research literacy -</strong></th>
</tr>
</thead>
<tbody>
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<td>NEAF &amp; SERAP applications</td>
<td>Continue drafting statement on confidentiality &amp; privacy</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Research ethics: Documentation: research instruments, ethics forms (SERAP, NEAF)</strong></th>
<th><strong>Knowledge - case study</strong></th>
<th><strong>Research literacy -</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Data collection instruments &amp; ethics documents</td>
<td>NEAF &amp; SERAP applications</td>
<td>Continue drafting data collection instruments &amp; ethics documents</td>
</tr>
</tbody>
</table>
Appendix V: UWS research course arrangement details 2

ROSET 3 MEd (Hons) Research Training Workshops – July-December 2010 conducted by Professor Michael Singh

Key readings (in addition to those set by supervisors and those sourced by candidates)


<table>
<thead>
<tr>
<th>Topics: Research methods</th>
<th>Workshop activities</th>
<th>Required readings</th>
<th>Writing Tasks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date? : Researcher &amp; supervisor (NEAF)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project proposal (NEAF)</td>
<td>Proposal for CoC</td>
<td>UWS CoC requirements, Paltridge &amp; Starfield, ‘Writing a research proposal’</td>
<td>Draft project title &amp; summary description</td>
</tr>
<tr>
<td>Project title and summary description (NEAF)</td>
<td>Decide on project focus and draft preliminary overview based on key elements in an abstract</td>
<td>NEAF application</td>
<td>Re-draft project title &amp; summary description</td>
</tr>
<tr>
<td>Research questions (NEAF, SERAP)</td>
<td>Introduction to formulating research questions</td>
<td>NEAF application, Flick, ‘Research questions’</td>
<td>Draft research questions</td>
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<tr>
<td>Research problem (NEAF, SERAP)</td>
<td>Introduction to formulating research problem</td>
<td>NEAF application, Stake, ‘Stating the problem’</td>
<td>Re-draft research questions</td>
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<tr>
<td>Reviewing the literature (SERAP)</td>
<td>Introduction to the literature review</td>
<td>Flick, ‘Making use of the literature in qualitative research’</td>
<td>Draft literature review chapter (10,000 words)</td>
</tr>
<tr>
<td>Reviewing the literature (SERAP)</td>
<td>Refining the research problem through the literature review</td>
<td>Stake, ‘Review of the literature’</td>
<td>Continue drafting literature review chapter (10,000 words)</td>
</tr>
<tr>
<td>Reviewing the literature (SERAP)</td>
<td>Refining the research problem through the literature review</td>
<td>Paltridge &amp; Starfield, ‘Writing the background chapters’</td>
<td>Continue drafting review chapter (10,000 words)</td>
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<tr>
<td>Research methodology/ approach (SERAP)</td>
<td>Introduction to research methods</td>
<td>Paltridge &amp; Starfield, ‘Writing the Methodology chapter’</td>
<td>Draft research methods chapter (10,000 words)</td>
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<td>Knowledge – how China engages foreign ideas</td>
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<td>Research literacy -</td>
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<td>Flick, ‘The qualitative research process’</td>
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<td>Research methodology/ approach (SERAP)</td>
<td>Introduction to quality research</td>
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<td>Research methodology/approach (SERAP)</td>
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<td>Research design (plan &amp; aims, goals) (NEAF, SERAP)</td>
<td>Introduction to research design</td>
<td>NEAF application, Flick, ‘How to design qualitative research’</td>
<td>Drat research design, aims</td>
</tr>
<tr>
<td>Resources feasibility &amp; sites (NEAF)</td>
<td>Identify research sites, issues of access &amp; project feasibility in terms of resources (e.g. time)</td>
<td>NEAF application, Flick, ‘Entering the field’</td>
<td>Draft statement about resources (feasibility) &amp; research sites</td>
</tr>
<tr>
<td>Participants (NEAF)</td>
<td>State procedures for identifying &amp; recruiting participants</td>
<td>NEAF application</td>
<td>Draft statement of procedures for identifying &amp; recruiting participants</td>
</tr>
<tr>
<td>Data collection (SERAP)</td>
<td>Overview of data gathering procedures</td>
<td>Stake, ‘Methods’</td>
<td>Draft data collection procedures</td>
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<tr>
<td>Data collection (SERAP)</td>
<td>interview &amp; focus groups</td>
<td>Flick, ‘Verbal data’</td>
<td>Continue drafting data collection procedures</td>
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<tr>
<td>Data collection (SERAP)</td>
<td>observation &amp; documents</td>
<td>Flick, ‘Observation and mediated data’</td>
<td>Continue drafting data collection procedures</td>
</tr>
<tr>
<td>Data analysis (SERAP)</td>
<td>Introduction to data analysis</td>
<td>Flick, ‘Documentation of data,’</td>
<td>Draft methods for data analysis</td>
</tr>
<tr>
<td>Data analysis (SERAP)</td>
<td>Introduction to grounded, thematic, content &amp; global analysis</td>
<td>Flick, ‘Coding &amp; categorizing’</td>
<td>Draft methods for data analysis</td>
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<tr>
<td>Data analysis (SERAP)</td>
<td>More on data analysis</td>
<td>Flick, ‘Analysing conversation, discourse &amp; genres’</td>
<td>Continue drafting methods for data analysis</td>
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<td>Data analysis (SERAP)</td>
<td>Taking data apart and putting it together</td>
<td>Stake, ‘Analysis and synthesis’</td>
<td>Continue drafting methods for data analysis</td>
</tr>
<tr>
<td>Research ethics: Minimisation of risk or harm, level of disruption (SERAP)</td>
<td>Introduction to research ethics</td>
<td>NEAF &amp; SERAP applications, Flick, ‘Ethics of qualitative research’</td>
<td>Draft statement about research ethics</td>
</tr>
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<td>Research ethics: Researching with children &amp; dependents (NEAF)</td>
<td>Ethics of researching children</td>
<td>NEAF &amp; SERAP applications, Stake ‘Advocacy and ethics’</td>
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<td>NEAF &amp; SERAP applications</td>
<td>Continue drafting statement on confidentiality &amp; privacy</td>
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<td>Research ethics: Documentation: research instruments, ethics forms</td>
<td>Data collection instruments &amp; ethics documents</td>
<td>NEAF &amp; SERAP applications</td>
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</table>
## Appendix VI: Seven VTRs’ theses’ topics

<table>
<thead>
<tr>
<th>VTRs</th>
<th>Thesis’ topics</th>
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</thead>
<tbody>
<tr>
<td>红 Hóng</td>
<td>Teacher engagement in second language (L2) classrooms: Teacher-as-researcher</td>
</tr>
<tr>
<td>橙 Chéng</td>
<td>A bilingual second language teacher teaching bilingually: A Self-study</td>
</tr>
<tr>
<td>黄 Huáng</td>
<td>Teacher identity construction: A narrative self-study</td>
</tr>
<tr>
<td>绿 Lǜ</td>
<td>A journey to the West: Reading communicative language teaching in Australia</td>
</tr>
<tr>
<td>青 Qīng</td>
<td>Magic moments: A second language teacher’s zone of professional development</td>
</tr>
<tr>
<td>藍 Lán</td>
<td>An investigation into appreciative approaches to pedagogy: The perspective of a volunteer teacher researcher in language classrooms in NSW public schools</td>
</tr>
<tr>
<td>紫 Zī</td>
<td>Environmental education as a cross-curriculum perspective in teaching Mandarin: Implications for environmental worldview</td>
</tr>
</tbody>
</table>
Appendix VII: Application for NEAF extension

Application for NEAF Extension

Dear Chair,

This is Yiye Lu (student No: 17098739). I am writing to extend NEAF application for the research project H8908 ‘The Development of the Beginning Teachers’ Knowledge: Case Study of the Research-Oriented School-Engaged Teacher Education Program’. The reason is that I have already successfully upgraded from ‘Master of Education (Honours)’ to ‘Doctor of Philosophy’ at 13th of March, 2012. However, as it is indicated in the letter from UWS Human Research Ethics Committee, the NEAF approval has already expired by the date of 31 December 2011. Therefore, it is urgent and important to extend NEAF for continuing doing the research, so that my PhD study will be on the track.

