



# **Approaches to Learning: Perceptions about Chinese International Undergraduates in Australian Universities**

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**A thesis submitted in fulfilment of the requirements for the degree of  
Doctor of Philosophy**

**Federation University Australia**

**February 2021**



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Ethics approval to conduct research with human participants for this study was granted by the Human Research and Ethics Committee (HREC) at Federation University Australia, reference number: A18-144

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<b>Project Number:</b>	A18-144
<b>Project Title:</b>	Approaches to learning: Perceptions of Chinese international undergraduates and their lecturers in Australian Universities
<b>For the period:</b>	07/12/2018 to 30/11/2020

Approval has been granted to undertake this project in accordance with the proposal submitted for the period listed above.

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**7 December 2018**

## Statement of Authorship and Originality

I, **Boli Li**, hereby certify that the thesis entitled:

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## **Acknowledgements**

This thesis would not have been accomplished without the gracious support of my family, my two supervisors, and friends who have been standing by with encouragement and help throughout my PhD process.

I am, firstly, deeply indebted to my supervisors, Associate Professor Margaret Plunkett and Associate Professor Jenene Burke for their insightful instructions, comments, critiques, corrections and their encouragement throughout the development of this thesis. Without their careful editing of my work, professional guidance all along the journey in my PhD candidature, this thesis would not have progressed to its completion.

Second, I owe my gratitude to the academics and students who agreed to be interviewed and surveyed for the data collected. This thesis would not have been achieved without support from the 10 academics and 10 Chinese international students who contributed their time and insightful perceptions during the interviews with frankness and openness. My sincere gratitude goes out to the two cohorts of students, the 212 Australian domestic students and 156 Chinese international students who participated in the surveys, whose contribution significantly informed this research.

Third, I am sincerely grateful to the School of Education at Federation University, especially the former Dean of the Faculty of Education and Arts, Professor John MacDonald, who provided a scholarship to help alleviate the financial burden. I am also thankful to my home university, Chongqing Technology and Business University (CTBU), for providing me the opportunity and time to complete this research.

Finally, my deepest thanks and heartfelt gratitude go to my family, especially my husband Pin Guan and my daughter Peipei Guan, who have always been standing by, encouraging, motivating and cheering me throughout the completion of this thesis. If not for their support, sacrifice and love, the thesis would not have been completed. My gratitude also goes to other special people in my life, my extended family members. Thank you for your support and endurance of my extended periods of absence.

## **Dedication**

Completing this thesis has been somewhat of an endurance event for my beloved ones. I dedicate this work to my family, Pin Guan and Peipei Guan, and thank them for their love, their encouragement and their fortitude.

I dedicate this work to my dearest love, my husband Pin Guan, who endured the long time of my absence while providing constructive discussions, suggestions and timely assistance. I would not have been able to successfully arrive at this milestone without his fortitude and love, support and sacrifices.

To my beloved sweetie, Peipei Guan, I dedicate this thesis to her. I owe my gratitude to her sweet company all the way through my PhD process. She became the primary reason for my choice of this way of life and her hard work always spurred me on. My PhD journey has witnessed her growth from a naive vulnerable schoolgirl into a mature and knowledgeable young lady who can handle the waves of life with ease. I am truly proud of her.

## **Abstract**

Chinese students constitute the largest cohort of international undergraduates in Australian universities, comprising 37.3% in 2019. However, there is a scarcity of research examining perceptions of how Chinese international students (CIS) learn in Australian universities, from the broader context of the students themselves, their Australian teachers and Australian domestic student (ADS) counterparts. Drawing on the 3P (Presage-Process-Product) framework by Biggs, Kember, and Leung (2001), this thesis explored the perceptions of CIS, and their lecturers and classmates regarding their approaches to learning in Australian universities.

Utilising a mixed methods approach (Creswell, 2014), surveys were conducted with 156 CIS and 212 ADS incorporating a validated survey by Biggs et al. (2001) called the R-SPQ-2F. Interviews were also conducted with 10 CIS and 10 Australian academics from two Australian universities, one regional and the other metropolitan. The findings demonstrated that perceptions of CIS were characterised by a unique learning structure that differed from ADS in a number of ways, particularly in relation to group learning, the use of understanding and memorisation strategies, and classroom engagement. It was noted that these disparities did not support the generally held view of CIS as mainly surface oriented learners who preferred rote-learning techniques (Grimshaw, 2007). While adopting similar levels to ADS of deep approach strategies in their learning, CIS also used more surface and achieving approaches than ADS, and tended to incorporate memorising with understanding in their learning process. However, it was also evident that the approaches used by CIS in Australia were often more complex than what was easily observed. For instance, their reticence in class was not necessarily indicative of passive learning, but instead, suggestive of the complexity of context that needs to encompass the 'whole being' of these students, i.e., their personality, culture, and most of all, the dynamics of their perceived approaches to their learning. This study also investigated negotiations that occurred between CIS and their Australian lecturers. While CIS' learning approaches were greatly shaped and determined by academics' instructional decisions involving curriculum, teaching patterns and assessment procedures, it was also found that academics' instructional activities were reshaped and counter-determined by CIS' learning approaches. As a result, a Co-constructed Model of Learning and Teaching (CMLT) for CIS in Australian universities, based on the 3P framework (Biggs et al., 2001), was developed to assist future education experiences for international students.

This study is significant in that it has given voice to Chinese students, enabling a greater understanding of their experiences in Australian universities to emerge, in



conjunction with and supplemented by insights provided by their Australian student counterparts and educators. It has enabled both international and domestic students the opportunity to reflect on possible cultural impacts on learning, hopefully improving their capacities to act as effective global citizens. It has also afforded an opportunity for academics to reflect on their beliefs and practices in relation to teaching diverse student cohorts, which will hopefully deepen their understanding of the complexities that come with the increasing globalisation of education.

## Table of Contents

<b>Copyright Notice .....</b>	<b>i</b>
<b>Statement of Ethics Approval .....</b>	<b>ii</b>
<b>Statement of Authorship and Originality .....</b>	<b>iii</b>
<b>Acknowledgements .....</b>	<b>iv</b>
<b>Dedication .....</b>	<b>v</b>
<b>Abstract .....</b>	<b>vi</b>
<b>Table of Contents .....</b>	<b>viii</b>
<b>List of Tables .....</b>	<b>xiii</b>
<b>List of Figures .....</b>	<b>xiv</b>
<b>Glossary .....</b>	<b>xv</b>
<b>Chapter 1 Introduction .....</b>	<b>1</b>
<b>1.1 Intent of the Study .....</b>	<b>2</b>
<b>1.2 Background to the Study .....</b>	<b>2</b>
1.2.1 Chinese Students Studying in Australian Universities .....	3
1.2.2 Internationalisation in Australian Universities .....	4
<b>1.3 Aims of the Research .....</b>	<b>6</b>
<b>1.4 Research Questions .....</b>	<b>7</b>
<b>1.5 Significance of the Study .....</b>	<b>7</b>
<b>1.6 Structure of the Thesis .....</b>	<b>8</b>
<b>1.7 Chapter Summary .....</b>	<b>9</b>
<b>Chapter 2 Review of Literature .....</b>	<b>10</b>
<b>2.1 Conceptualisation of Learning .....</b>	<b>10</b>
2.1.1 Terminology Associated with Student Learning .....	10
2.1.2 Conceptions of Learning .....	12
2.1.3 A Shift in Orientation to Learning .....	14
<b>2.2 Student Approaches to Learning .....</b>	<b>19</b>
2.2.1 Student Approaches to Learning Theory .....	20
2.2.1.1 Deep Learning or Surface Learning .....	20
2.2.1.2 Determinants of Students' Approaches to Learning .....	23
2.2.1.3 Dissonance on Student Approaches to Learning .....	25
2.2.2 Instruments for Measuring Student Approaches to Learning .....	29
2.2.2.1 The Study Process Questionnaire .....	30
2.2.2.2 The Revised Two-Factor Study Process Questionnaire .....	31
2.2.3 Models Applied in Student Approaches to Learning .....	33
Section Summary .....	35
<b>2.3 Chinese International Students' Learning .....</b>	<b>35</b>
2.3.1 'Asian' or 'Chinese' Learners in Western Universities .....	35
2.3.2 Chinese International Students' Learning in Australian Universities .....	39
Section Summary .....	41
<b>2.4 Gaps Identified and Summary of This Literature Review .....</b>	<b>41</b>
<b>2.5 Chapter Summary .....</b>	<b>43</b>

<b>Chapter 3 Research Design .....</b>	<b>44</b>
<b>3.1 Research Design .....</b>	<b>44</b>
3.1.1 Ontological and Epistemological Views .....	44
3.1.2 An Interpretivist /Constructivist Paradigm .....	46
3.1.3 Methodology.....	47
Mixed Methods Approach. ....	48
Cross Cultural Research. ....	48
3.1.4 Research Methods .....	50
Triangulated Concurrent Design. ....	50
Concurrent Embedded Approach. ....	51
Constructive Paradigm of Research Methods.....	52
<b>3.2 Theoretical Underpinnings.....</b>	<b>54</b>
Presage-Process-Product (3P) Model of Framework .....	54
Sociocultural Framework of Learning .....	56
<b>3.3 Data Collection .....</b>	<b>58</b>
3.3.1 Sample Selection.....	59
3.3.2 Data Collection from Students: Surveys and Interviews .....	61
Survey as a Research Tool.....	61
3.3.3 Data Collection from Lecturers: Academic Interviews.....	68
3.3.4 Language Considerations in Data Collection .....	69
<b>3.4. Data Analysis Procedure .....</b>	<b>70</b>
3.4.1 Quantitative Analysis through SPSS .....	70
3.4.2 Qualitative Analysis through NVIVO .....	71
<b>3.5 Ethical Considerations .....</b>	<b>73</b>
<b>3.6 Reflexivity.....</b>	<b>74</b>
<b>3.7 Methodological Limitations .....</b>	<b>75</b>
<b>3.8 Chapter Summary .....</b>	<b>75</b>
<b>Chapter 4 Quantitative Data Analysis and Findings .....</b>	<b>76</b>
<b>4.1 Participant Background: Part A of the Surveys .....</b>	<b>76</b>
4.1.1 Chinese Participants' Interest in and Engagement with Australian Universities ..	78
4.1.2. Australian Domestic Students' Prior Engagement with China .....	79
4 1.3 Participants' Discipline Areas .....	80
<b>4. 2 Data Analysis of Student Learning Approaches: Part B of the Surveys .....</b>	<b>81</b>
4.2.1 Factor Analysis of the R-SPQ-2F .....	81
4.2.1.1 Factor Analysis of the R-SPQ-2F with the CIS Sample. ....	82
4.2.1.2 Factor Analysis of the R-SPQ-2F with the ADS Sample. ....	84
4.2.1.3 Analysis of Subscales with both the CIS and ADS Samples. ....	86
Section Summary. ....	87
4.2.2 Analysis of Students' Perceptions of Learning Approaches .....	88
4.2.2.1 Analysis of Differences between Responses of CIS and ADS to R-SPQ-2F. ....	88
4.2.2.2 Analysis of Differences between Responses of Students from Different Universities to R-SPQ-2F.....	89

4.2.2.3 Analysis of Gender Differences between Responses to R-SPQ-2F .....	90
4.2.2.4 Analysis of CIS' Expectations and Their Learning Approaches. ....	91
4.2.2.5 Analysis of Variance of Students' Degrees and Learning Differences. ....	92
Section Summary. ....	94
<b>4.3 Analysis of Students' Perceptions of Learning Approaches Adopted by Counterparts: Part C of the Surveys.....</b>	<b>94</b>
4.3.1 Analysis of ADS Reporting Different Experiences with CIS regarding CIS' Learning Approaches .....	95
4.3.2 Analysis of Students' Perceptions of Learning Approaches Adopted by the Counterparts .....	97
Section Summary .....	99
<b>4.4 Data Analysis of Responses to Open-Ended Survey Questions: Part D .....</b>	<b>99</b>
4.4.1 Chinese Students' Perceptions of Their Learning in Australia .....	100
Topic 1: CIS' Expectations of Australian Universities. ....	101
Topic 2: Support Provided to CIS by Australian Universities.....	103
Topic 3: Support Required by CIS from Australian Universities. ....	104
Topic 4: Learning Differences with Australian Peers.....	106
Topic 5: Australian Domestic Students' Learning Characteristics. ....	107
Topic 6: Recommendations for Newcomers from China. ....	109
4.4.2 Australian Domestic Students' Perceptions of CIS' Learning in Australia .....	111
Topic 1: Perceived CIS' learning Characteristics.....	111
Topic 2: Perceived Learning Differences with CIS. ....	112
Topic 3: Support Provided to CIS by Australian Universities.....	114
Topic 4: Additional Strategies Perceived Useful to Facilitate CIS' Learning in Australia. ....	116
<b>4.5 Chapter Summary .....</b>	<b>117</b>
<b><i>Chapter 5 Qualitative Data Analysis and Findings .....</i></b>	<b><i>118</i></b>
<b>5.1 Qualitative Data Analysis of Interviews with Students .....</b>	<b>118</b>
5.1.1 Profile of Student Interviewees .....	118
5.1.2 CIS' Learning Experience in Australian Universities .....	121
5.1.2.1 Expectations about Australian Universities. ....	123
5.1.2.2 Challenges Encountered and Coping Measures.....	125
5.1.2.3 Engagement in Class. ....	130
5.1.2.4 Perceived Learning Differences in Australian Universities.....	131
5.1.2.5 Perceived Differences in Teaching to Those Experienced in China.....	132
5.1.2.6 Modifications Adopted in Learning.....	135
5.1.2.7 Perceived Advantages of Studying in Australia.....	138
5.1.2.8. Suggestions for Australian Universities.....	139
<b>5.2 Qualitative Data Analysis of Interviews with Academics .....</b>	<b>140</b>
5.2.1 Profile of Academic Interviewees .....	140
5.2.2 Academics' Perceptions of CIS in Australian Universities .....	143
5.2.3 Teaching CIS in Australian Universities .....	148

5.2.3.1 Challenges Associated with Teaching CIS.....	149
5.2.3.2 Adaptive Teaching Measures. ....	151
5.2.3.3 Internationalised Teaching.....	152
5.2.4 Perceptions of Supports Provided by Australian Institutions .....	153
<b>5.3 Chapter Summary .....</b>	<b>154</b>
<b><i>Chapter 6 Discussion .....</i></b>	<b><i>155</i></b>
<b>6.1 Overview of Primary Findings .....</b>	<b>155</b>
6.1.1 Perceptions of Students' Learning Structure and Learning Differences in Australian Universities .....	155
CIS' Learning Structure.....	156
Learning Differences between CIS and ADS.....	157
6.1.2 CIS' Learning and Teaching in Australian Universities.....	159
6.1.2.1 From the Perspective of CIS. ....	159
6.1.2.2 From the Perspective of Academics.....	161
6.1.3 Findings regarding the Support System Provided to CIS.....	162
<b>6.2 Discussion of Findings .....</b>	<b>163</b>
6.2.1 Chinese International Students' Learning Approaches in Australian Universities .....	163
6.2.1.1 Deep or Surface Learning: A Comparison with Australian Domestic Students. .....	163
6.2.1.2 CIS' Achieving Approaches: Uniqueness in Learning Approaches.....	164
6.2.1.3 CIS' Memorisation.....	165
6.2.1.4 CIS' Reticence in Classroom. ....	167
6.2.2 CIS' Learning Approaches through the Lens of Chinese Deep Culture.....	168
6.2.2.1 Chinese Language and Chinese Approaches to Learning.....	169
6.2.2.2 Chinese Philosophy of Means and Chinese Learning Behaviours. ....	170
6.2.2.3 Chinese Education System and Chinese Learning Approaches.....	171
6.2.3 Perceptions of CIS' Learning Approaches in Australian Universities.....	174
6.2.3.1 CIS' Perceptions of Learning in Australian Universities: An Adaptive Process. .....	175
6.2.3.2 CIS' Perceptions of Learning and Teaching in Australian Universities: A Co- Constructed Process.....	177
6.2.4 Factors Influencing CIS' Perceptions of Learning Approaches in Australian Universities.....	178
<b>6.3 Chapter Summary .....</b>	<b>181</b>
<b><i>Chapter 7 Propositions and Implications.....</i></b>	<b><i>183</i></b>
<b>7.1 Co-constructed Model of Learning and Teaching (CMLT) for CIS in Australian Universities .....</b>	<b>183</b>
7.1.1 Theoretical Lenses Underpinning the Framework.....	185
7.1.2 Factors Included in the Co-constructed Model.....	188
7.1.3. Highlight of the Co-constructed Model.....	193
7.1.4 Utility of the Co-constructed Model .....	194