Thank you for your time and consideration. I am looking forward to hearing from you.

Regards

Yiye Lu
Appendix VIII: A letter of NEAF approval for my Masters

UWS HUMAN RESEARCH ETHICS COMMITTEE

1 March 2011

Ms Yiye Lu,
Dr Dacheng Zhao
Centre for Educational Research
Penrith Campus

Dear Yiye,

I wish to formally advise you that the Human Research Ethics Committee has approved your research proposal H8908 “The Development of the Beginning Teachers’ Knowledge: Case Study of the Research-Oriented School-Engaged Teacher Education Program”, until 31 December 2011 with the provision of a progress report annually and a final report on completion.

Please quote the project number and title as indicated above on all correspondence related to this project.

Yours sincerely

Dr Janette Perz
Chair, UWS Human Research Ethics Committee
Appendix IX: Confirmation of Candidature (CoC)

Student Administration
Postgraduate Research Unit

Ref: 17096739

5 September 2012

Ms Yiyi Lu
10 LUCY STREET
KINGSWOOD NSW 2747

RECORD OF CANDIDATURE

8040 Doctor of Philosophy - Education

Org Unit: CENTRE FOR EDUCATIONAL RESEARCH

Attendance Pattern: FT
Campus: PENRITH CAMPUS

Thesis Topic: Learning Strategies and Teaching in NSW Schools

Commenced: 26 July 2010
Minimum Submission Date: 25 July 2013
Maximum Submission Date: 25 July 2014

SUPERVISORY PANEL

Chair Supervisor: Email: m.j.singh@uws.edu.au
Prof Michael John Singh Phone: 02 4736 0186
Co. Supervisor 2: Email: d.zhao@uws.edu.au
Dr Dacheng Zhao Phone: (02) 4736 0259

This information has been extracted from Student Records as at 5 September 2012.
Inaccuracies should be brought to the attention of Student Administration - Postgraduate Research Unit.

E-mail: sa-research@uws.edu.au
Phone: 02 - 47360865
Fax: 02 - 47360013

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Appendix X: The statement of support from my supervisory panel

STATEMENT of SUPPORT from SUPERVISORY PANEL for UPGRADE of Ms LU Yiye from MEd (Hons) DEGREE TO PhD.

The Research-Oriented School-Engaged Teacher Education program (ROSETE) Partnership is an innovative international collaboration program developed by Professor Michael Singh and is based on a strong partnership between NSW DEC, UWS and Ningbo Education Bureau. It brings up to 10 HDR students annually from China to teach Mandarin in Western Sydney schools whilst undertaking MEd (Hons) study to work in the Centre for Educational Research. To date 29 students have participated in the ROSETE Partnership. This program has an excellent record of 100% on-time completions and 100% success in thesis examination, generating approximating $1,870,000 in the past three years. Of the 29 ROSETE students, Ms LU Yiye is the first one who intends to explore the influence of ROSETE program on development of teacher-researchers. I strongly support her application to upgrade to PhD for the following reasons.

The quality and originality of the research already completed

LU Yiye’s current project the development of beginner teachers’ knowledge: case study of Research-Oriented School-Engaged Teacher Education program aims to explore the teaching knowledge that beginner teachers used, changed and developed through the ROSETE program. From Yiye’s extensive literature review, it is found that Shulman’s concept of teachers’ Pedagogical Content Knowledge (PCK) is seldom applied in language teaching, Mandarin teaching in particular. Thus, using concept of PCK to explore Chinese language teaching in NSW schools is original.

Yiye’s study explores the development of teachers’ PCK through an innovative teacher education program - developing teachers as teacher-researchers. She has
written five chapters including two chapters to investigate how beginner Mandarin teachers construct their professional knowledge through school-based teaching practice with university-based learning and research. Her study contributes to our understanding of the process of development of beginner Mandarin teachers’ PCK through their engagement in teaching and research.

As the global education market for Chinese language teaching grows, Yiye’s study might have implications for education policymakers and course designers, who currently make particular decisions about teacher preparation and skill development. This is especially important for Australia when designing the training courses for Chinese language teachers. It is presumed that a specific knowledge base underpins the practice of teaching and therefore by defining this knowledge, one is in a better position to prepare student teachers for the teaching task.

**The scope and complexity of the project**

Yiye’s study focuses on the influence of ROSETE on developing beginner teachers to be teacher-researchers. In order to provide a detailed examination of what teachers do in the classroom in addition to how and why they draw on particular types of knowledge to facilitate student learning, case study is selected as a methodology. Currently, two cases were chosen. The first case is one of the Volunteer Teacher Researcher (VTR) from ROSETE 1. Data were collected from VTR’s thesis, face-to-face interview, and lesson plans. The second case is the researcher herself. Data were mainly from self-reflection diary, accompanied by mentor’s lesson feedback. In terms of data analysis, qualitative content analysis was adopted. In addition, Shulman’s concept of pedagogical content knowledge (PCK) was used as a theoretical framework to analyse the data. The study reveals that knowledge of content (Mandarin), knowledge of pedagogy and knowledge of students are the three main categories that contribute to effective teaching. However, given the complexity of the concept of PCK, as for a PHD study, more cases need to be included. It plans that one case from ROSETE 2 and ROSETE 4 will be purposefully chosen, so that more data from each case can be compared. In this way, this study will cover the whole ROSETE program up to now, so that it also aims to investigate the influence of the ROSETE program upon beginner teachers.
Research capabilities of the applicant

LU Yiye has presented two papers related to her research project to NSW IER Postgraduate Conference 2011 and UWS CER Symposium 2011, and also presented attached much of the work so far completed in order to demonstrate her research capability. As stated earlier, among our ROSETE students with a record of 100% on-time completion, and 100% success rate on first submission, Lu Yiye is one of the best ROSETE students in terms of her originality in research design and theoretical thinking, as well as her capacity for independent work.

Dr Dacheng Zhao
18th January 2012
Appendix XI: My claim to the quality and depth of work completed

Quality and depth of the work completed

This research project demonstrates the breadth and depth of a doctoral study because of its original contribution to knowledge of education. Significantly, it provides a new conceptual framework for developing programs of beginning teacher-researchers professional learning, and for second language teachers in particular. The original contributions to knowledge relate to the following fields of study:

1. **Significance for research into pedagogical content knowledge**
   a. From my extensive literature review, it was found that there is a limited knowledge base for beginning language teachers in general, in Mandarin teachers in particular.
   b. The review suggests that Shulman’s concept of ‘pedagogical content knowledge’ (PCK) has been seldom study in language teaching.
   c. Thus, this study contributes to addressing this substantial gap in the literature.
   d. As a result, this study provides insights into how Mandarin, including Pinyin (the English alphabet version of Chinese pronunciation), characters (Han zi, the written Chinese), grammar, and culture, can be taught in a pedagogically powerful way based on teachers’ understanding of students as a whole and as individuals.

2. **Significance for the field of research higher degree training**
   This study has explored the development of teachers’ Pedagogical Content Knowledge (PCK) through an innovative teacher education program, one which the research higher degree training of teacher-researchers directly impacts on improving school students’ learning.

The particular study provides analyses of evidence of how beginner teacher-researchers construct their professional knowledge through school-based teaching in partnership with university-based learning and research.
This study provides a new conceptual framework for new directions the research higher degree training of teacher-researchers for teacher education that is meant to directly impact on improving school students’ learning in the context of the rapid social, economic and educational changes presented by contemporary globalisation.

3. **Significance for the field of second language learning**
   a. As the global education ‘market’ for second language teaching grows, and Chinese in particular, the findings of this study of what makes Chinese learnable for Australian second language learners have direct implications for education policymakers and course designers; that is those who make particular decisions about teacher preparation and skill development.
   b. This is of immediate importance for the Ningbo Municipal Education Bureau (China); NSW DET in WSR (Australia) and the University of Western Sydney (CER) when designing partnership-driven courses for second language teacher-researchers.
   c. This study provides important new concepts about what makes Chinese learning, thereby providing new knowledge to underpin for second language teaching and thus better prepare student teachers for this nationally – and internationally important work.

4. **Significance for the field of beginning teacher-researcher education**
   a. This study is designed to inform second language teachers who to be better aware of knowledge development in order to understand their personal change and gain in professional status.
   b. This study shows they can better develop the knowledge, skills, capability and understanding of teaching through rigorous evidence-based self-reflection on their own teaching.
   c. There are indirect benefits also for other teacher-researchers in the Research-Oriented School-Engaged Teacher Education (ROSETE) program. This study found that the Volunteer Teacher Researchers (VTRs) who come from Ningbo (China) to Western Sydney do benefit from recognising the importance of developing their professional knowledge.
   d. This can be improved by them better preparing themselves in advance, and
by them reflecting deeply on detailed evidence to generate new perspectives.

*The claim to the quality and scope of current research as stated above can be further supported by completed chapters included in the application documents.*
Statement of proposed further changes to upgrade to a doctoral thesis

LU Yiye

1. Ranciere’s theory of intellectual equality
   a. This research aims to explore the knowledge that beginner teacher-researcher have used, changed and developed through their participation in a research-oriented school-engaged teacher-researcher education program. To be specific, it uses pedagogical content knowledge (PCK) as a theoretical framework to analysis data.
   b. When it is upgraded to a PhD, I will add a theory chapter to the thesis, and use the conceptual tools from this chapter for analysing the data in the evidentiary chapters.
   c. I will study Ranciere’s theory about intellectual equality in detail to identify relevant key concepts which will be needed to make the problem focus of the doctoral thesis much more theoretical.
   d. Ranciere (1991) recounts the experiments of a nineteenth-century teacher, Joseph Jacotot, who supposedly taught French to Flemish students in the Netherlands when neither party knew the other’s language. Pedagogically, Jacotot claimed to have developed his students’ bilingual capabilities through creating opportunities for them to learn what he did not know.
   e. The following books detailing Ranciere’s theory of intellectual equality will be studied in detail to identify relevant key concepts and to develop a conceptual framework which will be used in the analysis of data to make an original contribution to knowledge:


2. Philosophy of educational research
   a. This research use case study as a methodology to collect data as case study provides a lens through which data can be collected as much as possible in a vivid and detailed way.
   b. When upgraded to a PhD, I will further explore the philosophy of educational research – addressing methodological differences between positivism, interpretive and critical philosophies of research.
   c. I will use this knowledge to contribute to the development of the concept of ‘designed research impact’ as developed by Professor Singh, my proposed supervisor.
   d. Professor Singh defines the term ‘designed research impact’ as HDR training in education that is designed so that teachers’ professional learning directly impacts on the improvement of students’ learning.

3. Data collection
   a. In my current Master’s study, two cases, including one from ROSETE 1 and the researcher herself from ROSETE 3 were purposefully chosen for in-depth study.
   b. For the PhD study, more cases will be included, including a study of the design and development of Chinese as a second language programs for delivery through ‘connected classrooms’ to teach Chinese; this will be a major source of new data.
   c. I also plan that one case from each of ROSETE 2 and ROSETE 4 will be purposefully chosen, so that more data from each case can be compared.
   d. In these ways, this study will cover the whole ROSETE Partnership cohort up to now, and thus provide a better understanding of the influence that the ROSETE Partnership on beginner teachers.

4. Data analysis
   a. The current case uses content analysis as the procedure for data analysis.
b. When it is upgraded to a PHD, there will be more rich in data, I use direct content analysis as appropriate, as well as other methods such as coding.

c. However, I will also use Ranciere’s conceptual tools for more theoretically informed data analysis.

d. I will also use Professor Singh’s ideas on the use of Chinese theoretical tools to further deepen and extend my analysis and my capabilities for theorising.

5. Change of Principal Supervisor

I request that Professor Singh be my Principal Supervisor and Dr Zhao my Associate Supervisor.
Appendix XIII: My letter of request

Dear Chair,

This is Yiye Lu (student No: 17098739). I am writing to extend NEAF application for the research project H8908 ‘The Development of the Beginning Teachers’ Knowledge: Case Study of the Research-Oriented School-Engaged Teacher Education Program’. The reason is that I have already successfully upgraded from ‘Master of Education (Honours)’ to ‘Doctor of Philosophy’ at 15\textsuperscript{th} of March, 2012. However, as it is indicated in the letter from UWS Human Research Ethics Committee, the NEAF approval has already expired by the date of 31 December 2011. Therefore, it is urgent and important to extend NEAF for continuing doing the research, so that my PhD study will be on the track.

Thank you for your time and consideration. I am looking forward to hearing from you.

Regards

Yiye Lu
Appendix XIV: Human Ethics Project Report Form

Office of Research Services

Human Research Ethics Committee
Ethics Protocol Report Form

The University monitors research involving humans to ensure compliance with the approved protocol to ensure the rights and interests of participants are protected. The University is also concerned to foster responsible research, maintaining the reputation of the University and its researchers.

Principal Researchers must ensure that the research is conducted according to the protocol approved by the Human Research Ethics Committee (HREC) and advise HREC immediately of any unforeseen events, adverse or otherwise. Any significant variations to the research protocol must be approved by HREC. All protocols must be reported on annually and at completion.

SUBMISSION
Submit this Report Form to the Human Ethics Officer by email (humanethics@wsu.edu.au). For the certification/signatures (section D) we accept email approval, scanned or faxed copies to 4736-0905 (ext. 2905).

Note: All text fields will automatically expand to fit any amount of text.

<table>
<thead>
<tr>
<th>Approval Number:</th>
<th>H8908</th>
<th>Expiry Date:</th>
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<tr>
<td>Title of Project:</td>
<td>The Development of the Beginning Teachers' Knowledge: Case Study of the Research-Oriented</td>
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Principal Researchers

<table>
<thead>
<tr>
<th>Family Name</th>
<th>Singh</th>
</tr>
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<tbody>
<tr>
<td>First Name</td>
<td>Michael</td>
</tr>
<tr>
<td>Title</td>
<td>Professor</td>
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<table>
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<tr>
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<th>Zhao</th>
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<tr>
<td>First Name</td>
<td>Dacheng</td>
</tr>
<tr>
<td>Title</td>
<td>Dr</td>
</tr>
</tbody>
</table>

Click '+' to add or '-' to remove a row

SECTION A

1. Status of Research Project: In-Progress

   a) If finished, provide the finish date: 

   b) If in-progress, provide the likely date of completing involvement with human participants and/or their records: 31/07/2013

   c) If abandoned, provide brief reasons as to why and then send this report to humanethics@wsu.edu.au

2. Variations to Ethics Protocol:

   Your research project was granted ethics clearance on the basis of an approved protocol, together with any special conditions imposed upon it.

   In the conduct of this project, have there been any variations to the protocol in respect of:

   - Investigators
   - Duration of project
   - Research procedures (eg: study design, sample size, source & method of recruitment, forms)
   - Your proposed schedule of progress
   - Participant care and feedback

   □ Yes ☒ No

Created by Jason SG White (jason.white@wsu.edu.au) - Office of Research Services, 2012
If you have answered Yes to any of these questions, please provide details.