<b>7.2 Implications .....</b>	<b>194</b>
7.2.1 Implications for Chinese International Undergraduates.....	195
Enhancing the Voice of International students.....	195
Contribute to the International Perspective of Australian Education.....	200
7.2.2 Implications for Academics .....	201
Understanding CIS' Learning and Accommodating Appropriately.....	201
Implementing Inclusive Teaching.....	203
Establishing a Rapport with CIS.....	205
Properly Organising Group Learning.....	207
7.2.3 Implications for Australian Institutions.....	209
Establishing Targeted Support Systems for CIS.....	210
Reducing Segregation between CIS and ADS. ....	212
Alleviating CIS' Psychological Stress.....	215
Providing Other Forms of Support for CIS.....	217
<b>7.3 Chapter Summary .....</b>	<b>218</b>
<b>Chapter 8 Conclusion .....</b>	<b>219</b>
8.1 Important Conclusions .....	219
8.2 Contributions .....	220
8.3 Limitations and Future Directions.....	222
8.4 A Final Word.....	224
<b>References .....</b>	<b>225</b>
<b>Appendices.....</b>	<b>248</b>
Appendix A Survey for Chinese International Undergraduates (Bilingual Version) .....	248
Appendix B Survey for Australian Domestic Students .....	254
Appendix C Interview Outline for Chinese International Undergraduates in Australian Universities (Bilingual Version) .....	257
Appendix D Interview Outline for Australian Academics.....	259
Appendix E Plain Language Information Statement: Chinese student Interviews (Bilingual Version) .....	261
Appendix F Consent Form for Chinese International Undergraduates (Bilingual Version) .....	264
Appendix G Final Ethical Report for HREC .....	265
Appendix H Validation of the Subscales of R-SPQ-2F with the CIS Sample.....	268
Appendix I Validation of the Subscales of R-SPQ-2F with the ADS Sample .....	271
Appendix J A Standard Multiple Regression on CIS' Learning Approach .....	274

## List of Tables

Table 2.1 Documented Differences Between Deep and Surface Learning .....	22
Table 2.2 Construct of the original Study Process Questionnaire .....	31
Table 2.3 Construct of the R-SPQ-2F.....	32
Table 2.4 A Binary Study of Learning Differences between Chinese and Australian Undergraduates .....	39
Table 3.1 Research Sub-questions and Relevant Methods in This Study .....	53
Table 4.1 Survey Participant Numbers.....	77
Table 4.2 Avenues Pursued by CIS Participants to Enrol in Australian Universities.....	79
Table 4.3 Discipline Categories of Participants and Initial Year of Enrolment .....	80
Table 4.4 Structure Matrix for PCA with Varimax Rotation of Two Factor Solution of the R-SPQ-2F for CIS Sample .....	84
Table 4.5 Structure Matrix for PCA with Varimax Rotation of Two-Factor Solution of the R-SPQ-2F for ADS Sample .....	85
Table 4.6 Results of Validation of R-SPQ-2F Subscales of DA, SA, DM, DS, SM and SS.....	87
Table 4.7 Scores Obtained by CIS and ADS on the R-SPQ-2F .....	88
Table 4.8 Degrees by Schools or Faculties .....	93
Table 4.9 Independent-Samples T-test for ADS with Different Experience with CIS .....	96
Table 4.10 Student Perceptions of Learning Approaches Adopted by Counterparts .....	98
Table 4.11 Structure of Data Analysis for Part D .....	100
Table 4.12 CIS' Expectations of Their Australian Universities .....	102
Table 4.13 Support Provided by Australian Universities to CIS .....	103
Table 4.14 Type of Support Required from Australian Universities by CIS.....	105
Table 4.15 CIS' Perceived Learning Differences Adopted by ADS .....	106
Table 4.16 CIS' Perceptions of the Learning Characteristics Adopted by ADS.....	108
Table 4.17 CIS' Recommendations for Newcomers From China.....	110
Table 4.18 CIS' Learning Characteristics Described by ADS.....	111
Table 4.19 CIS' Learning Differences Perceived by ADS.....	113
Table 4.20 ADS' Perceptions of Whether Adequate Support is Provided to CIS.....	115
Table 4.21 ADS' Perceptions of Additional Strategies Useful to Support CIS.....	116
Table 5.1 Demographic Information About Student Interviewees.....	119
Table 5.2 Themes and Sub-themes Generated from Student Interviews.....	122
Table 5.3 Demographic Information About Academic Interviewees .....	142
Table 5.4 Themes and Sub-themes Generated from Academic Interviews.....	143
Table 6.1 Summary of Differences in Learning Approaches Perceived by CIS and ADS (T-tests) .	157
Table 6.2 Summary of Disparities Perceived by CIS and ADS (Open-Ended Questions) .....	158
Table 6.3 Summary of Academics' Perceptions of Learning Approaches Adopted by CIS and ADS.....	158

## List of Figures

Figure 2.1 A Hierarchy of Conceptions of Learning.....	12
Figure 2.2 The Relationship between Conceptions, Approaches, Perceptions and Outcomes of Learning. ....	13
Figure 2.3 The 3P Model of Student Learning .....	34
Figure 3.1 A Triangulated Concurrent Design of Mixed Methods Approach .....	51
Figure 3.2 Constructive Paradigm of Research methods.....	54
Figure 3.3 The 3P Model of Student Learning with Disciplines Specified .....	55
Figure 3.4 Learning Theory Continuum .....	57
Figure 4.1 Origins of CIS Participants Based on Geographical Division of China .....	78
Figure 4.2 Internal Construct of the R-SPQ-2F.....	81
Figure 4.3 Scree Plot of Data from CIS sample .....	83
Figure 4.4 Perceptions of CIS' Learning Approaches by ADS with Different Experiences of CIS.....	95
Figure 4.5 Perceptions of the Learning Approaches Adopted by Counterparts .....	97
Figure 6.1 Ramsdens' Educational Context Learning Model .....	174
Figure 7.1 Framework of the Co-Constructed Model of Learning and Teaching for CIS in Australian Universities .....	184



## **Glossary**

ACARA: Australian Curriculum, Assessment and Reporting Authority  
ADS: Australian Domestic Students  
AM: Achieving Motive  
AS: Achieving Strategy  
ASI: Approaches to Study Inventory  
ATAR: Australian Tertiary Admission Rank  
CHC: Confucian Heritage Cultures  
CIS: Chinese International Students  
DA: Deep Approach  
DESE: Department of Education Skills and Employment, Australia  
DET: Department of Education and Training, Victoria  
DM: Deep Motive  
DS: Deep Strategy  
EAP: English for Academic Purposes  
Go8: Group of Eight Universities, Australia  
HE: Higher Education  
IELTS: International English Language Testing Service  
IoC: Internationalisation of Curriculum  
LOP: Levels of Processing  
NCEE: National College Entrance Examination  
OSHC: Overseas Student Health Cover  
R-SPQ-2 F: Revised Two-factor Study Process Questionnaire  
SA: Surface Approach  
SAL: Student Approaches to Learning  
SBQ: Studying Behaviour Questionnaire  
SM: Surface Motive  
SPQ: Study Process Questionnaire  
SS: Surface Strategy  
VCE: Victorian Certificate of Education  
ZDP: Zone of Proximal Development  
3P Model: Presage-Process-Product Model



## Chapter 1 Introduction

This study investigated the perceptions of Chinese international undergraduates and their Australian counterparts and their lecturers regarding the learning approaches commonly used in Australian universities. Drawing on the Presage-Process-Product (3P) framework by Biggs, Kemper and Leung (2001), and utilising a two-tiered-line of inquiry, this study investigated first, how Chinese international students (CIS), Australian domestic students (ADS) and Australian academics perceived the approaches to learning used by CIS in Australian universities, and second, how Chinese students and Australian academics made sense of the international learning and teaching relating to CIS in Australian higher education (HE). Utilising a concurrent triangulated mixed methods approach (Creswell, 2014; Tashakkori & Teddlie, 2010), the researcher gathered qualitative and quantitative data from three main sources, namely, CIS, ADS and Australian academics who taught them, about their perceptions of learning and teaching in two Australian universities.

An adapted version of the Revised two-factor Study Process Questionnaire (R-SPQ-2F) by Biggs et al. (2001) was used as the main instrument to measure the defining features of CIS and ADS in terms of their approaches to learning. Semi-structured interviews were also conducted to investigate how CIS and their Australian teachers negotiated and adjusted their learning and teaching in Australian universities. Interviews were not conducted with ADS, as their input was confined to quantitative surveys, in order to provide comparative data on learning approaches. Although the ADS were not the focus of the research, their input was considered important in helping to determine their own perceptions of learning approaches within Australian universities, as well as their perceptions of how CIS approached learning in that context.

An aim of the research was to develop a framework or set of guidelines to enhance Chinese students' experiences in Australian universities, although it was anticipated that the model would be more broadly applicable to other international student cohorts and other Western universities. As such, the *Co-constructed Model of Learning and Teaching (CMLT) for CIS in Australian universities* was developed from the findings of the research. This model, originally based on Biggs et al.'s (2001) Presage-Process-Product (3P) model of classroom learning, was evolved into a framework of CIS' learning and teaching in the Australian context, based on the nature of CIS' learning structure, and the instructional and institutional contexts in Australian higher education. The framework highlights the interrelation of CIS' perceptions of learning approaches with the instructional and institutional milieus in Australia, and highlights the need for a mutual

adaptation not only by Chinese international students, but also by the academics teaching both CIS and ADS in Australian universities.

## **1.1 Intent of the Study**

With ever increasing internationalisation taking place in Australian universities (Sawir, 2013; Tian & Ni, 2017), a growing number of Chinese students are choosing to study in Australia (MOE, 2018). Personal experience led the researcher to ponder the challenges encountered as an international student in a culturally and linguistically diverse country such as Australia. As a visiting scholar and then a postgraduate student in Australia, the researcher had personally encountered many Chinese international students struggling to adjust to the new culture and education system, trying to use English to fit in with Australian norms, values and ways of doing things, which at times contributed to a sense of what Xu (2016) describes as “being outsiders” (p.3). Academically, CIS may have acquired, and implemented, the approaches to learning and studying they found useful in China, but which at times were conceived of as “inefficient” or “inadequate” for studying in a different context (Xu, 2016, p. 3).

As an academic, the researcher had also encountered Australian academics struggling to comprehend the approaches to learning used by their Chinese students, particularly strategies such as memorisation or translating learning (learning course content mainly through translators). These approaches have variously been described as surface approaches instead of the deep approaches that are generally associated with higher education in Western countries (Biggs, 1996; Marton & Saljo, 1976). However, the situation is more complex than it might seem and it is important that Australian academics are able to better understand how Chinese students approach their learning.

The researcher’s personal teaching experience in China has provided her with a thorough understanding of Chinese teaching and learning, which has laid a solid foundation for this study. There appears to be a need for both the Chinese students and their lecturers to negotiate and construct their learning and teaching in order to facilitate successful learning in Australian universities. Therefore, it is of value to investigate the perceptions of both Chinese international undergraduates and their lecturers regarding the learning experiences in Australian universities to ensure that these experiences are appropriately rewarding and successful for all parties.

## **1.2 Background to the Study**

Three groups of research participants were involved in this research: Chinese international students (CIS), Australian domestic students (ADS) and Australian lecturers. An established body of literature already exists on “the Chinese learner” (e.g., Grimshaw,

2007; Heng, 2018; Jin & Cortazzi, 2006; Ryan, 2016; Watkins & Biggs, 1996; Wu, 2015), an umbrella term loosely used to refer to all learners from Chinese-speaking backgrounds or those who share Confucian heritage cultures including students from China (Wu, 2015).

For the purposes of this study, Chinese international students were defined as those native-born Chinese, who had lived and been educated in China's territory for most of their lives, and who came to Australia to pursue an undergraduate degree in an Australian university. Another requirement was a valid Non-immigrant Student Status Authorisation, with a Chinese dialect as their native tongue. As identified in the literature, Chinese students have much in common (Wu, 2015), however, different ethnicities (e.g., from Mainland China, Hong Kong, Macao, or Malaysia, and Singapore) may differ greatly in terms of the influences of their respective histories, social policies, educational systems, values, and beliefs (Back & Barker, 2002; Briguglio & Smith 2012). For the purposes of this study, students coming from China's special administration areas or regions such as Hong Kong, Macao and Taiwan were not included. As identified by Sit (2013), students from Hong Kong have been found to be more comfortable with Australian academic conventions and can interpret and react to teachers' expectations and course requirements more effortlessly than those from Mainland China. Therefore, CIS in this study specifically referred to Chinese students from Mainland China of the People's Republic of China.

Australian students, as a comparable cohort in this study, comprised domestic undergraduates in Australian universities, with English as their first language. The Australian lecturers comprised domestic educators with English as their first language, who taught both CIS and ADS in an Australian university.

### ***1.2.1 Chinese Students Studying in Australian Universities***

Every year tens of thousands of Chinese students choose to study in Australian universities. There were more than 260,000 in 2019 with approximately 160,000 enrolled in the higher education sector alone (Hilton, 2020). Martin (2019) cites data from the Australian Department of Education, Skills and Employment (DESE), showing that "of all education sectors, the largest volume of international student enrolments are in higher education, where Chinese students accounted for 37.3% in 2019" (p. 3). This flow of Chinese students into Australia can be accounted for, first, by the growth of affluence within China, competitive university entrance examinations and the high regard for an overseas qualification in the Chinese labour market, and, second, by aggressive recruitment of Chinese students to bolster falling revenues in Australian HE (Jiang, 2012). Reasonable and affordable tuition fees charged by Australian universities,

globally recognised qualifications and Australia's geographical location (the closest Western country to China), also play a part (Wong, 2012).

With an increasing number of students from China pursuing education in Australia, an important consideration is understanding how these students approach their learning in Australian universities. Research has revealed that not every Chinese student thrives in the Australian education system (Brunton & Jeffrey, 2014; Ryan & Dogbey, 2012). A multitude of challenges have been identified that are encountered by CIS when studying in Australian universities (Brunton & Smith, 2012; Ryan & Dogbey, 2012). For Chinese students, the transition to a different education system, coping with different learning approaches and adjusting to another social and cultural context can give rise to anxiety, in addition to academic, linguistic challenges that result in their feeling disorientated and overwhelmed (Holmes et al., 2016). Chinese students are sometimes perceived as 'rote learners' and 'reduced other' (Biggs, 1996; Rao & Chan, 2010; Xu, 2019) with a preference for teacher-centred classes and a reliance on rote surface learning (Durkin, 2011; Turner, 2013). As such, there are a range of issues that could potentially affect Chinese students' learning outcomes and satisfaction within the Australian context including their approaches to learning, linguistic and communication barriers (Durkin, 2011; Turner, 2013).