Since this study is upgraded from Master of Education (Honours) to Doctor of Philosophy, so the duration of project has been extended to another 18 months, totally three years. In terms of the research procedures, the study design remains the same, using case study as the methodology to collect data. However, the sample size will be enlarged, involving more participants, including teachers and students. In terms of the proposed schedule of progress, there is new timetable for the extended study. It is estimated that the study will be completed in July, 2013.

<table>
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<th>3. Was the Number of participants recruited:</th>
<th>As expected</th>
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<tr>
<td>If less, what are the implications for your statistical analysis and how have you (or how do you intend to) address them?</td>
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<tr>
<td>Since the commencement of your project, how many participants have withdrawn their consent?</td>
<td>None</td>
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<tr>
<td>Briefly state the reasons for this:</td>
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4. Adverse events:
Have any participants encountered adverse effects while participating in your research project (eg stress, psychological trauma, unforeseen side effects of procedures)? □ Yes □ No
If Yes, have these been reported to the Committee? □ Yes □ No
Briefly list incidents or complaints, and describe what action has been taken.

<table>
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<tr>
<th>5. Does your project Involve Aborigines or Torres Strait Islanders?</th>
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<td>If No, go to SECTION C</td>
<td></td>
</tr>
<tr>
<td>If Yes, please complete the following:</td>
<td></td>
</tr>
<tr>
<td>a) What difficulties, if any, have you encountered in conducting your research in the participant's community or group?</td>
<td></td>
</tr>
<tr>
<td>b) Have you involved a local member of the community or group as part of your research team? □ Yes □ No</td>
<td></td>
</tr>
<tr>
<td>If Yes, in what capacity?</td>
<td></td>
</tr>
<tr>
<td>If No, please give reasons for not involving a local member.</td>
<td></td>
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SECTION C
7. Please comment on any other ethical aspects relating to your research.

<table>
<thead>
<tr>
<th>6. Please comment on any other ethical aspects relating to your research.</th>
<th></th>
</tr>
</thead>
</table>

SECTION D
I/we certify that the information provided in this report is an accurate account of the conduct for the above research project for which I/we am responsible.

Note: We accept email approval (humanethics@uws.edu.au), scanned or faxed copies to 4736-0905 (ext. 2905).

Principal Researcher | Signature | Date

Created by Jason SG White (jwhite@uws.edu.au) - Office of Research Services, 2012

Page 2 of 3
Appendix XV: Ethics approval for upgrading from Masters to PhD

UWS HUMAN RESEARCH ETHICS COMMITTEE

20 June 2012

Ms Yiye Lu
PhD Candidate
Centre for Educational Research

Dear Yiye,

Your amendment request, to upgrade your ethics approval consistent with your upgrade from Masters (Honours) to PhD, dated 26 April 2012 has been considered and approved for your research proposal H8908 "The Development of the Beginning Teachers’ Knowledge of Case Study of the Research Oriented School Engaged Teacher Education Program", until 25 July 2014 with the provision of annual progress reports and a final report on completion.

Please quote the project number and title as indicated above on all correspondence related to this project.

This protocol covers the following researchers:
Ms Yiye Lu, Professor Michael Singh, Dr Dacheng Zhao

Yours sincerely

[Signature]

Dr Anne Abraham
Chair, UWS Human Research Ethics Committee
Appendix XVI: Interview schedule for Teacher 红 (Hóng)

Interview Schedule

For the research project entitled
“The Development of the Beginning Teachers’ Knowledge: Case studies of the Research-Oriented School-Engaged Teacher Education Program”

Teaching is a long journey, no matter for beginning teachers or experienced teachers, because there is always something new for teachers to learn in order to be more effective teachers. Your teaching journey started in Australia, and continues in China, so first

1) Would you like to share some stories recorded your most happy and excited moments and most frustrated and bad moments in your teaching life, in Australia or in China?

2) What is the biggest problem when you teach Mandarin Chinese to foreigners?

3) When you taught Mandarin Chinese as a second language in Australia, what is your teaching goal or purpose?

4) No matter what your teaching purpose is, many educators state that the way a teacher presents the teaching content is of significant importance, what do you reckon?

5) This concept is called Pedagogical Content Knowledge (PCK), which was first proposed by Shulman. He defines it as “a blending of content and pedagogy into an understanding of how particular topics, problems or issues are organized, represented, and adapted to the diverse interests and abilities of learners, and presented for instruction”. This is how a teacher uses specific methods, like activities, analogies, illustrations, examples, and demonstrations to effectively transmit knowledge from themselves to the specific students in a specific context. According to this definition, how do you understand this concept regarding to your teaching in Australia?

6) In this study, we assume that if a teacher can effectively present the teaching content, using PCK concept is a successful teacher, which of course also results in an effective lesson. What are your standards of an effective lesson or a successful teacher?

7) In your lesson planning, what factors will you consider in order to give a successful lesson?

8) Let’s take a topic-Numbers as an example, what would you think in your lesson plan? What activities would you use to present the content? How do you assess the learning results as a guideline for reflection?

9) Based on the above discussion, could you give a summary about what
knowledge does beginning teachers, like you and me, need in order to be a successful teacher in Australia, in Western Sydney Region in particular? Which one is the most important one?

10) What do you think of the relation between these knowledge and PCK?

11) Now you teach Mandarin Chinese as a second language in China, do you still apply the knowledge or not? If not, why?

12) During your one and a half years teaching experience in Australia, what are the factors that influence your professional development as a being teacher?
Appendix XVII: Participant Information Sheet

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: Beginning teacher-researchers’ decision-making about pedagogical content knowledge: A case study into making Chinese learnable for second/foreign language learners in Australia

Who is carrying out the study?
A teacher of Chinese as a second/foreign language, Miss Yiye Lu will carry out this study.

You are invited to participate in a study conducted by a teacher of Chinese Miss Yiye Lu. This research is for her Doctor of Philosophy degree in Centre for Educational Research at the University of Western Sydney. This study is being supervised by Professor Michael Singh and Dr Dacheng Zhao from the University of Western Sydney.

What is the study about?
The purpose is to investigate beginning Chinese teachers’ pedagogical content knowledge in order to make Chinese learnable so as to improve students’ learning outcomes.

What does the study involve?
You are invited to evaluate the unit design and program for the "connected classroom" project before this project is actually piloted in the school. You are invited to the lesson dry run. After that, there will be an interview to obtain your advice and suggestion for the whole program and the lesson delivery. The interview will take about 60 minutes. Your participation is totally voluntary. You are also invited to observe and evaluate my teaching practice in the later stage if you are willing to. Your interview transcripts and feedback will be used as data in the study with your permission.

How much time will the study take?
The dry run will be conducted in the beginning of Term 3, 2012. It will take about 1 hour, including free discussion session. The interview will be conducted in the middle of Term 3, 2012. It will take about 60 minutes.

Will the study benefit me?
The study will directly or indirectly enhance your understanding of Chinese language and culture. Most importantly, this study will make it easier for you to learn Chinese, and attract your interest and improve
learning efficiency.

**Will the study involve any discomfort for me?**
The study will not cause any discomfort for you. Your participation is voluntary. If you decide not to take part in the research, you can withdraw any time. It will not affect your relation with the researcher. And information already collected from you will be destroyed. Information from you will be kept in a locked cabinet to ensure confidentiality of the data.

**How is this study being paid for?**
The study is voluntary. No payment involved.

**Will anyone else know the results? How will the results be disseminated?**
No one will be able to identify you from the results of this study. Only the researcher and her supervisors have access to the original data provided by you. Your information will be used in accordance with ethical principles and procedures. Students’ interview transcripts will be transcribed on paper with a fictional name. All paper information will be stored in files in a locked cabinet for 5 years, after that they will be shredded. The final results will be presented in a thesis, which will be submitted to the University of Western Sydney for the degree of Doctor of Philosophy.

The results will also be presented in reports and other forms of publication. They will be provided to schools if requested.

**Can I withdraw from the study?**
Participation is entirely voluntary; you are not obliged to be involved and - if you do participate - you can withdraw at any time without giving any reason and without any consequences. Just tell me in advance and I will destroy all the previous data collected from you.

**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?**
When you have read this information, Miss Yiye Lu will discuss with you further and answer any questions you may have. If you would like to know more at any stage, please feel free to contact:
Miss Yiye Lu by calling 0411 716 588, or via email: 17098729@student.uws.edu.au. Or Professor Michael Singh by calling 0404 012 409, or via email: m.j.singh@uws.edu.au. Or Dr Dacheng Zhao by calling 0419 630 357, or via email: d.zhao@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 H8908.
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 XVIII: Participant Consent Form

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: Beginning teacher-researchers’ decision-making about pedagogical content knowledge: A case study into making Chinese learnable for second/foreign language learners in Australia

I, ____________________________, consent to participate in the research project titled Beginning teacher-researchers’ decision-making about pedagogical content knowledge: A case study into making Chinese learnable for second/foreign language learners in Australia.

I acknowledge that:

I have read the participant information sheet [or where appropriate, ‘have had read to me’] 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 Yiyu Lu’s lessons, evaluate her lessons and “connected classroom” project, experience the dry run, and participate the interview. Please cross out any activity that you do not wish to participate in.

I understand that my involvement is confidential and 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: K2.25, School of Education, University of Western Sydney, Locked Bag 1797, Penrith, NSW, 2751

This study has been approved by the University of Western Sydney Human Research Ethics Committee.
The Approval number is: H8908
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 XIX: Interview schedule for local teachers

Interview Schedule

Free discussion:

What is your general impression of the “connected classroom” or my teaching through camera?

Interview questions:

1) What do you think of the method I used to teach characters (Hanzi)?

2) Which if any, character do you remember? Why?

3) What do you think of the method I used to teach Pinyin?

4) Which if any, pronunciation do you remember? Why?

5) What do you think of the method I used to teach grammar?

6) Which if any, grammar point do you remember? Why?

7) What do you think of the method I used to teach language use in cultural context?

8) Which if any, cultural knowledge do you remember? Why?

9) Have you observed any other Chinese teachers’ lessons? If yes, how is my teaching different from or similar to their teaching?

10) Assuming yourself as a second language learner, do you want to continue learning Chinese? ... in this way?

11) Do you have any suggestion or advice for me – a teacher who has to deliver Chinese lessons through a camera?

Free discussion:

What is pedagogy? And how does pedagogy be reflected in my teaching?

Others: The ‘Connected Classroom’ project and ROSETE Partnership (for some participants)

1) Why did you want to initiate the “connected classroom” project, and what was your expectation of this project?
2) What is your expectation of students learning Chinese through ‘Connected Classroom’ project?

3) What are the knowledge and skills that teachers require for programming and designing the ‘Connected Classroom’ project?

4) Given these requirements, where do you see me being as a beginning Chinese teacher? In other words, do I come up to your requirements for a ‘Connected Classroom’ teacher? In which aspects do I need to develop?

5) You have encountered many Chinese teachers, local and native, novice and experienced. Compared with them, what are the advantages and disadvantages of volunteer-teacher-researchers (VTRs)?

6) Let’s be specific and talk about the knowledge required for teaching Chinese to beginning second language learners. Compared with the Chinese teachers with whom you are familiar, what are the advantages and disadvantages of the volunteer-teacher-researchers (VTRs)’ knowledge?

7) Since you have experienced one dry-run, what is your general impression of the ‘Connected Classroom’ so far for teaching and learning Chinese?

8) Do you have any suggestions or advices for programming the ‘Connected Classroom’ project?
Appendix XX: Interview schedule for my mentor-太阳花 (Tài Yáng Huā)

Interview Schedule

Part one: your own learning and development through ‘Connected Classroom’ project

1) You have taught Chinese in normal classroom for almost 15 years. In 2012, as an experienced Chinese teacher, you were invited to program units of work for online lessons. What have you learnt?

2) What are the main differences or/and similarities between programming and teaching in normal classroom and online lessons?

3) What do you think are the extra requirements, such as knowledge and skills for teachers working for online program, compared with that of normal classroom teachers?

4) What are the difficulties and challenges that you experienced during the process of programming and teaching for ‘Connected Classroom’ project?

5) What do you see as the potential of the ‘Connected Classroom’ project for teaching LOTE (language other than English), and for using the national broadcasting network (NBN) to link schools in Western Sydney and Ningbo?

Part two: your learning and development in training novice teachers through ‘Connected Classroom’

1) You are an experienced trained LOTE teacher, and you have trained several beginning Chinese teachers. This year, you were invited to mentor a beginning teacher and the programming of the “connected classroom” project. How have your strategies changed? What strategies did you use in mentoring and programming?

2) Do you find any difficulties when applying the normal classroom training strategies into ‘Connected Classroom’? If so, how do you solve the tension or problem?

Part three: your view on ROSETE Partnership and volunteer teacher researchers (VTRs)

So far, you have engaged in ROSETE Partnership for almost 5 years, and trained at least 5 VTRs.
1) What is your impression of the VTRs who come from China with no teaching experience?

2) What are the difficulties and challenges in training them?

3) When talking about knowledge for teaching, what do you think are the advantages and disadvantages of the VTRs?

4) Are their teaching strategies suitable for Australian students?

5) In what aspects do they need to develop in particular?

6) Could you give me a summary about what knowledge and skills these beginning teachers need in order to teach Chinese in Australia, and in Western Sydney in particular?

Part four: your ‘knowledge of science’ behind the ‘knowledge of art’. In other words, why you teach Chinese in this way.

To be honest, I am so lucky to have you as my mentor during the first three years in my teaching career. I have changed a lot, I have to say, especially in how to make Chinese learnable for Australia students, especially for students in WSR. Your teaching is artful. I use ‘art’ as a metaphor to infer your effective and efficient teaching. What other teachers and I are interested is the ‘science’ of teaching - the reasons behind it. My questions are:

1) When you began to learn Chinese, what were the challenges?

2) How do you solve these problems? Why did you continue to learn Chinese?

3) Why do you teach characters, pinyin, culture, and grammar in the way you do?

4) How would you characterise the methods you use to teach these four aspects?

5) What is the evidence that students enjoy the way that you teach? Do they find the teaching strategies you use very useful for learning Chinese? Why? How do you know?

6) What are your suggestions for teaching Chinese as a second/foreign language? For both native and foreign teachers? For both experienced and novice teachers?
Appendix XXI: Participant Information Sheet (Parent/Caregiver)

Participant Information Sheet (Parent/Caregiver)

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: Beginning teacher-researchers' decision-making about pedagogical content knowledge: A case study into making Chinese learnable for second/foreign language learners in Australia

Who is carrying out the study?
A teacher of Chinese as a second/foreign language, Miss Yiye Lu will carry out this study.

You child is invited to participate in a study conducted by your teacher of Chinese Miss Yiye Lu. This research is for her Doctor of Philosophy degree in Centre for Educational Research at the University of Western Sydney. This study is being supervised by Professor Michael Singh and Dr Dacheng Zhao from the University of Western Sydney.

What is the study about?
The purpose is to investigate beginning Chinese teachers' pedagogical content knowledge in order to make Chinese learnable so as to improve students' learning outcomes.

What does the study involve?
Your child is required to attend Chinese lesson once a week. By the end of Term 4, 2012, a group of students (n=10) will be chosen to participate in Focus Groups. Therefore, by that time, you will be given an information sheet and consent form, deciding whether you allow your child to participate the Focus Groups conducted by his/her teacher of Chinese — Miss Yiye Lu. The aim will be to obtain lesson feedback from the students. In addition, your child's work samples under your permission will be collected as part of data.