Considerable evidence supports the notion that some CIS do not struggle because they lack the prerequisite academic skills, but rather because of the difficulties associated with the cultural dimensions of teaching and learning (Clason, 2014; Heng, 2016; Wu, 2015). In other words, CIS might struggle in Australian universities because they hold different beliefs, values, and expectations about teaching and learning (Clason, 2014), which potentially could contradict Australian norms. It would thus appear that more research is needed to help determine how the CIS' learning experience is perceived by themselves, those they learn with and those they are taught by in Australian universities.

### ***1.2.2 Internationalisation in Australian Universities***

Internationalisation has become a conspicuous feature of higher education across the world due to globalisation and the adoption of neoliberal economic policies (Grainger & Christie, 2015; Salter, 2013). Australian universities, in common with other institutions around the world, have engaged in internationalisation, to their share growing from 6% of the world's international students in tertiary education in 2013, with 17.97% of the total enrolment made up of international students in 2015 (Education at a Glance, 2015), and 25% in 2016 (Sa & Sabzalieva, 2017). In fact, the growth in the number of international students in Australian universities has positioned Australia as the third largest provider of

international education in the world, just behind the USA and the UK (DESE, March, 2020). International education has become Australia's third largest export industry (Lilley, 2014), and a large source of revenue for the Australian economy with some \$37.6 billion of income generated in 2018-2019 (DET, 2019). The figures for international students have been rising (DET, 2019), however, the COVID-19 pandemic has caused "unprecedented disruption" to the international student market that may have ongoing consequences for Australia, particularly in relation to Chinese students (Martin, 2020, p. 5). According to Martin (2020), an estimated 120,000 international students were locked down overseas because of travel bans, which has resulted in a decline of revenue of around \$AUD 3 to 4.6 billion across Australian universities in 2020 (Universities Australia, 2020), with high anxieties about what the future may hold for international education in Australia (Martin, 2020).

Until now, Australian Internationalisation has been a salient feature since 2012 with a dramatic rise in the number of students from China studying in Australian universities (Clason, 2014). Chinese students have constituted "the largest share" of Australian international student enrolments (Yang, Farley, & Le, 2018, p. 5), comprising some 40% in 2017, 38.3% in 2018 (DET, 2018), and 37.3% of the international student population in 2019 (DESE, 2019). As such, Chinese students are an extremely valuable resource for the Australian economy, both through their expenditure while they are studying and in the longer-term contributions that they make should they remain in the country on completion of their degrees (Group of Eight, 2014).

The influx of Chinese international students entering Australian universities has brought about the emergence of the notion 'super complexity' (Barnett, 2000) in Australian tertiary education. Admittedly, the growth in Chinese student numbers is recognised as multi-faceted, benefiting the country economically and educationally, enhancing Australia's international influence, increasing cultural awareness, and preparing the workforce for globalisation (Australia Education International, 2010; Hellsten, 2010).

However, a number of problems have emerged with the culturally and linguistically diverse Chinese students' presence in Australian universities. For Australian academics, frustration with Chinese students' performance, frequently related to language capabilities and different approaches to learning, is not uncommon (Clason, 2014; Heng, 2016). For Australian institutions, a number of perceived issues could potentially affect not only students' learning outcomes and satisfaction (Caluya et al., 2011; Gunawardena & Wilson, 2012; Ryan, 2011), but also Australian academics' teaching experience.

The increasing dominance of neoliberal policy in Australian higher education has resulted in a heavier reliance by universities on the revenue gained from international

students, such as those from Chinese, for economic sustainability (Xu, 2016, 2019). Faced with fierce competition in the international student market, Australian universities have sought to attract and retain international recruitment for economic sustainability, particularly targeted at large providers like China (Sawir, 2013). In such a case, an urgent question arises as to whether current curricula in Australian universities are adequately 'internationalised' to cater for the learning needs of, not only international students, but also domestic students.

Academic literature on international students shows that there has been considerable research on Chinese students' learning (Ryan, 2011), but a dearth of research has gone into the real nature and context of Chinese students studying in Australian universities in an all-round way, namely, from the perspective of Chinese students themselves and their Australian peers and lecturers (Clason, 2014; Wong, Cooper, & Dellaportas, 2015). A particular gap that has not been adequately explored relates to the learning experience of Chinese students in Australia (Wong et al., 2015; Wu, 2015). As such, there exists a need for Australian educators to develop a greater understanding of these learners, as pointed out by scholars such as Grimshaw (2007), Ryan (2011, 2016), and Wong et al. (2015). In the face of tight financial restraints in Australian universities, recruitment and retention of CIS is of vital significance (Wu, 2015). It is important to investigate whether the teaching and learning approaches currently utilised are adequate for improving the quality of internationalised teaching and learning in Australian higher education (Li, 2012).

### **1.3 Aims of the Research**

This investigation sought to determine a viable framework or set of guidelines to assist Chinese international students to have an appropriate and satisfactory educational experience in Australia. This research aimed to provide a more nuanced understanding of how learning approaches are perceived by Chinese international students but also by their Australian counterparts as a way of accommodating the development of realistic expectations regarding successful learning in Australian universities. A second aim was to explore Australian academics' perceptions of CIS' learning to assist with accommodating internationalised learning. Finally, this study also aimed to explore the interrelations between the approaches Chinese students adopted for their learning and the contexts in which they are placed in Australian universities (e.g., instructional and institutional factors).

An appropriate population for this study was students from China and academics teaching both CIS and ADS. It was anticipated that this study could assist CIS to better understand how they learned in comparison to their Australian peers so they could not



only survive, but thrive, in Australian higher education. Another aim was to seek insights from Australian academics after reflecting on the methods generally used to teach both CIS and ADS, in the hope of identifying appropriate strategies. It was anticipated that characteristics related to CIS' learning approaches in Australian tertiary education could be identified, thereby enabling negotiation and adjustment of learning and teaching in Australian higher education.

#### **1.4 Research Questions**

The central research question that emerged from the review of the literature and the identified gaps in current knowledge that will be investigated in this thesis is:

**What are the perceptions of Chinese international undergraduates and their Australian student counterparts and lecturers regarding approaches to learning used in Australian universities?**

To help inform the data collection and analysis required to answer this question, two sub-questions were devised:

**1). What typifies Chinese international undergraduates' approaches to learning in Australian universities as compared with their Australian peers?**

- a) From the perspective of Chinese international students (CIS) and Australian domestic students (ADS)
- b) From the perspective of academics teaching both CIS and ADS

**2). How do CIS and their lecturers negotiate and adjust their approaches to learning and teaching in Australian universities?**

- a) From the perspective of CIS
- b) From the perspective of academics

#### **1.5 Significance of the Study**

The purpose of this study was to examine the perceptions of the Chinese international students and their student counterparts and their lecturers regarding approaches to learning in Australian universities, as well as to identify effective strategies CIS and academics chose to adapt and adjust their learning and teaching. This research is expected to make a significant contribution to understandings that inform future teaching approaches adopted for international students by Australian universities.

First, with the growing number of Chinese students studying in and integrating into Australian HE, it is important to understand how this group acculturated themselves to the Australian style of learning and teaching and the impact this had on their experience as learners in Australia. A thorough examination of CIS' perceptions of their learning approaches provided the opportunity to develop awareness of the learning and teaching

differences in Australian universities so that adaptive measures could be recommended to enhance their learning.

Second, with Chinese students comprising the largest international population in Australia, an important consideration for universities is to review the internationalisation of curricula so as to properly accommodate, not only this particular cohort, but also Australian domestic students, who also need to embrace globalisation. It was anticipated that academics would be able to identify particular strategies and methods they used to cultivate deep learning among students. Through understanding the learning differences of CIS compared with ADS, academics have an opportunity to reflect on the effectiveness of their pedagogical approaches to both local and international students.

Third, attracting international students has become an important part of the business of Australian universities (Martin, 2020; Wang, Andre, & Greenwood, 2015). Given the competitive pressures on Australian institutions vying for international students, universities need to ensure their reputation in providing positive learning experiences in order to retain the edge in the market share. Consequently, CIS' insider perceptions of their learning experiences could inform Australian educational institutions with a deeper understanding of how to create a more welcoming and supportive university environment for commencing international students, to assist with student retention.

## **1.6 Structure of the Thesis**

This thesis comprises eight chapters.

This initial chapter has introduced the nature and context of the study and outlined the background, aims and significance. The research questions have been presented and the organisation of the thesis has been outlined.

Chapter 2 will examine the existing literature relating to student approaches to learning and CIS' learning experience abroad, particularly in the Australian context. The conceptualisation of Student Approaches to Learning (SAL) theory, as well as the literature relating to the instrument and model relevant to this study, will be introduced with principal emphasis on deep and surface learning. The notion of "Chinese learners" and typical Chinese learning behaviours in western universities will be discussed with a focus on the much discussed "Chinese paradox". Also, the internationalisation of teaching in Australian HE will be reviewed.

Chapter 3 will outline the research design and methodology employed to conduct the study, including an explanation of the justification for the decisions involved in reaching the final methodological framework, which will encompass a mixed methods approach for data collection and analysis. This chapter will also include a description of

the survey instruments and interview schedules and the process of data collection and analysis.

Chapter 4 and Chapter 5 will present the data analyses and initial findings emanating from the surveys and interviews. The main focus of Chapter 4 will be the survey data obtained from local and Chinese student participants, while Chapter 5 will cover interview data from Chinese students and Australian lecturers in two universities. Survey data were analysed mainly using SPSS.25 (Statistical Package for the Social Sciences), and predominantly illustrated in the form of diagrams and tables. Qualitative data collected from interviews with both CIS and lecturers utilised NVivo.12 for theme identification which is mainly presented in the form of narratives and theme tables.

Chapter 6 will present the highlights of the findings and discussions related to CIS' learning and teaching in Australian universities as perceived by themselves, their Australian student counterparts and their lecturers, focusing on the nature and perceptions of CIS' learning approaches.

Chapter 7 will provide an overall consideration of the propositions and implications of this research, including the proposal of a Co-constructed Model of Learning and Teaching for CIS in Australian universities, and the associated implications for CIS, academics and Australian institutions.

Chapter 8 will provide a conclusion for this thesis, summarising the main contributions of the study, the limitations and future research directions.

## **1.7 Chapter Summary**

This chapter has outlined the nature and context of this study on the learning approaches used by Chinese international undergraduates in Australian universities. It has provided an overview of the study through describing the background and context and also the aims and significance. The research questions that emerged from a review of the extant literature on the topic have been presented and a synopsis of the thesis structure has also been provided. The next chapter will provide a review of the current literature that has informed the study.

## **Chapter 2 Review of Literature**

This chapter will provide an extensive examination of the academic literature on student approaches to learning, and Chinese international students' (CIS') learning and teaching experiences abroad, particularly in the Australian context. The review of literature will pursue three main lines of inquiry, namely, conceptualisation of learning, theories on student approaches to learning, and theories around 'Chinese' learning particularly in Australian universities. It was intended that this review would ascertain a methodological path for the study and help conceptualise the approaches towards learning and teaching of CIS in western universities, particularly in Australian universities.

This chapter will commence with a theoretical review of student learning focusing on a change in orientation to learning, followed by a conceptual review of student approaches to learning and an examination of the related instruments and models employed to detect approaches to learning. Previous literature regarding Chinese students' learning experiences in Western higher education institutions, particularly in the Australian context, will then be explored. Underlying assumptions regarding Chinese students' learning characteristics and approaches to learning will be examined including the perceived phenomenon of the "Chinese paradox". Finally, the gaps in the literature will be identified. It is hoped that the issues, as directly related to research, will help inform stakeholders (i.e., international students, particularly those from China, lecturers, faculties, and administrators) of the role that students' approaches to learning may play in HE, specifically how deep or surface approaches to learning aid or hinder learning in various situations.

### **2.1 Conceptualisation of Learning**

Students' approaches to learning are often borne out of a particular orientation to learning. An overview of learning and of learning orientations provides necessary background for investigating the underlying assumptions associated with the specific approaches used by students in their learning. The following section, serving as the first line of this review of literature, offers a review on the conceptual study of learning after a clarification of the related terminology, with emphasis on the shift in learning orientations.

#### ***2.1.1 Terminology Associated with Student Learning***

Cassidy (2004) asserts that certain terms associated with student learning, such as 'learning style', and 'learning strategy' are "frequently used imprecisely in theoretical and empirical accounts of the topic [regarding student learning]" (p. 420). Accordingly, it is essential to begin by differentiating the key terms used in the current study.

**Learning Approaches.** A learning approach is defined by Entwistle (1991) as a concept that describes “the specific form of study activity provoked by the student’s perception of a task instruction on a particular occasion” (p. 201). Biggs (1987) defines a learning approach as a “complex of motivation” on learning and the selection of the “appropriate strategies” adopted by students to learn (p. 104). In other words, it is a motive-strategy complex (Biggs, 1993), which is frequently used to depict the nature of the relationship between the student, context, and task (Biggs et al., 2001). Marton and Saljo (1976) emphasise that an approach to learning includes not only *process* but also learning *intention*, and identify approaches as either deep approach (DA) or surface approach (SA). It is generally accepted that a DA contributes positively to learning performance whereas a SA negatively leads to learning outcomes (Zeegers, 2001), and thus it is considered essential to encourage students to adopt a DA rather than SA (Felder & Brent, 2005). In addition, a third learning approach was identified as either a ‘strategic approach’ by Entwistle and Ramsden (1983), or an ‘achieving approach’ by Biggs (1987), which was underpinned by motivation for high academic achievement. This approach, however, was later combined into the categories of DA and SA by Biggs et al. (2001).

**Learning Styles.** The concept of ‘learning styles’ has been used to assign a wide variety of student attributes and differences. Pask (1976) describes learning styles as general preferences indicating relatively stable behaviour patterns rooted in personality differences or cerebral dominance, which are the result of the interplay between the students’ personal characteristics and the context in which learning occurs (Vermunt, 2005). Entwistle and McCune (2004) differentiate between the two terms, describing ‘learning approaches’ as a conflation of intention and process while ‘learning styles’ pertain to students’ preferred learning processes. Pask (1976, 1988) suggests the term ‘style’ not only indicates the kind of learning that is relatively stable over time and context, but also involves individual preferences in choosing between differing learning processes. Biggs (1993) adds clarification that the concept of ‘approach to learning’ is clearly distinguishable from that of ‘learning style’ on the grounds that learning styles refer to structure rather than to process, but some scholars such as a Schmeck (1988) and Richardson (2011) argue that, they are equated or reconciled in that students’ approaches to studying do not solely depend on students’ perceptions or interpretations of the learning contexts, but also their conceptions of learning, which are relatively stable attributes of students.

**Learning Strategies.** Learning strategies, as defined by Pask (1976), are the preferences shown in tackling a task. Hartley (1998) describes learning strategies as the specific strategies that students adopt when studying, and further explains they may be

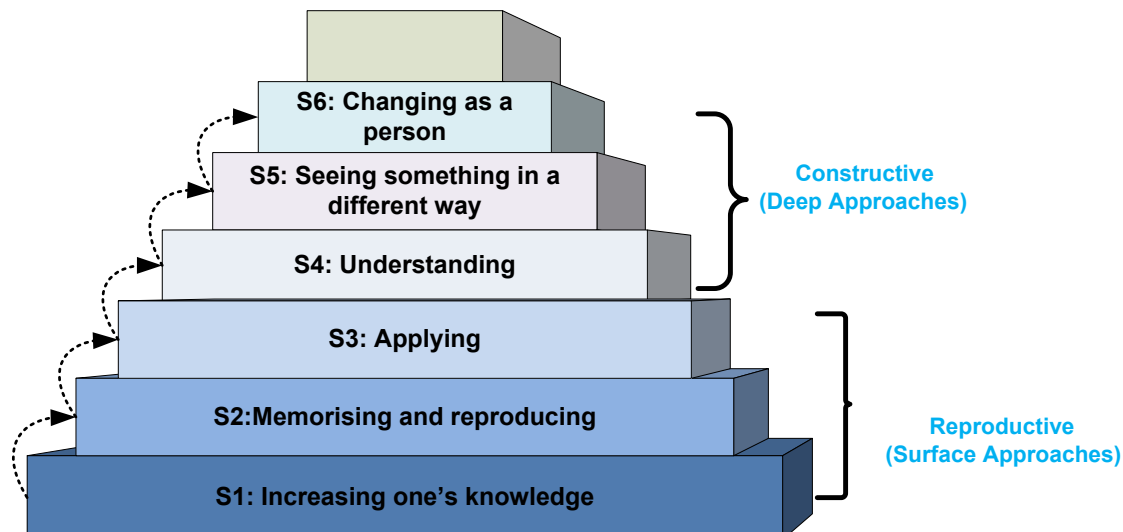
context specific. Cassidy (2004) uses the analogies of “motherboard/software” and “hard wiring/soft wiring” to describe the interface of learning style and learning strategy, with styles being the “motherboard or hard wiring” and strategy the “software or soft wiring” (p. 421). According to Cassidy (2004), a learning style can be a “trait-or-state”, which is stable over time (a trait), or changing with each experience or situation (a state) while learning strategies are “optional” and less “automatic” than learning styles (p. 421).

## 2.1.2 Conceptions of Learning

The conceptions of learning were first initiated by Saljo (1979), then established by Marton, Saljo, and Beaty (1993), and expanded by Hattie and Marsh (1996) in a hierarchical category. Marton et al. (1993) categorised five (later extended to six) “qualitatively different” conceptions of learning, through which students are assumed to move during their study at university (Haggis, 2003, p. 90). Figure 2.1 illustrates the conceptions of learning starting from reproduction at the lower level, where learning is viewed as an increase in knowledge, to a higher stage, where learning is seen as a construction of meaning and a becoming of individuals (Haggis, 2003).

Figure 2.1

*A Hierarchy of Conceptions of Learning*



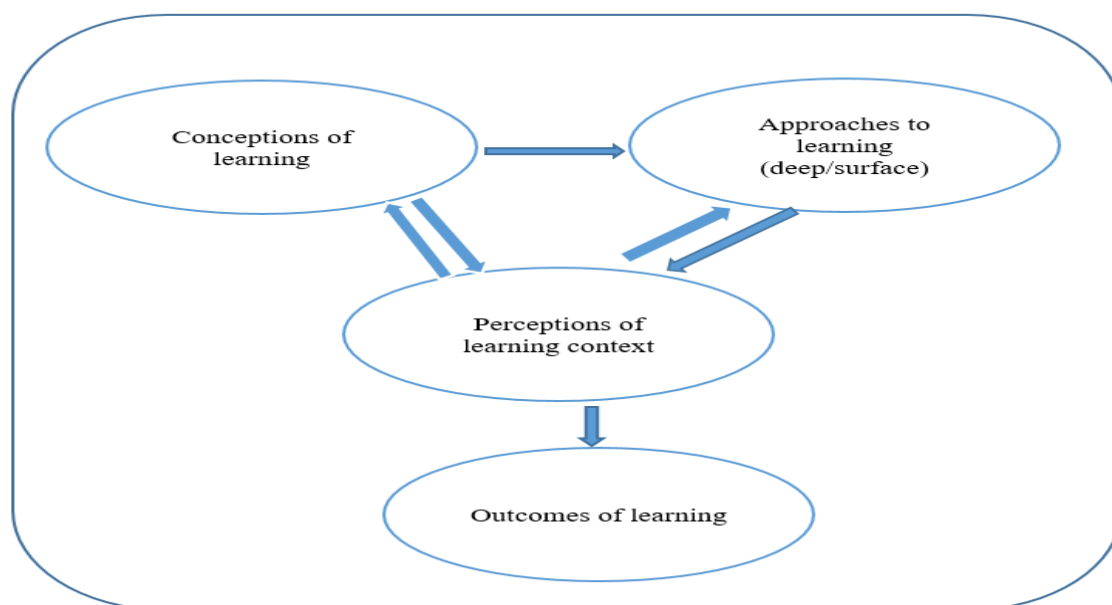
Note: S stands for 'stage'. Based on “*Teaching and Learning in Higher Education*” by B. Dart and G. Boulton-Lewis (Eds.), 1998, p. 225. Australian Council for Educational Research. Copyright 1998 by Australian Council of Educational Research, Victoria.

These conceptions of learning were further reduced into two categories by Van Rossum and Schenk as the “reproductive approach” and the “constructive approach” (Dart & Boulton-Lewis, 1998, p. 225), and further identified by Haggis (2003) as ‘surface learning’ and ‘deep learning’. Haggis (2003) argued that students at the bottom of the hierarchy were liable to adopt a surface approach while those at the top, a deep

approach. Where a learner's primary intention is to reproduce or retain the knowledge presented and when "quantitative, memorising and acquisition conceptions" are applied, as indicated in the three bottom levels in Figure 2.1, surface learning is likely to be the result (Haggis, 2003, p. 90). In contrast, when abstraction, understanding reality and developing as a person are applied, deep learning is more likely to take place, as illustrated in the top three levels in the hierarchy in Figure 2.1, with students' chief intention to comprehend the meaning of the task. Haggis (2003) suggests that conceptions of learning and approaches to learning are linked by how students perceive their learning context, which is ultimately related to their outcome of their learning. For example, if one believes that memory is rewarded, then the learner may resort to a 'surface approach' as appropriate for that context. In other words, how students make sense of the linked relationship between conceptions of learning and approaches to learning and perception of the learning environment give rise to different learning performances. The relationship between conceptions of learning, approaches to learning and perception of learning context based on Haggis' (2003) work is summarised in Figure 2.2.

Figure 2.2

*The Relationship between Conceptions, Approaches, Perceptions and Outcomes of Learning*



Note: Based on "Constructing Images of Ourselves? A Critical Investigation into 'Approaches to Learning' Research in Higher Education" by T. Haggis, 2003, British Educational Research Journal, 29(1), 89-104. <https://doi.org/10.1080/0141192032000057401>. Copyright 2003 by the British Educational Research Association

In Figure 2.2, the double arrows represent the recurring relationship between the perceptions of learning context and conceptions of learning and approaches to learning.

That is, how one perceives the learning context is determined by their understanding of learning, which, in turn, is influenced by an individual's perception. Likewise, one's perceptions of the learning environment impact on their choice of learning approach, which, conversely, influences how one makes sense of the learning context.

### ***2.1.3 A Shift in Orientation to Learning***

In order to better understand how learning occurs, it is important to review the relevant learning orientations embodied in various learning theories. Learning theories are conceptual frameworks that explain how knowledge is acquired, processed and retained during learning, and which provide “the foundation for intelligent and reasoned strategy selection” (Ertmer & Newby, 2013, p. 44) in both learning and teaching. Three relevant orientations on learning (behavioural, cognitive and constructivist) are important to examine in terms of their specific interpretation of learning and learning processes, plus the concomitant implications for learners and educational practitioners. By comparing these three learning orientations, this section illustrates how differences in learning theories might be translated into practical applications in learning and teaching with the aim of providing structured foundations for later planning and conducting instructional design activities for this thesis.

The orientation to learning is referred to by Biggs (2001) as the preference, or natural tendency, to adopt a particular approach to learning. Ramsden (2003) argues that students' perception of their learning is affected by their orientation to studying. Lucas (2001) contends that learning orientation varies according to context and involves “generalised approaches to studying” (p. 162), or a combination of “approaches, styles, motivations and study methods” that students employ in their learning and studying (Entwistle & Ramsden 1983, p. 202).

A vast number of orientations have been generated to account for how learning is acquired. However, most are based on the following three paradigms: behaviorism, cognitivism and constructivism.

**Behaviorism.** Behaviorism was based on the idea of stimulus-response and the notion of operant conditioning. Beginning with Pavlov and Skinner, behaviorists first defined learning as the acquisition of a new behaviour or change in behaviour (Agarkar, 2019), accomplished when a stimulus from the environment is presented and the learner reacts to the stimulus with a certain response (Ertmer & Newby, 2013). Behaviourism views learners as ‘blank slates’ open to experiences of learning, with desired behaviours reinforcing through repetition until the new behavioural pattern becomes automatic (Ertmer & Newby, 2013). As such, learning occurs when learners can generalise and



apply their newly acquired skills, knowledge, and understandings to new situations (Bryant, et al., 2013). Key assumptions of behaviorism include:

- Behaviors are “observable and measurable”;
- Behaviors can be “predicted and controlled”; and
- Behaviors are a product of individuals working within the context of their environments (Bryant et al., 2013, p. 92).

The Behaviorist orientation to learning places instructors at the centre of learning (Pratt & Nesbit, 2000), with classroom interaction mainly teacher-centred. Behaviorists believe that repetition is a major tool to ensure knowledge fixation (Agarkar, 2019), and students’ performance (mainly presented by grades) can be achieved by reinforcing desired learning behavior (Parson & Major, 2020). Behaviorists also hold that it is the learners’ responsibility to make the best responses to assigned learning activities and assignments (Barkley & Major, 2020).

Although behaviorist principles have generally been found “functional and effective” in facilitating student learning particularly in factual recall or the application of experiences (Ertmer & Newby, 2013, p. 60), they have been critiqued as inappropriate in fully explaining the acquisition of higher-order skills or those that require a greater depth of processing, for instance, in problem solving, inference generating or critical thinking (Schunk, 1991). Parson and Major (2020), argue that the focus on students’ outward behaviours as the manifestation of learning rather than the examination of cognitive process, means that behaviorism fails to present a full picture of learning. Moreover, the behaviorist assertion that learning is viewed as the resultant stimulus-response, fails to take into account that humans are contextual beings, whose development, disposition and motivation are socially and culturally interacted (Bryant et al., 2013).

**Cognitivism.** Although behaviorists interpret learning from the overt appearance of behaviours, they fail to account for the internal process that takes place in the human mind. Cognitivism evolved as a direct reaction to behaviorism, stemming from the idea that “learning takes place through unobservable mental actions within the mind/brain that are influenced by the learner’s own thoughts and experiences” (Paciotti, 2013, p. 105). With a focus on the conceptualisation of the learning process, cognitivism addresses issues of how information is received, organised, stored, and retrieved by the mind (Ertmer & Newby, 2013). A cognitivist perspective supports the ‘black box’ of the mind being opened, studied, and understood (Parson & Major, 2020), with learning more concerned with *what* learners know and *how* they come to acquire knowledge rather than simply with what they *do* (Jonassen, 1991).

Of the various cognitive theories, the information processing (IP) framework is one of the most well-known. This framework, underpinned by the levels of processing (LOP)

model and postulated by Craik and Lockhart (1972), suggests that learning processing is a sequence of “informational paths”, using the cognitive steps of coding, storing, retrieving and transferring information (Gullas et al., 2016. p. 2), and that incoming stimuli, such as words, are subjected to a series of analyses starting with shallow sensory analysis and proceeding to deep semantic analysis. According to the LOP model, the level at which information is processed depends on the nature of the stimuli and the amount of time available for processing, and only the active processing (thinking) that goes into the original learning can determine the nature and extent of subsequent memory of the episode. Craik and Lockhart (1972) suggest that only those concepts that are meaningful to learners are more likely to be processed deeply, because they could trigger associations with learners’ experiences in the past.

Unlike behaviorism, the cognitive orientation to learning theory stresses the promotion of learners’ internal mental process in the acquisition of knowledge instead of the external circumstances (Snelbecker, 1983). Cognitivists hold that it is the learner who plays an active role in seeking ways to comprehend and process information received and relates to what is already known and stored within the memory (Parson & Major, 2020). Cognitivists emphasise the instrumental guidance of student learning, making knowledge meaningful and helping learners organise new information in their cognitive schema. In cognitivism, classroom instruction should be based on students’ existing mental structures, assisting them in relating new information to their existing knowledge in a meaningful way (Agarkar, 2019).

The cognitivist orientation to learning signifies a focus shift in education from teaching to learning and from instructors to learners. However, the information-processing model, derived from the study of brain processes, has been met with critique, challenging the notion of thinking, as embodied in this model, being described as computation, which fails to map the full picture of mental processes. In addition, it is also noted that, given its almost singular focus on mental processes, cognitivism is criticised as being ignorant of the social nature of learning and the contexts within which learning and teaching occurs (Entwistle, 2010; Paciotti, 2013; Wheeler, 2007).

**Constructivism.** Dewey (1938), originally a proponent of cognitivism, insisted that learning not only involved “learning to think” (p. 19) but also the real-world experience. In his perspective, for learning to take place, it needed to be meaningful to learners, with their critical “experiencing and reflecting” on information presented (p. 19). He highlighted the importance of inquiry into cognitive activities, maintaining that knowledge was the result of an individual's active inquiry. However, Dewey's educational ideology became one of the sources of the next paradigm—constructivism. The principles and practices, as suggested in his “tri-centred theory” that takes ‘learners’ (or children),

'activity' and 'experience' as the centres of learning became the foundation of constructivism (p. 19).

As such, constructivism is based on the premise that learners can construct their own learning based on their experiences and do so within a social context (Barkley & Major, 2020). Built upon the philosophical and psychological roots of cognitivism, constructivism holds that learning is a change in meaning constructed from learners' experience (Ertmer & Newby, 2013), which is both cognitively individual and socially contextual. Central to the tenet of constructivism is that learners are active self-directed agents (Tam, 2000), and learning occurs only when the learner interprets and makes sense of the meaning of their experiences from the world (Bednar et al., 2013). Learning, therefore, is a process where the learner adjusts their mental models to accommodate new experiences to their existing knowledge. As contended by Jonassen (1991), it is the specific interaction between learners and the environment that construct knowledge.

There are two main strands related to constructivist theories, with one referred to as cognitive constructivism. Piaget can be considered a constructivist in so far as he framed learning in terms of universal, progressive cognitive stages (Kruckeberg, 2006), although he saw learning as an individualised rather than social activity (Inhelder & Piaget, 1958). Vygotsky's (1978) version of constructivism, on the other hand, viewed knowledge as socially constructed, beginning with social interactions within historically situated communities that are eventually internalised. Vygotsky also postulated the theory of the Zone of Proximal Development (ZPD), in which he distinguished the following two categories of cognitive developmental levels:

The level of actual development is the level of development that the learner has already reached, and is the level at which the learner is capable of solving problems independently. The level of potential development (the zone of proximal development) is the level of development that the learner is capable of reaching under the guidance of teachers or in collaboration with peers (Vygotsky, 1978, p. 85).

As such, the ZPD represents the difference between what a learner can do without help and what they can do with help (Parson & Major, 2020).