How much time will the study take?
The Chinese lessons take about 45-50 minutes in each week. The Focus Groups will take about 1 hour by the end of Term 4.

Your child's Focus Group transcripts will be transcribed on paper with a fictional name. All paper information will be stored in files in a locked cabinet for 5 years, after that they will be shredded. The final results will be presented in a thesis, which will be submitted to the University of Western Sydney for the degree of Doctor of Philosophy. Only the researcher and her supervisors have access to the original data provided by your child. Your child's information will be used in accordance with the ethical principles and
procedures.

The results will also be presented to the NSW Department of Education and Communities and participating schools as requested.

If you have any concerns about what has been recorded in the interview, you may access recording of your child within the period of storage. These recordings can be accessed in the following ways: Miss Yiye Lu by calling 0411 718 588, or via email: 17098739@student.uws.edu.au. Or Professor Michael Singh by calling 0404 012 409, or via email: m.j.singh@uws.edu.au. Or Dr Dacheng Zhao by calling 0410 630 357, or via email: d.zhao@uws.edu.au.

Children not participating in the study will also be required to complete the worksheets as part of the lesson during the time the research is being carried out, but will be only used as part of lesson but not part of the data.

Will the study benefit me?
The study will directly or indirectly enhance your child’s understanding of Chinese language and culture. Most importantly, this study will make it easier for your child to learn Chinese, and attract your child interest and improve learning efficiency.

Will the study have any discomforts?
The study will not cause any discomfort for the students. Your participation is voluntary and your child will only participate if both you and your child agree. If you decide not to take part in the research, you child can withdraw any time. It will not affect your child’s results or progress at school. Information already collected from your child will be destroyed. Otherwise, the information from you will be kept in a locked cabinet to ensure confidentiality of the data.

How is this study being paid for?
The study is voluntary. No payment involved.

Will anyone else know the results? How will the results be disseminated?
The study will not cause any discomfort for your child. Your child’s participation is voluntary and your child will be given an anonymous name. If you or/and your child decide not to take part in the research, you or/ and your child can withdraw any time you want. It will not affect your child’s relationship with the researcher. Information already collected from your child will be destroyed. Otherwise, the information from your child will be kept in a locked cabinet to ensure confidentiality of the data.

Can I withdraw my child from the study?
Your child’s participation in the study is entirely voluntary: you are not obliged to consent. Your child may withdraw from the study at any time - or you may withdraw your child from the study at which point all written and audio records of your child’s participation will be destroyed.

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?
When you have read this information, Miss Yiye Lu will discuss with you further and answer any questions you may have. If you would like to know more at any stage, please feel free to contact:
Miss Yiye Lu by calling 0411 718 588, or via email: 17098739@student.uws.edu.au. Or
Professor Michael Singh by calling 0404 012 409, or via email: m.j.singh@uws.edu.au. Or
Dr Dacheng Zhao by calling 0410 830 357, or via email: d.zhao@uws.edu.au.

What if I have a complaint?
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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 XXII: Participant Consent Form for Parent/Caregiver

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: Beginning teacher-researchers’ decision-making about pedagogical content knowledge: A case study into making Chinese learnable for second/foreign language learners in Australia

I,[print name]...........................................give consent for my child [print name]...........................................to participate in the research project titled Beginning teacher-researchers’ decision-making about pedagogical content knowledge: A case study into making Chinese learnable for second/foreign language learners in Australia.

I acknowledge that:

I have read the participant information sheet [or where appropriate, ‘have had read to me’] and have been given the opportunity to discuss the information and my child’s 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 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 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 use my child’s work sample as part of the research data, and allow my child to participate in the Focus Groups. Please cross out any activity that you do not wish your child to participate in.

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.

\
This study has been approved by the University of Western Sydney Human Research Ethics Committee.
The Approval number is: H8908

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 XXIII: Questionnaire for participating students

Questionnaire

1) Did you learn Chinese before? Yes No

2) Do you enjoy learning Chinese through ‘Connected Classroom’? 1 2 3 4 5 (1 is do not enjoy, and 5 is extremely enjoyable)

3) Do you think the method I used to teach and learn characters (Symbols) helped you learn Chinese? Yes No

   Explain why or why not?

   ____________________________________________

   ____________________________________________

4) Which character(s) do you remember? Please write the character(s) below.

   Why do you remember this/these characters?

   ____________________________________________

   ____________________________________________

5) Do you think the method I used to teach and learn Pinyin/pronunciation helped you learn Chinese? Yes No

   Explain why or why not?

   ____________________________________________

   ____________________________________________

6) Which Pinyin/pronunciation do you remember? Please write the Pinyin below.

   Why do you remember this/these Pinyin?

   ____________________________________________

   ____________________________________________
7) Do you think the method I used to teach and learn culture helped you learn Chinese?  Yes  No

Explain why/why not?

________________________________________________________________________________________

________________________________________________________________________________________

8) What aspect of cultural knowledge do you remember? Please write an example below.

________________________________________________________________________________________

________________________________________________________________________________________

Why do you remember this cultural knowledge?

________________________________________________________________________________________

________________________________________________________________________________________

9) Do you think the method I used to teach and learn grammar helped you learn Chinese?  Yes  No

Explain why/why not?

________________________________________________________________________________________

________________________________________________________________________________________

10) Which Chinese grammar point do you remember? Please write an example below.

________________________________________________________________________________________

________________________________________________________________________________________

Why do you remember this grammar point?

________________________________________________________________________________________

________________________________________________________________________________________

11) Which classroom activity do you find most interesting, engaging and useful in learning Chinese? Please write it below.

________________________________________________________________________________________

________________________________________________________________________________________
12) What is the most hardest thing for you in learning Chinese? Please write it below.

____________________________________________________________________________________

____________________________________________________________________________________

13) Did you understand what the teacher was talking about in the classroom?  Yes    No

Explain why/why not?

____________________________________________________________________________________

____________________________________________________________________________________

14) Do you want to continue learning Chinese? ... in this way?  Yes    No

Explain why/why not?

____________________________________________________________________________________

____________________________________________________________________________________

15) Do you have any suggestion or advice for a teacher, like me-Ms LU, teaching Chinese lessons through a camera? Please write it/them below.

____________________________________________________________________________________

____________________________________________________________________________________
Appendix XXIV: Example of Teacher 红 (Hóng)’s successful lesson plan

**Topic:** Kite-making  
**Year:** Year 8

<table>
<thead>
<tr>
<th>Language</th>
<th>Cultural input</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Authentic text</strong></td>
<td><strong>Static</strong></td>
</tr>
<tr>
<td>Post cards for words about colours and numbers</td>
<td>Differences and similarities between Chinese and Australian kites.</td>
</tr>
</tbody>
</table>

**Structures and skills**  
New words: materials for making a kite  
纸(Zhǐ, paper), 线(Xiàn, string), 胶水(Jiāo Shuǐ, glue), 剪刀(Jiǎn Dāo, scissor), 木条(Mù Tiáo, sticks)  
New sentences: asking for materials  
我要…(Wǒ Yào…, I want…)

**Practice activity**  
1) Revision for colours and numbers  
2) Learning new words and sentences for making a kite  
3) Asking for kite-making materials in Chinese  
4) Flying a kite on the playground

**Assessment**  
1) Students learn to make a kite and learn the materials they are using to make a kite.  
2) When they ask for materials, they must use Chinese. Otherwise, they cannot get the materials they are asking for.  
3) Students know the similarities and differences between Chinese and Australian kites.