Much of what passes as constructivism in the literature has been heavily influenced by cognitive psychology (Kruckeberg, 2006), where knowledge is described in terms of internal, mental constructs that are actively structured, rather than passively received from the external environment. However, the basic tenet of constructivism is that learning is a process of constructing meaning (Clason, 2014), with individuals actively building up knowledge based upon the interaction of prior knowledge and the ideas or phenomena they encounter (Steffe & Gale, 1995). With emphasis on active or discovery learning,

constructivism calls for student-centred curriculum and instruction. However, if too much reliance is placed on students, instructors' role in presenting important ideas and monitoring reliable procedures for inquiry might be compromised, as noted by Parson and Major (2020). Narayan et al. (2013) contend that translating the ideology of constructivism to instructional practice is "difficult, unstructured, and imprecise" (p. 25). Indeed, effective learning activities may require structure as well as effective facilitation. As Kirschner et al. (2006) argue, "the constructivist description of learning is accurate, but the instructional consequences suggested by constructivists do not necessarily follow" (p. 78). Therefore, it is critical to "deconstruct and scrutinize cultural assumptions that underlie various interpretations of constructivism to expose how social beliefs have influenced the development of theory and practices (Narayan et al., 2013, p. 174).

**From Behaviorism to Cognitivism and Constructivism.** As in higher education elsewhere around the world, behaviorist theory of learning was prevalent in Australian HE for a long time. But in the late 1950s, Australia witnessed a shift away from the use of behavioural models to approaches that relied on cognitive sciences (Ertmer & Newby, 2013). This shift from a behavioural orientation (where the emphasis is on promoting a student's overt performance by the manipulation of stimulus material) to a cognitive orientation (where the emphasis is on promoting mental processing) has created a similar shift from procedures for manipulating the materials to be presented by an instructional system to procedures for directing student processing and interaction with the instructional design system (Merrill, Kowalis, & Wilson, 1981).

With the surge of constructivism around the 1980s, a concomitant shift also took place in Australian HE towards cognitivist and constructivist orientations that place the emphasis on the learner rather than the teacher, at the centre of learning. This shift is described in the literature as a change from a content or teacher-centred educational approach to a learner-centred approach, as signified by Ertmer and Newby (2013). Today, constructivism has become the dominant orientation to learning within HE including in Australia, and frequently serves as the foundation on which active learning methods are underpinned (Clason, 2014). Although cognitivism and constructivism are distinguishable in their foci, with the former stressing the promotion of mental processing while the latter emphasising the active building up of knowledge, the core commitments are the same. That is, both learning theories assume that knowledge is not acquired by direct transmission from the instructor to the learner.

The shift in orientation from behaviorism to cognitivism and constructivism necessarily involved a greater emphasis on the learner. That is, a change from 'how to teach' to 'how to learn', with learners being the active agents. As pointed out by Ertmer and Newby (2013), "as one moves along the behaviorist-cognitivist-constructivist

continuum, the focus of instruction shifts from teaching to learning, from the passive transfer of facts and routines to the active application of ideas to problems” (p. 58). Faced with various learning theories, a critical discourse among academics is not concerned about “the best theory”, but “the most effective” strategy for fostering learners’ mastery of specific tasks, as argued by Ertmer and Newby (2013, p. 60). Similarly, Agarkar (2019) points out that the shift in classroom interaction does not mean that new learning theory has made earlier theories obsolete, as the learning theory to be adopted essentially depends on both the “*topic*” to be delivered and the “*objective*” to be obtained (Agarkar, 2019, p. 858). As suggested by some scholars such as Agarkar (2019) and Ertmer and Newby (2013), if certain skills are to be cultivated among the learners, then a behaviorist approach would be effective. However, while a cognitivist approach would be considered appropriate if the objective was to foster learners’ cognitive schema, a constructivist approach would be adopted if the goal was to nurture learners’ independent critical thinking ability.

## **2.2 Student Approaches to Learning**

In the context of higher education, research about student learning is frequently taken to refer to research on approaches to learning, which has drawn considerable attention in recent years based on the rationale that students’ approaches to learning can affect their academic performance. Students approach their learning in qualitatively distinct ways, as recognised by scholars such as Asikainen and Gijbels (2017), Biggs (1987), Biggs et al. (2001), Dolmans, et al. (2016), Entwistle and Ramsden (1983), Heng (2018), and Wong et al. (2015). Though an increasingly varied array of models and conceptual frameworks are employed to comprehend student learning, much of the HE research is either based on the conceptions of ‘deep’ and ‘surface’ approaches to learning (Asikainen & Gijbels, 2017; Marton & Saljo, 1997), or takes them for granted (Haggis, 2009). Approaches to learning are seen as powerful means of modelling student learning and the quality of learning outcomes (Duff, Boyle, & Dunleavy, 2002), providing “a bridge between the learning environment and cognitive/learning styles” (Ak, 2008, p. 717). A significant application of effective learning and teaching, therefore, can be implied through a thorough examination of the literature on student approaches to learning.

In the following section, the literature will be examined in relation to student approaches to learning in three areas: conceptualisations (i.e., definitions), instrumentation (i.e., measurement) and modelling (i.e., specification) of deep and surface learning.

### **2.2.1 Student Approaches to Learning Theory**

Gaining an understanding of the way in which students approach their learning is a prerequisite for teaching. While previous research mainly centred on study processing, utilising the framework of Marton and Säljö (Asikainen & Gijbels, 2017), studies now generally differentiate two qualitatively different approaches to learning: the deep approach (DA) and surface approach (SA) (Biggs 2003; Prosser and Trigwell 1999). The student approach to learning (SAL), as “the earliest cogent theoretical framework” for research into student learning (Dinsmore & Alexander, 2012, p. 507), is frequently utilised to identify levels of learners’ engagement in learning. Biggs et al. (2001) remarked that SAL theory has, in fact, become “a metatheory for conceptualising teaching and learning” (p. 134), and the notion that students’ perceptions and learning-related activities are central to teaching and learning is common to all SAL sub-theories (Biggs et al., 2001; Entwistle & Waterston, 1988). Marton and Saljo (1976) originally categorised two levels of learning processing: the deep approach (DA) and the surface approach (SA) to learning, with an attempt to distinguish learning for meaningful comprehension and for the purpose of reproduction or passing tests. According to Marton and Saljo (1976), DA invokes learners’ intrinsic intention to comprehend the meaning of learning tasks while SA induces learners’ extrinsic intent toward the task itself. Entwistle and Ramsden (1983) and Biggs (1987) theorised a third category termed either as an ‘achieving’ or ‘strategic’ approach, which refers to using organised efforts to learning which are motivated by achieving higher grades (Biggs, 1987). The concept of an achieving approach, however, was later dropped by Biggs et al. (2001) and Entwistle et al. (2002) and considered a vague learning approach categorised into either the deep or surface approach (Case & Marshall, 2009). Biggs (1988) argued that approaches to learning involve an individual’s motivation and thus the adoption of appropriate strategies, and as such describes the nature of the relationship between the student, context, and the specified task (Biggs et al., 2001).

Various definitions have been assigned to approaches to learning. In Marton and Saljo’s (1976) perspective, the coexistence of intention and process is involved, while Entwistle (2007) focuses on the combination of intentions (or motives) and the accompanying learning activities. Biggs (1987) characterises approaches to learning as “congruent motive-strategy packages” (p. 12), each encompassing a motive and related strategy.

**2.2.1.1 Deep Learning or Surface Learning.** Deep learning (DA) and surface learning (SA) are two key concepts in the SAL theory. According to Webb (1997), the notion of DA and SA has become a “foundation stone” upon which much of the research,

theory and practice of higher education has stood (p. 195). As suggested by Dinsmore and Alexander, (2012), if research on student learning is going to have any bearing on practice, it is of the utmost importance to look at the conceptualisation of deep and surface learning.

According to Entwistle and McCune (2004), DA is associated with an intention to understand, while SA is always accompanied by an intention to reproduce. As defined by Chamorro-Premuzic et al. (2007):

A deep approach to learning is characterized by intrinsic motivation, engagement with the subject matter, and the desire to know everything about a given topic. Conversely, students who opt for a surface approach to learning are not interested in the task per se, but aim at learning the minimum amount of material required to pass (p. 242).

Biggs (1987) argues that deep learners are those who typically learn “for the real understanding of content together with the processes of relating and structuring ideas... and critically evaluating knowledge, and trying to apply what is acquired to the real world”, while surface learners are those who learn “for reproduction of content, with learning processes characterised by rote learning and memorisation” (p. 71). In a similar vein, Entwistle and Ramsden (1983) also suggest that a deep learner relates what was learnt to their personal experiences with an intention to integrate the whole relationship. In contrast, a surface learner merely focuses on the fragments of the task presented rather than the whole, tending to define it as a memory task external to oneself.

Literature highlights that a deep approach is associated with higher quality learning outcomes whereas a surface approach is linked with low quality of learning performance, (Asikainen & Gijbels, 2017, Biggs et al., 2001; Entwistle & McCune, 2004; Dolmans et al., 2016; Marton & Saljo, 1997; Zeegers, 2001). Case and Marshall (2009) comment that the deep approach to learning is viewed as reflecting generally held avowed aims of higher education. This is supported by both Felder and Brent (2005) and Asikainen (2014) who highlight the importance of fostering deep approaches to learning in HE.

Developed from what has been recognised in the aforementioned literature, the differences between deep and surface learning are summarised in Table 2.1.

Table 2.1

*Documented Differences between Deep Learning and Surface Learning*

<b>Category</b>	<b>Deep learning</b>	<b>Surface learning</b>
<b>Learning intention</b>	Understanding (Baeten et al., 2010; Weinstein & Mayer, 1991)	Reproduction (Biggs, 1984; Entwistle et al., 1983)
<b>Learning strategies</b>	To understand (Biggs, 1984; Entwistle et al., 1983; Zeegers, 2001)	To memorise (Biggs, 1984; Biggs et al., 2001; Entwistle et al., 1983)
<b>Learning motivation</b>	Intrinsically motivated (Baeten et al., 2010; Entwistle & McCune, 2004; Entwistle et al., 1983)	Extrinsically motivated (Baeten et al., 2010)
<b>Learning outcome</b>	Engagement and satisfaction (Biggs, 1988; Chamorro-Premuzic et al., 2007; Zeegers, 2001)	Alienation and dissatisfaction (Biggs, 1988a; Chamorro-Premuzic et al., 2007; Zeegers, 2001)

Specifically, DA differs from SA in the purpose of learning. Deep learners intend to understand the meaning of the text so as to relate it to their real life, while surface learners primarily aim to be able to reproduce what they have learnt when questioned. That is to say, the ultimate purpose for deep learners is to apply what is acquired to authentic situations whereas surface learners acquire the contents for reproduction, for instance, for passing examinations or tests.

Second, deep and surface approaches are distinguished by the strategies employed in learning. Deep learning involves an engagement with the meaning in the materials being studied, developing an insight into the interconnectedness of different elements of a subject (Dennehy, 2015), and relates them to personally meaningful contexts or to existing prior knowledge. That is, deep learning is linked with the idea of self-actualisation (Biggs, 1993). In contrast, surface learning involves a heavy reliance on the mechanism of memory, concentrating on the superficial features or outside “signs” of learning rather than the meanings or implications of what is learned (Biggs, 1998, p.198). Pask (1988) argues that even deep learners, who can be called holists or serialists, may adopt differing strategies in tackling tasks, with holists placing a task in a broad context and relating it to their own life while serialists focus on step-by-step details, building understanding out of the components, details and logical steps. However, typical surface learners tend to treat parts of the subject as separate entities and fail to integrate topics into a coherent whole (Duff, 2004).

Additionally, deep learning differs from surface learning in terms of learners’ motivation for learning. Biggs (1988) asserts that deep learners are intrinsically motivated by curiosity and understanding, so strategies are employed to satisfy that curiosity by finding out what they can and using and extending that knowledge. Surface



learning is more often linked with extrinsic motivation, and the ensuing strategy is essentially reproductive, fixing upon what appears to be the most important topics (Marton & Saljo, 1976), and mimicking them fairly exactly in order to pass tests (Biggs, 1988).

Finally, deep approaches and surface approaches lead to differing learning outcomes with the former attributive to learners' engagement and satisfaction (Biggs, 1988; Chamorro-Premuzic et al., 2007; Zeegers, 2001), and the latter to alienation and resentment (Biggs, 1988; Chamorro-Premuzic et al., 2007; Zeegers, 2001). Biggs (1988) points out that "affectively, the deep approach leads to task involvement and to satisfying outcomes, whereas the surface approach is frequently alienating even when used successfully, leaving the student anxious about the outcome and resentful of the time taken" (p. 199).

**2.2.1.2 Determinants of Students' Approaches to Learning.** Numerous attempts have been made to optimise students' learning in higher education away from surface approaches and towards deep approaches (e.g., Struyven et al., 2006; Wilson & Fowler, 2005). Generated from extant literature, the learning approach taken by students can be affected by a number of determinants.

First, personal factors are a key predictor in the adoption of deep or surface processing. Learning is the composite of cognitive, affective and psychological factors that serve as an indicator of how an individual interacts with and responds to the learning environment (Duff, 2000). According to Biggs et al. (2001) and Felder and Brent (2005), individual attributes such as personality, motivation, locus of control and conceptions of learning influence learning approaches. Lee and Chan (2018) hold that students' epistemic beliefs regarding knowledge and knowing have a direct effect on their academic performance. McCombs' (1986) research indicates that fostering deep learning demands that learners have positive self-assurance and motivation to be responsible for their own learning. Watkins' (1987) study also demonstrates that an internal locus of control was occasionally the determinant of less superficial and more achievement-oriented learning. As pointed out by Biggs (1985), students' personal factors such as personalities, language abilities, learning aptitudes and education backgrounds are foundational elements determining choice of deep or surface approaches to learning (Biggs, 1985).

Second, the educational context in which learning occurs plays an important part in bolstering deep processing. That is, study approach is "context-dependent" (Lee & Chan, 2018, p. 269). Ramsden (2003) characterises students' approaches to learning as "relational" (p. 83), implying that they arise out of the relationship with the environment in

which learning occurs. A key finding of Entwistle and Ramsden's (1983) research establishes that educational contexts, for example, teaching, curriculum and assessment are determinants of a student's choice of deep or surface approaches to learning, which is supported by Alexander et al. (2009), Asikainen and Gijbels (2017) and Dinsmore and Alexander (2012). Entwistle and Marton (1984) argue that students' learning orientation should not be treated as a characteristic of the student but rather a response to a reified situation. Similar assumptions have been made by Biggs and Tang (2007) that approaches to learning could not be seen as purely personal characteristics, but are borne out of an individual's perceived demands of the learning environment. As Dolmans et al. (2016) claim:

A high perceived workload will more likely result in surface approaches to studying and might be detrimental for deep learning. Students who perceive the workload as high in their learning environment are more likely to display a lack of interest in their studies as well as exhaustion (p. 1097).

Additionally, the dynamic nature of learning can exert a considerable influence on students' adoption of particular approach. Biggs (1988) highlights that, although deep or surface approaches to learning tend to be characteristic of students over time, some 'situational pressures' could create a considerable effect, which may lead to the adoption of a surface learning. For example, students' approaches to learning are influenced by their perceptions of the task to be accomplished, which derive from their enduring motives for study, and the contexts in which the tasks are presented (Biggs, 1988). Dolmans et al. (2016) point out that a workload that is perceived to be high is more likely to be detrimental to deep learning (p. 1097). If students perceive their workload as high in their learning environment, the tendency is to display exhaustion and lack of interest in their studies, resulting in surface learning (p.1097). Biggs (1996) reports that students may employ both 'deep' and 'surface' processing at different times and for different tasks. For example, time pressures or heavy assessment, may drive students, even those with a predilection towards deep learning, to complete the task at hand by way of reproductive strategies (Biggs, 1988). In their review, Dolmans et al. (2016) investigated the effects of problem-based learning (PBL) on students' approaches to learning, and noted that assessment methods count in the promotion of deep learning. If the course assessment is identified as unrewarding, students tend to employ more surface learning than deep learning. Brown et al. (2015) contend that the assessment of memorised factual knowledge may endorse a surface approach to learning, whereas the assessment of understanding can encourage a deeper approach (Marton & Saljo, 1976). Jensen et al. (2014) suggest that essays, which are perceived as measuring higher

levels of cognitive processing tend to elicit deep approaches, compared to a multiple-choice assessment.

Biggs (1994) notes, “both the terms ‘deep’ and ‘surface’ are used generically; what they specifically mean in any instance depends on the context, the task, and the individual’s encoding of both” (p. 46). However, Baeten et al. (2010) emphasise that many a factor mentioned previously is intertwined. Approaches to learning, or approaches to studying as termed by Entwistle (1987), are a product of the interaction between the characteristics of individual students and their perceptions of courses, teaching and assessment procedures.

**2.2.1.3 Dissonance on Student Approaches to Learning.** The SAL theory has been widely employed in various education institutions as effective in advocating improved quality of higher education, yet a call for an alternative theoretical framing to supplement or substitute the current dominant learning theory has been advanced. The following section involves a discussion of the dissonance documented in the literature regarding SAL theory, specifying the areas requiring attention in its application into the study of student approaches to learning.

**Negligence of Mass Education.** When critically examining the framing of approaches to learning, Haggis (2003) noted the narrow perspective of SAL theory in dominating learning and teaching in HE. By way of critique, Haggis (2003) acknowledges that whilst the SAL theory “may be successful in creating a generalised description of the ‘elite’ goals and values of academic culture, it says surprisingly little about the majority of students in a mass system” (p. 89). Tan (2011) agrees, arguing that SAL is mainly concerned with ‘elite’ goals and values of academic culture that elicit the engagement of deep approaches to learning without adequately considering ‘mass education’. That is, SAL theory fails to fully achieve the aims represented by the vast majority of students, who continue to engage with surface learning. According to Haggis (2003), SAL theory was formulated with the assumption that students are supposed to have the same aims as their teachers, who “want, or can be made to want” to be deep learners (p. 97). As Haggis (2009) argues:

Students who come to university are already ‘at a level’ where they can engage with text, ideas, debates, etc. in the way that academics expect; ... it assumes that students have the confidence and skills to engage as is expected, and that they have the will do this... (p. 97).

These assumptions act against the normative situations in HE, and thereby have invoked criticism from educationalists. Such criticism is especially salient in tertiary education, with growing numbers of students, including international students coming

from diverse 'minority cultures' yet being measured against the 'elite' system, i.e., engaging with and demonstrating deep motives and strategies. This 'elite' system, in the Australian HE context, is referred to as the Western Aristotelian style of inquiring and critiquing learning culture (Tan, 2011). Underpinned by the present 'elite system' of SAL, those learners who do not conform to the desired deep learning strategy are often pathologised as "problematic", with their learning needing improvement in order to meet the prominent "grand agenda" in HE (Tan, 2011, p. 128). For Haggis (2003), deep learning is a set of highly complicated cognitive operations, which take years to acquire. The vast majority of students, including those from minority cultural backgrounds, such as international students, whose principal learning behaviours have been internalised from their previous experiences, are often "sidelined" with their voices unheard (Tan, 2011, p. 128). In alignment with Haggis' (2003) argument, Case (2008) points out that the pre-existent discourse in HE, particularly in Western universities that have been accommodating substantial numbers of international students, positions many students in "fixed" ways. This positioning has restricted students' dominant learning behaviours inherited from their prior experiences and learning cultures. Therefore, their academic performance appears to be closely associated with a "disintegration or fragmentation of the normal patterns of studying" (Haggis, 2003, p. 99). These "set ways" have largely "subjugated and disempowered the students to be subservient in relationships to lecturers where there is barely freedom for negation or empowerment" (Tan, 2011, p. 128).

**Insufficient Consideration of Social and Cultural Context.** SAL theory originally arose out of cognitive psychology therefore it is hardly surprising that it foregrounds the cognitive aspects of the learning experience without sufficient account of the learner's social and cultural context (Case, 2008). According to Malcolm and Zukas (2001), with this theory, students are generally regarded as "anonymous, decontextualised, degendered beings whose principal distinguishing characteristics are 'personality', 'learning style' or 'approach to learning'" (p. 38). The popularity of SAL theory lies largely in its simplicity and power to describe what can be readily observed in almost any HE context (Case & Marshall, 2009; Entwistle, 1997). However, as argued by Malcolm and Zukas (2001), it is precisely this positivist "appeal of the 'knowable'" and the promise of prediction and control that has recently come under question (p. 35). The categorisation of the deep/surface model underpinned by the SAL theory has been criticised by scholars such as Webb (1997) due to its heavy focus on learning processes without full consideration of the social or human aspects of learning.

As Haggis (2009) described in his critical overview of 40 years of student learning research in HE, with an increasing variety of models and theoretical approaches to

understanding student learning becoming prevalent in literature, the bulk of research still focuses on the question, “what is wrong with students who do not engage in the ways that their tutors wish them to?” (p. 377). This tendency to blame students for disengagement is prevalent in universities all over the world (Haggis, 2009). Haggis (2009), in response to repeated findings that a large number of students, including those from China, are apparently not engaging in deep learning, raises the question “why do so many students take a surface approach to learning?” (p. 378). Haggis (2003) and Webb (1997) interrogate the apparent reification of approaches to learning as a ‘grand’ theory, as well as the supposed generic and ‘universal’ nature of its claims.

Approaches to learning can be conceptualised differently in different cultures. Entwistle (1997) contends that the SAL framework is seen as a “valid and useful” lens to describe teaching and learning processes in HE (p. 217), but the view it provides is somewhat limited (Case, 2003). In Nisbett’s (2003) view, not all ethnic groups conceptualise deep learning in the same way. For example, Marton et al. (1993) found that the traditional Asian practice of memorisation, as in China, differed from the Western concept of surface learning, as rote learning was also used as a practice to deepen understanding. Thus, it stands to reason that people from various cultural backgrounds might interpret and experience deep learning differently. As reiterated by Biggs (1994), “if deep learning is related to learning the relevant task, then what is ‘relevant’ could only be decided upon how it is culturally defined” (p. 47). Thus, it is reasonable to expect that students from different backgrounds might not make sense of the strategies they are using in the same ways as intended.

Still, in relation to SAL theory, the notion of ‘achieving approaches to learning’ no longer existed due to inability to discriminate the salient feature of deep or surface learning (Biggs et al., 2001; Entwistle et al., 2002). However, studies that apply the SAL model to Eastern cultural contexts have yielded results which appear to be at odds with some of its basic suppositions. In the SAL framework, memorising is subsumed into rote learning, which is linked to a lack of comprehension, a surface approach, and thus inferior learning outcomes. However, the literature on learners from Eastern countries, such as China (e.g., Biggs & Watkins, 1996; Cooper, 2004; Dennehy, 2015; Marton et al., 1993; Tan, 2011, Xie, 2014; Ryan, 2016; Wu, 2015), Nepal (e.g., Dahlin & Regmi, 1997; Kember & Gow, 1990), and Malaysia (e.g., Tan, 2011), has found that students from Confucian heritage cultures tend to use memory as a “means” to achieve an “end” leading to deep comprehension, and thus the “achieving” construct might still remain valid in studies of learners from these countries (Tan, 2011, p. 126).

As such, it is evident that the conceptualisation and application of deep and surface approaches that are defined within SAL theory are socially and culturally contextualised.

Biggs (1988) himself warned that, although deep or surface approaches to learning tend to be characteristic of students over time, some 'situational pressures' could create a considerable effect, which may lead to the adoption of a surface approach. For example, students' learning approaches are influenced by their perceptions of the tasks and the contexts in which the tasks are presented (Biggs, 1988). Other dynamic features such as workload are also factors determining students' use of learning approaches (Dolmans et al., 2016).

**The Dichotomised Categorisation of Deep and Surface Approaches to Learning.** As discussed, the deep and surface approach to learning are two distinctive concepts in the SAL theory that are generically employed to describe students' approaches to learning in HE. However, this does not mean students are dichotomised as in a polarity of the extremes of that they choose to be deep or surface learners. Literature highlighting the dichotomisation of the deep and surface approach to learning does exist. For example, Weinstein and Mayer (1986) claimed that deep and surface processing are something in a dichotomy, in which learners are at least stable in their orientation to tasks in general. This dichotomisation, however, has elicited critique from scholars including Webb (1997) and Marton et al. (1993). Webb (1997) deconstructed the binary distinctions of the deep/surface approach based on the assumption that it was too simplified to draw a line between a deep and surface approach. He pointed out the logical problem in dichotomising, arguing that this tends to discriminate the learning used by the strategy of memorisation that has been applied widely in life such as poem learning and times-tables learning. He argued that surface and deep approaches form a continuum of learning that is progressive, "constant" and "indeterminate" (p. 205). This idea has been supported by the information processing theory, as postulated by Craik and Lockhart (1972), in that the approach used by students is a 'continuum' ranging from processing at the shallow end of knowledge (surface approach) to the deep end of encoding (deep approach) depending on learners' intentions and the specific context in which they are placed. That is, one may commence with surface learning, and then move towards deep learning depending on the situations in which learning occurs, for example, tasks presented, teaching patterns and assessment methods.

Similarly, Marton et al. (1993) suggested there was no clear dividing line between deep and surface learning. In their study on the '*Paradox of the Chinese learner*', Marton et al. (1993) found that the binary notion of 'deep' and 'surface' was too crude because Chinese learners tend to use 'surface' (memorising) strategies for 'deep' (understanding) purposes. Li (2002) argues that the conceptualisation of deep/surface processing is such an arguable dichotomy originated from the etic experimental tradition in Western contexts that "should not be simply applied to the Chinese case" (pp. 47-48). Drawing

from Cherryholmes (1988), Webb (1997) considered this binary distinction between deep/surface approaches to learning as “the simplest logical device for discrimination, namely between having a quality or attribute and not having it, or between belonging to a class and not belonging to it. It underlies every assertion or denial.” (p. 203).

Moreover, the dynamics in HE, particularly in China has changed over the time, with individuals who are potentially deep learners perhaps shifting into surface learning depending on the teaching-learning environment (Asikainen & Gijbels, 2017). Therefore, as suggested by the information processing theory (Craik & Lockhart, 1972), the approach (deep or surface) used by students is part of a ‘continuum’.

As such, the dichotomised categorisation of deep/surface approaches to learning has created a degree of polarisation, particularly when applied to Chinese learners. However, this dichotomisation was considered in this research on balance to be an appropriate method for discerning differences between the two cohorts of learners (CIS and ADS) that have been traditionally perceived of as fitting into this dichotomy.

### ***2.2.2. Instruments for Measuring Student Approaches to Learning***

Reliable and valid instruments are of assistance in detecting student approaches to learning when they are quick to be administered and the data collected can be easily analysed. Instrumentation can “establish some rule of correspondence between the theoretical construct and observable behaviours that are legitimate indicators of the construct” (Crocker & Algina, 1986, p. 4).

An array of inventories that aim to identify factors to predict student academic performance have been developed as the result of the assessment of student approaches to learning (Tait & Entwistle, 1996). These inventories are built upon different conceptualisations of learning represented in specific theoretical models of approaches to learning. They are often multidimensional, and identify or measure individual’s attributes such as their personalities, motivations, learning strategies, and/or instructional preferences. Marton and Saljo’s (1976) research on student learning has been described by Case and Marshall (2009) as “ground breaking”, with questionnaires that approximate students’ own perspectives of authentic situations in naturalistic settings rather than as “objective outside observers” (p. 9). The phenomenographic questionnaire utilised by Marton and Saljo (1976) subsequently laid the earliest foundation for the development of various inventories to gauge student learning (Biggs, 2003; Duff, 2004; Ramsden, 2003). The original construct of deep and surface approaches to learning, pioneered by Marton and Saljo in 1976, has been duplicated and extended in the design of measurements to study students’ approaches to learning.

Embedded into the 'methodological mix' represented by Marton and Saljo (1976), a series of instruments have been designed to measure the extent to which students adopt approaches to learning in natural settings, using either qualitative interview or quantitative inventories (Case & Marshall, 2009). As Coffield et al. (2004) argue, there are at least 70 inventories designed in the field of education to distinguish the single aspect of 'learning styles' and 'approaches to learning' that result in measurement of deep or surface learning outcomes, although some overlap (Entwistle & McCune, 2004), cross-reference (Ak, 2008), and even equations can be identified in various inventories (Schmeck, 1988). Of the vast number of inventories developed to study student learning approaches, the Two-Factor Study Process Questionnaire (R-SPQ-2F) developed by Biggs, Kember, and Leung (2001) has much to offer as an instrument to study CIS' approaches to learning in Australian universities. However, before providing a detailed discussion of the R-SPQ-2F, the following section will deal with its predecessor, the SPQ.

**2.2.2.1 The Study Process Questionnaire.** The Study Process Questionnaire (SPQ) was developed by Biggs in 1987 to assess students' learning approaches. It originated from its prototype, the Studying Behaviour Questionnaire (SBQ) (Biggs, 1976), an inventory for measuring university students' study processes. In the SBQ, students' personal factors such as personality and motivations were recognised to play an important part in their learning processing. Through higher order factor analysis, Biggs (1978) identified 10 unidimensional scales in the SBQ, and categorised them as three approaches based on the SAL conceptual framework, namely, deep, surface and achieving approaches, but these were then identified as fitting either motive or congruent strategy. Biggs (1987) differentiated three motives: to achieve the aim with minimal effort (surface motive, SM), to engage the task meaningfully (deep motive, DM), and to maximise grades (achieving motive, AM), with each accompanied by a corresponding strategy: selecting memorising (surface strategy, SS), seeking meaning (deep strategy, DS), and optimising time and space management (achieving strategy, AS) respectively. Further higher order analysis also identified that the three approaches to learning could be synthesised into two factors: deep-achieving and surface-achieving. To arrest similarity with other research on approaches to learning (e.g., Marton & Saljo, 1976), Biggs (1987) adopted the terminology of SA and DA into the dimensions of the SPQ.

Hence, three approaches to learning were produced in the SPQ (Biggs, 1987) with 43 items, namely, surface, deep, and achieving approach, and each consisting of an affective component (learning motivation) and a cognitive component (learning strategy). Table 2.2 demonstrates the construct of the SPQ.



Table 2.2

*Construct of the Original Study Process Questionnaire*

<b>Sub-scale</b>	<b>Deep approach</b>	<b>Surface approach</b>	<b>Achieving approach</b>
<b>Motive</b>	Intrinsic interest	Fear of failure	Achievement
<b>Strategy</b>	Maximise meaning	Narrow target, rote learning	Effective use of space and time

Source: Reprinted from “The revised two-factor Study Process Questionnaire: R-SPQ-2F” by Biggs, Kember and Leung, 2001, p. 135, *British Journal of Educational Psychology*, 71, 133-149. Copyright 2001 by the British Psychological Society.