**Note**  
The whole project is divided into three lessons which are interrelated to kite-making.

**Teacher 红(Hóng)’s lesson procedures**

<table>
<thead>
<tr>
<th>Procedures</th>
<th>Time</th>
<th>Materials</th>
<th>Students are doing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Introduction: Marking the roll and greeting in Chinese</td>
<td>5 mins</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Revision: colours and numbers</td>
<td>10 mins</td>
<td>Poster cards</td>
<td>Revision</td>
</tr>
<tr>
<td>3. New words: materials for making a kite</td>
<td>10 mins</td>
<td>Overhead</td>
<td>Taking notes and practising Chinese</td>
</tr>
<tr>
<td>4. Organizing students in groups to</td>
<td>30 mins</td>
<td>Paper, string</td>
<td>Making a</td>
</tr>
<tr>
<td>make a kite</td>
<td>glue, scissors, sticks</td>
<td>kite, meanwhile using Chinese to ask for materials</td>
<td></td>
</tr>
<tr>
<td>----------------------</td>
<td>------------------------</td>
<td>-----------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Plan B: origami</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>5. Flying a kite</th>
<th>10 mins</th>
<th>Flying a kite on the playground</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>6. Close: planning for next lesson</th>
<th>10 mins</th>
<th>Discussing with three teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Survey</td>
<td>5 mins</td>
<td></td>
</tr>
</tbody>
</table>

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Appendix XXV: Chinese language listening test term 1

Listening Test

You will listen to 2 conversations in this listening test. Each conversation will be played 2 times by your teacher. After each time, you will be given the opportunity to fill in as many answers as you can. Write answers in English, except for question 1 in conversation 1, which needs to be in Pinyin.

Before you begin, read through the questions for conversation 1, so that you know what key words to listen for.

Conversation 1

1. What have the students said when greeting their teacher? 1

2. Why have they used this greeting? 1

3. Circle the face that best shows how Bǐ dé (Peter) was feeling: / 1
   a. [Smiley face]  I am happy.
   b. [Sad face]    I am not happy.
   c. [Neutral face] I am ok.

4. Describe how the teacher said she was feeling: / 1

Conversation 2

Before you begin, read through the question below, so that you know what to listen for.

1. What is the purpose of this conversation? / 1

Total marks = / 5
Final mark = / 10%
### Appendix XXVI: Students’ worksheet for ‘How are you?’ topic

**How are you?**

<table>
<thead>
<tr>
<th>Characters</th>
<th>Pinyin</th>
<th>English</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ma?</td>
<td>Spoken question mark</td>
<td></td>
<td>̀口 =</td>
</tr>
<tr>
<td>Wǒ</td>
<td>I / me</td>
<td></td>
<td>̀戈 =</td>
</tr>
<tr>
<td>Hěn</td>
<td>Very</td>
<td></td>
<td>TR “tres bien”</td>
</tr>
<tr>
<td>Bù</td>
<td>No / not</td>
<td></td>
<td>̀不 =</td>
</tr>
<tr>
<td>还可以</td>
<td>Hái kěyǐ</td>
<td>OK</td>
<td></td>
</tr>
<tr>
<td>挺好的</td>
<td>Tíng hǎo de</td>
<td>Pretty good</td>
<td></td>
</tr>
<tr>
<td>Nǐ ne?</td>
<td>And you?</td>
<td></td>
<td>̀口 =</td>
</tr>
<tr>
<td>Yě</td>
<td>Also</td>
<td></td>
<td>也 looks like</td>
</tr>
</tbody>
</table>
Appendix XXVII: Lesson script example

By me: Lesson 3 scripts

Welcome back everyone. This is China connect. I am Ms Lù, Lù lǎo shī. Today I am broadcasting from *** high school. I am very excited to see you again. Let’s begin our Chinese lesson with special greetings we’ve practised in each lesson. Tóng xué men hǎo. (Lǎo shī hǎo). Hěn hǎo. Qǐng zuò, which means sit down.

Last lesson, we’ve learnt one of the basic features of the Chinese language, that is tone. Who remembers how many tones are there in Mandarin Chinese? Five (Four basic tones and one neutral tone), hěn hǎo! What are they? The first, second, third and fourth tone, fēi cháng hǎo! We recognise that tones are very important for learning Chinese. Why do you think it is so important? Because different tones represent different meanings. Good answer. We’ve also learnt the rules of marking the tones. In today’s lesson, let’s check the answers to tone marking exercise first. Please take out your tone marking exercise worksheet.

(Choose two students to give me answers, one for the correct box and the other for the incorrect box. I write them on the Smartboard. Then ask students: who has different answers. Check answers and simply give explanation by reviewing the basic rules.)

For the rest of today’s lesson, we are going to learn another very important feature of the Chinese language, that is the writing system. Do you know that Chinese characters are very similar to the ancient writing system of Aboriginal people? We’re going to look at the similarities between the writing systems of these two cultures.

First of all, let’s have a look at the picture on the Smartboard. What can you see from the picture? (Sun, cloud, tree, water, boat, fire, etc.) good observation, very good. I want you to find out some objects from the picture, because the shapes of these objects are very similar to the characters of those objects in Chinese. In other words, from the shape of the object, you can not only infer the character of that object in Chinese, but also you connect the meaning to that character at the same time. That is why Chinese characters are called ‘pictographic Chinese characters’. This unique
feature of Chinese characters are so important that can help learners to remember the characters both in writing and meaning in an easy way, especially for you guys as beginning learners.

Now please look at the second slide on the Smartboard with me. This Smartboard activity helps us to better understand pictographic Chinese characters. These little pictures are cut out from the big picture in the first slide. Some of them you have already identified, such as sun, cloud. Some are not, like fire, water. Under these pictures are the corresponding Chinese characters. I would like you to match the characters with the pictures based on the shapes. Mrs ***, could you please help me pick one volunteer to do this activity? Jack, come to the front. I am going to enable you to do this matching activity. Move each character to the blank bubble under each picture that you think they should belong to. Good job, Jack.

On the third slide, there are more pictographic characters. They might less obvious, but there still exists relationship between the characters and the pictures. Could I ask Mrs *** to pick another volunteer for me? Thanks. Jacob, come to the board. Use your imagination, match the characters and the pictures. Nice try.

Through this Smartboard activity, I think you have understand why Chinese writing system is called ‘pictographic Chinese characters’, because most of the characters are written based on the shapes of corresponding objects. In this way, you learn the meaning and writing at the same time.

It is very interesting that the writing system of English and the aboriginal language share the same characteristics with the Chinese writing system. In other words, by looking at the pictures or symbols, we can infer the meanings. What does that mean? Well, let me explain it more based on our knowledge of English first. This slide shows you some common symbols in our daily life. I think you can easily figure out their meanings by looking at the pictures. So who would like to come to the front and do this match activity? ***, come to the board. Well done.

So our aboriginal language works in the same way as English. Let’s look at the second slide on the Smartboard with me. These five pictures are symbols in
aboriginal language. They might unfamiliar to you, but if you use your imagination, you can at least guess their meanings. Mrs xxx, could you pick one volunteer to have a go? Patrick, come to the board. Not too bad.

(Explanation:

a campsite: this round circle represents the place for camping, with lots of people sitting around.
river between camps: if we recognise a campsite, then this symbol is easy. There are two campsites on both sides. They are connected with rivers.
a person: this symbol looks like a bottom shape if a person sits on a sofa.
4 women at a fire: it is easy to find that there are 4 persons sitting around the campsite with campfire.
Kangaroo: this symbol looks like the footprints of a kangaroo.

In Chinese, the pictographic symbols are called characters. Let’s look at the third slide on the Smartboard together. In the previous activity, we tried to identify the characters by looking at the pictures. Now I would you like to guess the meaning of the characters by the shapes they represent. Who want to take this challenge and have a try? Luck, brave boy. Good job.

(Explanation:

田: what does farm look like? The field is divided by lots of rows.
人: this characters looks like a person walking by. Show them gesture.
女: this character looks like a woman doing curtsy. Show them body gesture.
木: this character has been identified in the previous Smartboard activity. It looks like a tree, with tree truck and branches.
月: this character looks like a crescent shaped moon. Draw a picture. The curvy line is similar to the curve of a crescent.