According to Biggs (1993), the SPQ is “a three congruent motive-strategy package” based on instrumental motivation, intrinsic motivation, and achieving motivation (p. 5). While deep and surface strategies describe how students approach the task itself, the achieving strategy involves how students organise time and place for best engagement of the task. Biggs (1987; 1993) claims that the links between motive and strategy are not just “empirical”, but also based on “psycho-logic” (Entwistle et al., 2004), which is more in alignment with the theory of metacognition (Biggs, 1993). That is, the strategies students adopt to approach learning are congruent with the motive they possess for the specific learning. As Biggs (1987) explains, a surface strategy is generally viewed as being extrinsically or instrumentally motivated, a deep strategy as being intrinsically interested, and an achieving strategy as the drive to obtain the highest grades.

The SPQ has been extensively operationalised not only in the investigation of why and how students learn, but also widely used in the research into relationships between the process of learning and outcomes (Biggs, 1991, 1992; Biggs & Watkins, 1996). Biggs (1993) argues that the SPQ is useful for assessing and monitoring teaching and learning environments. Biggs et al. (2001) suggest that the SPQ scores generated can serve as quality indicators of student learning, and therefore, as an effective instrument for teachers’ action research. Yet Biggs et al. (2001) also warn, that as far as the SPQ scores are concerned, it is inappropriate to categorise students as ‘surface’ or ‘deep’ learners on the basis of their SPQ responses, which, in essence, are the co-function of both individual characteristics and the teaching context. According to them, both the teacher and student are jointly responsible for the learning outcome, the teacher for structuring the enabling conditions, the learner for engaging them. Thus, an approach to learning describes the nature of the relationship between student, context, and task (Biggs et al., 2001).

**2.2.2.2 The Revised Two-Factor Study Process Questionnaire.** As indicated previously, the original Study Process Questionnaire (SPQ) (Biggs, 1987) was a congruent suite of motive and strategy comprising three approaches: deep, surface and

achieving. However, Biggs et al. (2001) discovered, when applying the SPQ as a means of monitoring teaching and/or learning environments, the role of the achieving approach was not as prominent as that of deep and surface scales. Higher order confirmatory factor analyses (CFA) identified that the achieving-related scales in the original SPQ could actually be integrated into that of a deep or surface approach (Biggs, 1987), depending on the subjects and teaching conditions (Biggs & Kirby, 1984). Similarly, Kember and Leung (1998) and Wong, Lin, and Watkins (1996), using CFA, also identified that the SPQ could be articulated into two dimensions: deep and surface approach, with achieving motive and strategy subscales aligned on both. Therefore, the initial 43-item of the three dimensioned SPQ (1987) was embedded into a simplified two-factor of 20 items in the revised two-factor Study Process Questionnaire (R-SPQ-2F) by Biggs et al. (2001), in which the original third dimension, achieving approach, no longer existed.

As a consequence, the R-SPQ-2F consists of two main scales: deep approach (DA) and surface approach (SA), each comprising 10 items of strategy and motive subscales: Deep Motive (DM), Deep Strategy (DS), Surface Motive (SM), and Surface Strategy (SS), as shown in Table 2.3. While ‘motive’ deals with ‘why’ students learn, ‘strategy’ involves ‘how’ students learn (Biggs, 1976). Each subscale comprises five items rated on a 5-point Likert scale ranging from ‘strongly agree’ to ‘strongly disagree’ (Biggs et al., 2001).

Table 2.3

*Construct of the R-SPQ-2F*

Approach	Learning motive	Learning strategy
<b>SA</b>	Surface motive (SM) is to meet the requirements with the minimum effort required.	Surface strategy (SS) is to limit the scope of material studied and to reproduce it through rote learning.
<b>DA</b>	Deep motive (DM) is intrinsic interest in what is being learned: self-fulfilment.	Deep strategy (DS) is to discover meaning from many different sources, inter-relating with previous relevant knowledge.

Note: Based on “The revised two-factor Study Process Questionnaire: R-SPQ-2F” by Biggs, Kember and Leung, 2001, *British Journal of Educational Psychology*, 71, 133-149. Copyright 2001 by British Psychological Society.

According to Biggs et al. (2001), the SPQ-2F is easy to administer and an overall composite score is indicative of a deep or surface approach to learning. It can be applied not only to innovate teaching or assessment in action research, but also to examine the relationship of approaches to learning with other curriculum variables in order to fine-tune curricula based on the insights obtained. Additionally, Biggs et al. (2001) also claim that the R-SPQ-2F is suitable to micro-monitor student perceptions of learning contexts, thereby informing teaching and assessment. The R-SPQ-2F is, in particular, useful in monitoring students at risk by comparing their deep and surface scores within a given

cohort. Moreover, the R-SPQ-2F can function well as a tool for institutions to exercise quality assurance, as in the Australian context, because measuring the outcome of teaching in formal research can identify where education may need assistance (Biggs et al., 2001).

The original SPQ was established in 1987 by Biggs. Since then, the nature of HE has undergone dramatic changes in terms of the heterogeneity of the student population, the structure and administration of institutions, and in the range and depth of curricula, modes of delivery and assessment (Biggs et al., 2001). The initial construct of SPQ that used to function well to gauge student approaches to learning was found to be out of tune with current practices in higher education. Therefore, as a response to the call for refinement or realignment of the inventory, the R-SPQ-2F was developed and appears to an appropriate tool for the current study.

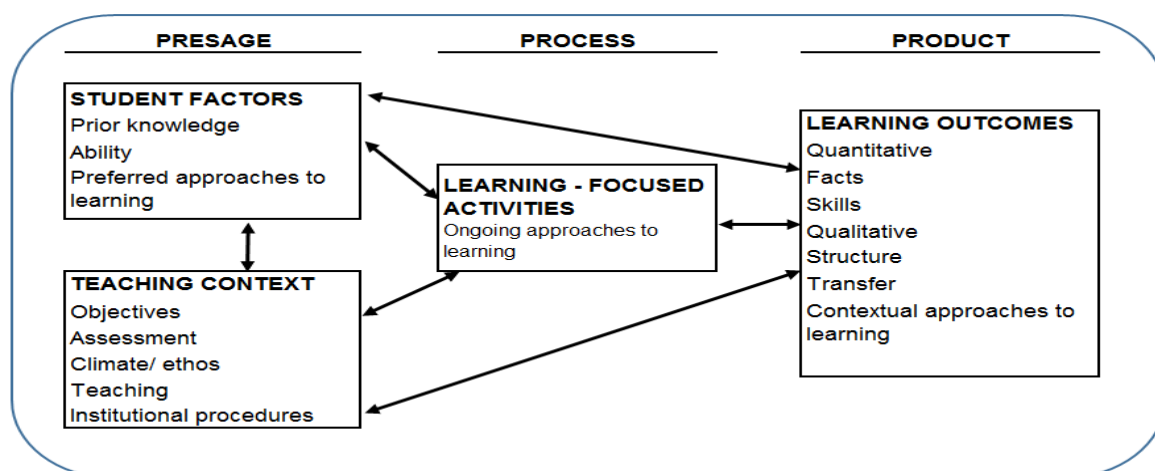
### ***2.2.3 Models Applied in Student Approaches to Learning***

Various models have been used to specify how students approach their learning (Cassidy, 2004). Dinsmore and Alexander (2012) highlight the specification of learning models in examining deep and surface processing, because misspecified models, which either exclude relevant variables or include irrelevant ones, will bias the estimation of coefficients in a model. Both the exogenous variables (i.e., predictors) and endogenous variables (i.e., outcomes) of deep and surface processing embedded in a model have the potency to alter the relationship between deep and surface processing and the specified outcome, as noted by Dinsmore and Alexander (2012). The SAL models evolved out of a qualitative study of students' learning experience on the presumption that learning takes place "within-the-learning/teaching-context" (Biggs, 1993, p.3), during which the interrelationship between learners and their environments determines individuals' approach to their learning and thus the learning outcome. Typical SAL models include Biggs et al.'s (2001) Presage-Process-Product Model (3P), Entwistle and Ramsden's (1983) Approaches to Study Inventory (ASI), and Ramsden's (2003) Education Context Model. While these models are potentially suitable, the 3P model appears to be particularly pertinent to the context of the current study.

With an attempt to interpret students' classroom learning, Biggs (1987, 1991, 1993) conceptualised a three-component model comprising Presage, Process and Product stages as displayed in Figure 2.3, arguing that student approaches to learning are influenced by various factors, some personal and others contextual. These factors mutually mingle and determine student approaches to learning and thus the resultant learning outcomes.

Figure 2.3

*The 3P Model of Students Learning*



Note: Reprinted from "The Revised Two-factor Study Process Questionnaire: R-SPQ-2F" by J. Biggs, D. Kember and D. Leung, 2001, p. 136, *British Journal of Educational Psychology*, 71, 133-149. Copyright 2001 by the British Psychological Society.

This paradigm of the 3P model, though distinctive in different versions (e.g., Biggs, 1987, 1991, 1993; Biggs et al., 2001), interprets approaches to learning as the mediation between student characteristics and the situational context and learning outcomes. According to Biggs (1993), the **presage** stage concerns the pre-determinants of the real engagement of learning comprising factors relating to both students and teachers, with each referring to 'personological factors' and 'situational factors', respectively, as described by Biggs (1985). Student presage factors are learning-related traits such as character, cultural backgrounds, and language ability (Biggs, 1987, 1991, 1993). The teaching factors are classroom related such as teaching methods, curriculum design, assessment procedures and institutional climate. In this stage, approaches to learning are conceived as a "trait-state interaction", where "individuals are predisposed by their personality to choose one approach in preference to another, while certain situations encourage or inhibit particular approaches" (Biggs, 1985, p. 187).

According to Biggs (1993), the **process** stage is at the centre of the 3P Model, which deals with how students adopt strategies to handle an on-going task. These strategies are dependant, in part, on students' orientations, i.e., their preference of one approach over the others (Ramsden, 2003), and, in part, on the constituents of teaching context. The learning process in the 3P model, in fact, represents Biggs' (1985, 1991, 1993) attempt to subsume various individual difference variables that are relevant to institutional learning under consistent motivational and strategic differences, which were operationalised by Biggs (1987) in the subscales of the SPQ.

The **product** stage in the 3P Model pertains to the nature of outcomes that can be defined either quantitatively in grades, focusing on 'how much' is learned, or qualitatively in the learning quality, stressing students' personal development, or even affectively in students' experience, such as their contentment with whatever level of performance is attained (Biggs, 1993). As schematised in the 3P model, the quality of student learning is influenced by their approach to learning, which is, in turn, impacted by their prior educational experiences and the context of learning.

The 3P model has been widely utilised to conceptualise students' learning and teaching (Jones, 2002; Xie, 2014), serving as a useful framework for structuring the dynamics of planned learning experiences (Freeth & Reeves, 2009).

### ***Section Summary***

This section, as the second line of inquiry in this literature review, has so far examined the conceptual study of student learning, SAL theory and the underlying assumptions with a focus on the conceptions of deep and surface learning. In addition, the instruments applied to gauge student approaches to learning were explored with special attention given to the R-SPQ-2F as an instrument suitable for the current study. In addition, the 3P Model, as a potential schematic design for this research, was also examined.

The next section examines previous literature on Chinese international students' learning experiences in Western higher education, particularly in Australian universities.

## **2.3 Chinese International Students' Learning**

The experience of Chinese international students (CIS) in Western universities has been the subject of a large body of previous research. This has highlighted the notion of 'Asian learners' or 'Chinese learners' and the 'Chinese paradox', with some research also making comparisons of learning approaches used by Chinese international students and their domestic counterparts, particularly in Australian universities.

### ***2.3.1 'Asian' or 'Chinese' Learners in Western Universities***

With regard to the nature of CIS, there is already established literature on 'Asian learners', 'Chinese learners', or 'Confucian culture heritage learners', as noted by many scholars including Biggs (1994), Clark and Gieve (2006), Grimshaw (2007) and Ryan (2016), which seeks to categorise and interpret their learning behaviours in terms of their national or ethnic background (Rastall, 2006). According to Wu (2015), this category has been loosely used as an umbrella term to refer to all learners from Chinese-speaking backgrounds including those who share Confucian heritage cultures (CHC). Hence,

students from East and Southeast Asian countries such as China, Japan, Korea, Singapore, Malaysia, Vietnam and Indonesia, have been broadly classified into 'the Chinese learners' category (Ryan, 2016; Watkins & Biggs, 1996). However, for the purposes of this study, the 'Asian' or 'Chinese' learners in the current research exclusively refer to those from Mainland China, as discussed in the designation of objectives in Chapter 1.

A number of different approaches to learning are evident in the literature on Chinese students studying in Western universities (e.g., Heng, 2019; Ryan, 2016; Tan, 2011; Wu, 2015). In particular, the phenomenon of the 'Chinese Paradox' has been well documented in literature (e.g., Biggs, 1994; Watkins & Biggs, 1996). Some scholars (e.g., Heng, 2018; Ryan, 2016) point out that, although students from China constitute the largest international tertiary student population in some Anglophone universities such as in the USA, the UK and Australia, much discourse around them tends to focus on their apparent lack of particular Western "academic knowledge and values" (Ryan, 2016, p. 13). Two categories of descriptions about Chinese international students were common in the past literature. One depicted them as 'deficient' surface learners in Western universities. For example, students from China have frequently been constructed as 'passive learners' in class, as noted by Beckett (2012), Clark and Gieve (2006) and Ryan (2011, 2016), 'unproductive rote learners', as found by Biggs (1996), Kingston and Forland (2008), and 'examination orientated learners', as noted by Marton et al. (1993). Additionally, Wu (2015) also noted that Chinese students have, at times, been described in literature as relying on simplistic low-cognitive memorisation strategies, resulting in surface learning, which tends to be characterised by reception, repetition, review and preproduction, as found by Hu (2002), suggesting that Chinese students generally lack 'critical thinking skills'. This idea, however, had been critiqued by many scholars such as Clark and Gieve (2006), Heng (2018) and Ryan (2016).

On the other hand, some literature described Chinese international students as 'superior' in comparative studies of cross-nations, as noted by Grimshaw (2007). For example, Chinese students have been found to outperform their peers in mathematics and science, as found by Biggs (1994) and Mullis et al. (2004), accountancy (Cooper, 2004), and reading literacy study (Mullis et al., 2007), and even in adoption of higher-level strategies (see in Biggs, 1994, Brown et al., 2016, and Leung et al., 2008). The incompatibility of these two narratives arouses Western observers to pursue a line of inquiry known as the 'Chinese Paradox', or in Cooper's (2004, p. 289) words, an "enigma" which has perplexed some of the Western scholars who question how Chinese students can achieve when adopting approaches to learning that are generally considered inferior by Western educators (Biggs, 1994; Watkins & Biggs, 1996).

Ryan (2013) attributes these prevailing stereotypes to Western academics' misinterpretations of CIS' specific behaviours during their initial adjustment to the new learning contexts and expectations in Western universities. For example, academics might misinterpret CIS' underdeveloped English language at the outset of new learning as an inability of learning or a lack of criticality, and which is in fact a natural adaptive process to learning.

Clason (2014) illustrates another reason for those assumptions about Chinese learners. That is, Western researchers typically investigate Chinese learners in terms of what is expected in the Western contexts, and conceptualise learners from China as 'underachieving students' in Anglophone universities. As pointed out by Ryan (2016), some Western researchers, out of their "inherent complacent superiority" (p. 13) of academic traditions and cultures of learning, tend to work from their own cultural references and highlight the problems that Chinese students bring, rather than recognising them as cultural capital for international learning. She contends that focussing on CIS' specific set of intellectual attributes tends to lead to "narrow and fixed views about the desirability [for all students] of attaining only 'superior' Western academic knowledge and skills" (Ryan, 2016, p. 14). Clark and Gieve (2006) also explained the existence of the Chinese Paradox by identifying that educational research has tended to generate conceptions about learning derived from Western experimental research models and apply them directly to Confucian Heritage cultures to explain Chinese students' learning behaviours, and "filtered through their own values, expectations and standards" (p. 60).