From these Smartboard activities, it is obvious to see that languages, in one way or another, share some common characteristics.
(if time possible, do 60 seconds dash. I do not think we still have time left. Could I ask Ms *** to hand out a blank paper to each student? We are going to do a 60 seconds dash activity. It is a good activity to practice writing characters. The first character is “kǒu”, spelt k o u in a third tone. It is pronounced like this... It literally means mouth. If you open your mouth, this character actually likes your square mouth. Please follow me and write this character on your sheet. Then you square it, so this is the example character that we are going to practice in a minute. The rule for this activity is that you write this character as many as you can in one minute. Are u ready? One, two, three, go. )

That’s all for today’s lesson. Let’s summaries what we have learnt today. We have learnt the Chinese writing system. Then by comparing the writing systems of English, aboriginal language and Chinese, we found that they share similar feature, that is learners can infer meanings from the symbols in each language. By understanding the similarities, we can learn Chinese more easily. Next lesson, we will begin to learn different forms of greetings in Chinese.

Let’s finish our lesson with special farewell. Tóng xué men zài jiàn. (Lǎo shī zài jiàn). This is China connect. I am Ms Lù, Lù lǎo shī. See you next time.

Edited by my mentor-太阳花 (Tài Yáng Huā): Lesson 3 scripts

Welcome back everyone. This is China connect. I am Ms Lù, Lù lǎo shī. Today I am broadcasting from *** high school. I am very excited to see you again. Let’s begin our Chinese lesson with special greetings we’ve practised in each lesson. Tóng xué men hǎo. (Lǎo shī hǎo). Hěn hǎo. Qǐng zuò, which means sit down.

Last lesson, we’ve learnt one of the basic features of the Chinese language, that is tone. I’m going to put you to the test now. Using the word ‘ma’ as an example and with all of you saying the answer together, tell me how to say ‘ma’ with the first tone… That’s right, hěn hǎo! How about the 2nd tone? (etc on for 3rd, 4th and neutral tones). Tones are important because they change the meanings of words. Different tones represent different meanings.
We’ve also learnt the rules of marking the tones. Let’s now check your answers to tone marking exercise you had for homework. Please take out your tone marking exercise worksheet. If you get them all right, then I’ve arranged for your librarian to give you a fortune cookie at the end of the lesson.

I’d like to start with the girls today. (Pick one). Could you tell us which circle you put “lái” in and why?

So if you put “lái” in the “correct” circle, give yourself a tick.

Could (same girl) now read out the other words you had in the ‘correct’ circle.

Now, I’ll ask another girl to read out the words she put in the ‘incorrect’ circle.
(don’t ask for reasons why they’ve put words in for other ones because it will slow the lesson down too much)

Total up your ticks and if you got 8 out of 8, then your librarian will give you a fortune cookie at the end of class.

Right, close your books and focus your attention on me. Today’s lesson will be all about how to write in Chinese. Did you know that Chinese has 2 forms of writing system? Japanese has 3: Hiragana, Katakana and Kunji. Chinese has two. They are called Pinyin and Characters. Pinyin is a system that allows us to write the sound or pronunciation of the word in English letters so that people can learn how to say the word properly. It is a bridging language which is designed to help us learn how to speak Chinese. When you first start learning Chinese, you do most of your writing in Pinyin. However, over time you learn more of the Characters, which is important because Characters are the main form of written communication in China. What are characters? Characters are the written Chinese symbols for words. An example of a character is this (show slide of 三). This is the character for the number 3 in Chinese – san. So the characters are symbols or pictures which represent the meaning they are trying to convey. For this reason, Chinese characters are called
‘pictographs’. This makes learning to read and write Chinese characters seem easier, doesn’t it?

Let’s look at the picture on the Smartboard to see how this works. What things can you see in the picture? (Sun, cloud, tree, water, boat, fire, etc.) good observation, very good.

Now please look at the second slide on the Smartboard with me. This Smartboard activity helps us to better understand the pictographic nature of Chinese characters. These little pictures are cut out from the big picture in the first slide. Some of them you have already identified, such as sun, cloud. Some are not, like fire, water. Under these pictures are the corresponding Chinese characters. I would like you to match the characters with the pictures based on the shapes. Mrs ***, could you please help me pick one volunteer to do this activity? Jack, come to the front. I am going to enable you to do this matching activity. Move each character to the blank bubble under each picture that you think they should belong to. Good job, Jack.

The shapes of these objects are very similar to the characters for those objects in Chinese. This can help us learn Chinese characters more easily.

On the third slide, there are more pictographic characters. They might less obvious, but a relationship between the characters and the pictures still exists. Could I ask Mrs *** to pick another volunteer for me? Thanks. Jacob, come to the board. Use your imagination, match the characters and the pictures. Nice try.

Through this Smartboard activity, I think you have understand why Chinese writing system is called ‘pictographic Chinese characters’, because most of the characters are written based on the shapes of corresponding objects. In this way, you learn the meaning and writing at the same time.

Chinese is not the only language in the world that uses pictographic symbols to convey written meaning. The ancient Egyptians used hyroglifs and Australian Aboriginals used rock art. Sociologists are interested in the link between Aboriginal and Chinese cultures because they both use pictographs as their writing systems.
(don’t do the International symbols page on the smart board—will take too much unnecessary time)

Let’s look at the second slide on the Smartboard with me. These five pictures are symbols in aboriginal language. They might unfamiliar to you, but if you use your imagination, you can at least guess their meanings. Mrs xxx, could you please pick one volunteer to come to the board and have a go at matching the words with their correct symbol? Click and drag the words.

(Explaination: 

a campsite: this round circle represents the place for camping, with lots of people sitting around.

river between camps: if we recognise a campsite, then this symbol is easy. There are two campsites on both sides. They are connected with rivers.

a person: this symbol looks like a bottom shape if a person sits on a sofa.

4 women at a fire: it is easy to find that there are 4 persons sitting around the campsite with campfire.

Kangaroo: this symbol looks like the footprints of a kangaroo.)

Now Let’s look at the third slide on the Smartboard together. In the previous activity, we tried to identify the characters by looking at the pictures. Now I would you like to guess the meaning of the characters by the shapes they represent. Who want to take this challenge and have a try? Hard Luck, good try / Good job.

(Explaination:

田: what does farm look like? The field is divided by lots of rows.

人: this characters looks like a person walking by. Show them gesture.

女: this character looks like a woman doing curtsey. Show them body gesture.

木: this character has been identified in the previous Smartboard activity. It looks like a tree, with tree truck and branches.
月: this character looks like a crescent shaped moon. Draw a picture. The curvy line is similar to the curve of a crescent.

From these Smartboard activities, we can see the way that Aboriginal language and Chinese writing systems share some common characteristics.

(if time possible, do 60 seconds dash. I do not think we have any time left. Could I ask Ms *** to hand out a blank paper to each student? We are going to do a 60 seconds dash activity. It is a good activity to practice writing characters. The first character is ‘kǒu’, spelt k o u in a third tone. It is pronounced like this... It literally means mouth. If you open your mouth, this character actually likes your square mouth. Please follow me and write this character on your sheet. Then you square it, so this is the example character that we are going to practice in a minute. The rule for this activity is that you write this character as many as you can in one minute. Are you ready? One, two, three, go. )

That’s all for today’s lesson. Let’s summarise what we have learnt today. We have learnt that the Chinese writing system, similarly to Aboriginal languages, is pictographic and therefore ideas / concepts and objects are represented by the way they look in characters. We have also talked about how this can help us guess the meaning of new characters in Chinese or learn to write characters more easily.

Next lesson we’ll learn how to start a conversation in Chinese.

Let’s finish our lesson with special farewell. Tóng xué men zài jiàn. (Lǎo shī zài jiàn). This is China connect. I am Ms Lù, Lù lǎo shī. See you next time.
Appendix XXVIII: Indigenous written language