According to Heng (2018), a 'large culture' approach has recurrently been adopted to interpret Chinese education and Chinese students in terms of their membership of Confucian heritage cultures. In Clark and Gieve's (2006) view, a large culture approach adopts the notion that learners, together with their values, attitudes and learning behaviours, are "fixed, homogeneous, reified" national entities (p. 54), and as such, implicates power relationships. Whereas a small culture research approach focuses on the activities and processes that assist the understanding of the cohesion of the group, avoiding essentialising the cultural backgrounds. As Clark and Gieve (2006) found in their investigation of the discursive construction of Chinese learners, a substantive amount of literature has essentialised Chinese overseas learners as "a single, homogeneous group" (p. 57), and tends to ascribe their features as explanatory variables for the "supposedly consistent Chinese behaviours" in Western contexts (p. 54). As pointed out by scholars such as Clark and Gieve (2006), Grimshaw (2007) and Heng (2018), underpinned by the large culture framework, the learning attributes assigned to 'Asian learners', or 'Chinese learners' generally were stereotyped negatively in the West

either as 'deficit' or 'reduced'. Therefore, Chinese learners were frequently diagnosed as a "problematic" population, whose learning strategies required adjustment to fit into the HE agenda in host countries, as noted by Tan (2011, p. 128).

Indeed, adopting a large culture approach to account for CIS' learning in Western universities is "an appeal to a shared cultural heritage rooted in Confucianism" (Clark & Gieve, 2006, p. 58), which, according to Ryan (2016), may assist Chinese students and those working with them (i.e., international staff or research collaborators) to better understand their academic values and experiences, and thus to enhance intercultural communications between Chinese students and their lecturers and home students. However, this "homogenising" view of Chinese students has been criticised as "anecdotal and stereotypical" (Xu, 2016, p. 25). Clark and Gieve (2006) and Yuan and Xie (2013) argue that the cultural explanation that ascribes individual attributes to the large system of cultural practices ignores the agency of individuals. Labelling students based on the whole systems of cultural practice neglects the diversity within and between cultures (Ryan, 2012). As contended by Xu (2016), if Chinese students are projected as surface learners just on the basis of their Confucian heritage, it may imply that Western students are more likely to be deep learners by virtue of their culture alone. The large culture analysis is limited, and hence has been met with criticism from scholars including Mathias, Bruce and Newton (2013) and Tan (2011) as being 'naïve and simplistic'. This idea has been echoed by Rao and Chan (2010), who assert that Chinese students' learning is more complicated than it appears on the surface, and multiple factors actually attribute to their approaches to learning (Tan, 2011). Biggs (1994), in his work *'Asian Learners through Western Eyes: An Astigmatic Paradox'* unpacks the '*paradox*' related to perceptions of Chinese overseas students. He found that Chinese students generally had a higher "academic approach to learning" (p. 40) than Australian students, and their academic performance in cross-national comparisons was consistently higher than that of students from most Western countries. As he pointed out, "if there is any paradox, it is because of Western misperceptions of both CHC students' approaches to learning and the environments in which they are taught" (p. 40).

Wang (2013) identifies misunderstandings of Chinese students as "Confucian confusions" (p. 61), and highlights the dynamic changes happening in Chinese educational contexts. The terminologies of 'Asian' or 'Chinese' learners have, in fact, been rejected by some scholars (e.g., Clark & Gieve, 2006; Ryan, 2016) as "outmoded" and "unhelpful" stereotypes in characterising the learning styles of all Chinese students (Ryan, 2016, p. 11) as they are based on the flawed assumption of homogeneity. As pointed out by Ryan (2016), international students such as CIS may, in fact, be more "internationalised learners" than their western peers, and thus are a valuable source of



international learning (p. 22). These terms were also criticised as ignoring the diverse features of students from mainland China, Hong Kong, Taiwan and other CHC countries, who differ in terms of their respective histories, social policies, educational systems, values, and beliefs, all of which can influence their approaches to learning (Back & Barker, 2002).

### **2.3.2 Chinese International Students' Learning in Australian Universities**

Binary research methods have been commonly used to investigate the learning behaviour of Chinese international students in Australia (Ryan, 2013, 2016). Chinese and Australian learning approaches are recurrently portrayed as “exclusive and definable” (Xu, 2016, p. 30), and contrasted as discrete, homogeneous and unchanging (Ryan & Louie, 2007) based on sociocultural or sociohistorical points of view (Wu, 2015). Within this binary conceptual framework, typical differences in learning approaches between Chinese and Australian students are described as polar opposites by Western scholars as outlined in Table 2.4.

Table 2.4

*A Binary Study of Learning Differences between Chinese and Australian Undergraduates*

<b>Chinese undergraduates</b>	<b>Australian undergraduates</b>
Passive learning (Sanner & Wilson, 2008)	Active learning
Rote learning (Kingston & Forland, 2008)	Inquiry-based learning (Li, 2002)
Spoon feeding (Charlesworth, 2008)	Self-directed (independent) learning (Evans, 2010; Guan & Jones, 2011)
Product focused learning (Li, 2009)	Process focused learning
Teacher centred learning (Wong, 2015; Wong et al., 2012).	Student centred learning (Jin & Cortazzi, 2011)

Indeed, previous literature generally describes the Chinese way of learning as ‘passive’ achieved mainly via rote memorising (Sanner & Wilson, 2008) that is mainly ‘teacher-centred’ (Wong, 2015; Wong, et al., 2012; Wu, 2015), ‘product-focused’ (Li, 2009), and utilising spoon-feeding instruction methods (Charlesworth, 2008). Australian students, on the other hand, are conventionally depicted as individualistic active learners, who are ‘learner-centred’ (Evans, 2010), ‘inquiry-based’ (Li, 2002), and ‘self-directed’ (Guan & Jones, 2011), focusing on the learning process. For example, research by Guan and Jones (2011) demonstrated that the self-directed learning model in Australia is a dramatic cultural shock for many Chinese students and results in them feeling lost. Goode (2007) also reported that, the Western independent learning style may disempower international students who are “seen as too dependent or too needy rather than as having different kinds of learning needs at different times” (Evans, 2010, p. 592).

However, such binary descriptions have been criticised as being simplistic, or even “misleading” for the neglect of the complexities and diversity of philosophies of education within and between the two educational systems (Ryan & Louie, 2007, p. 404). Scholars like Chou et al. (2013), Wong et al. (2015) and Xu (2016, 2019) evidenced that Chinese students’ learning approaches and preferences are personally predisposed, culturally determined, and situationally modified, and these potentially contrast with Australian students’ learning approaches.

After investigating the commonalities and discrepancies in learning approaches between Chinese and Australian students, Smith, Miller, and Crassini (1998) concluded that Chinese students are “not simply surface/rote learners” as stereotyped, but instead have demonstrated “deep approaches to study” (p. 271), in line with the argument made by other researchers (e.g., Biggs, 1994; Heng, 2018; Wong, 2012). In a dissertation on how students from China make sense of their experience of active learning strategies, Clason (2014) asserts that the view of Chinese students as superficial learners is either “incomplete” or altogether “inaccurate”, as many are “self-directed” in learning activities based upon their backgrounds and interests (p. 3). From where Li (2003) and Wang and Li (2003) stand, some Chinese students struggle in higher education abroad, not because they lack prerequisite academic skills, but due to difficulties related to the cultural dimensions of teaching and learning.

According to Entwistle and Ramsden (1983), students’ perceptions of the learning context can affect “their display of ‘deep’ or ‘surface’ approaches to learning” (pp.198-199). Wong et al. (2015) explored Chinese accounting students’ perceptions of their learning context in terms of teacher delivery, commitment, enthusiasm and attitude at two universities in Australia, and found that “the perceptions of the teaching in Australia, by comparison [with that in China], seemed less satisfying” (p. 329), as a majority of Chinese international students, especially at entry-level, accorded their learning experience in Australia as “unfavourable” or “unfulfilling” (p. 327), although this perception dissipated over time (Wong, et al., 2015).

Drawing on Kettle (2005), Wu’s (2015) research on the experiences of Chinese students suggests that they are active learners rather than passive recipients of knowledge. She positions them as change agents in their new academic contexts. Wu (2015) challenged the common assumptions about Chinese students in Western higher education by uncovering the underlying reasons of their learning behaviours, asserting that Chinese students’ approach to learning is a complex composite with external factors such as sociohistorical, cultural, and academic contexts, interacting with internal factors such as each student’s previous experience, aspirations and motivation for learning.

Smith et al. (1998) question the assertions made on the basis of the 'deep' and 'surface' learning distinction while Li (2002) argues that the conceptualisation of deep and surface processing is an arguable dichotomy originating from the etic experimental tradition in Western contexts and "should not be simply applied to the Chinese case" (pp. 47-48). As Ryan (2011) proposes, Chinese students should not be seen as a problem to be solved, but as contributors who bring fresh prospects to the development of good practice in Australian higher education.

### ***Section Summary***

This section examined the literature concerning 'Asian learners' and specifically 'Chinese learners' with a focus on the concept of the 'Chinese Paradox' and also Chinese students' learning experiences in the Australian context. The next section will examine literature on internationalised teaching in Australian HE particularly relating to Chinese students.

## **2.4 Gaps Identified and Summary of This Literature Review**

This serves as the closing section of this review of literature through identifying gaps in the academic literature which underpin the emerging research questions.

A range of national and international studies have been conducted on international students' experiences in educational settings. Chinese students' unique learning needs and characteristics have received particular attention (Perry, 2015), with substantial investigations into this cohort (e.g., Heng, 2018; Ryan, 2016; Xu, 2019). However, many studies that have related to Chinese students' approaches to learning in Western institutions (e.g., Gu, 2016; Ma, 2015; Wu, 2015) have focused on perceptions of either students or academics. Limited research has examined perceptions of both students (i.e., Chinese and domestic students) and their lecturers simultaneously regarding their learning and teaching experiences in Australian universities. Further, as highlighted by Xu (2016), seldom have the previous discourses of globalisation in Australia involved an examination of the appropriateness of conventional pedagogical approaches to contemporary, more globalised and culturally interdependent contexts for international students, especially for those from China. There has also been limited research that provides a voice specifically focusing on the lived learning experience of Chinese international undergraduates in Australia (Wang & Greenwood, 2015).

As such, the question still remains as to the full picture of Chinese international students' approaches to learning in Australian universities, and what contributes to an effective internationalised teaching strategy targeted to this cohort in Australian tertiary education. There appears to be a need to thoroughly examine how Australian lecturers and their Chinese students cooperate and negotiate in their way of teaching and learning.

Both methodological and cultural limitations have been associated with some of the research that informs the current body of literature on Chinese learning within Western higher education. Heng (2018) suggests that inadequate methodology, particularly in relation to conceptual frameworks, is partly to blame for the misconceptions about Chinese students' learning "deficits" (p. 23). With sociocultural methods most commonly utilised in the research on Chinese students, much research was carried out using either quantitative or qualitative data to investigate Chinese learning approaches (Xie, 2014). Further, another reason why Chinese students are unwittingly perpetuated as deficit learners by some Western researchers (e.g., Kingston & Forland, 2008; Wang & Shan, 2007) lies in the narrow conceptual framework typically adopted to analyse how students' previous experiences and current sociocultural and academic contexts influence their approaches to learning, rather than assuming that cultural background is "baggage" (Heng, 2018, p. 23). In addition, Jin and Cortazzi (2011) pointed out that many existing studies utilised one-off interviews or a narrow sphere of research methods to study Chinese students' learning experiences at one point in time, by which their experiences were frequently "rendered static, obfuscating student agency and change over time" (Heng, 2018, p. 23).

In response to these identified gaps in the literature, a main research question was developed, specifically,

*What are the perceptions of Chinese international undergraduates and their Australian student counterparts and lecturers regarding the approaches to learning used in Australian universities?*

To help inform the data collection and analysis required to answer this question, two sub-questions were devised:

**1) *What typifies Chinese international students' (CIS') approaches to learning in Australian universities as compared with their Australian peers?***

- a) From the perspective of CIS and ADS
- b) From the perspective of academics teaching both CIS and ADS

**2) *How do CIS and their lecturers negotiate and adjust their approaches to learning and teaching in Australian universities?***

- a) From the perspective of CIS
- b) From the perspective of academics

## **2.5 Chapter Summary**

This literature review has outlined current understandings of Chinese international undergraduates' approaches to learning in the Australian context through the examination of three bodies of literature. First, the conceptual study of student learning was examined with conceptions of learning and a shift in orientation to learning focused. SAL theory and the underlying assumptions associated with deep learning and surface

learning and the SPQ-2F and its predecessor, the SPQ and the Presage-Process-Product learning model formed the second section. The third section focused on CIS' learning experiences in Australian HE and the underlying assumptions about Chinese learning characteristics including perceptions relating to 'Asian learner' or 'Chinese learners' and the 'Chinese paradox'. Finally, a number of gaps were identified in the academic literature on CIS' learning approaches, highlighting a number of conceptual, methodological and empirical limitations. These gaps underpinned the development of a research question and a number of sub-questions. The gaps also set the scene for and underpinned the design of a study that addressed some of the methodological gaps, while also most appropriately responding to the research questions, the detail of which will be outlined in the next chapter.

## **Chapter 3 Research Design**

This chapter will outline the research design and methodology implemented to address the research question and sub-questions relating to perceptions of Chinese international students' (CIS') approaches to learning in Australian universities. To commence, an explanation of the design of the rationale for this research project including the ontological and epistemological underpinnings, and the methodology and research methods that emerged as appropriate for answering the research questions will be provided. The chapter will also include an explanation of the theoretical underpinnings adopted the 3P framework. In addition, the details related to the methods employed to collect and analyse data, and the ethical considerations associated with this research will be presented.

### **3.1 Research Design**

Research has been described as a systematic investigation (Burns, 1997) or inquiry whereby data are collected, analysed and interpreted in an effort to “understand, describe, predict or control an educational or psychological phenomenon or to empower individuals in such contexts” (Mertens, 2005, p. 2). Research designing is a complex process that consists of various aspects ranging from the broad assumptions of the research to the more specific details about the procedure of data collection and analysis (Creswell, 2014). Yin (1994) described research design as ‘the logic’ that links the data to be collected and the conclusions to be drawn from the initial questions of a study. According to Crotty (1998), research designs are generally underpinned by four main elements: epistemology, theoretical perspective, methodology, and methods, which are further conceptualised by Creswell (2009) into three elements, i.e., knowledge claims, strategies of inquiry, and methods of data collection and analysis.

#### ***3.1.1 Ontological and Epistemological Views***

Scotland (2012) holds that it is impossible to engage in any form of research without committing (often implicitly) to ontological and epistemological positions. Ontology is the study of being (Crotty, 1998) that reflects a researcher's view of reality. An ontological assumption, according to Tolk (2013) and Scotland (2012), portrays individual views regarding the nature of reality that are concerned with matters of real existence and action such as “how things really are” and “how things really work” (Denzin & Lincoln, 1998, p. 201). It is the researcher's answer to the question of the nature of reality that is to be investigated (Crotty, 1998).

Two popular ontological positions include objectivism and constructivism. Objectivism asserts that the existence of phenomena and their meanings is independent from the agents, while constructivism insists that phenomena and their meanings are continually influenced and changed by social agents (Grix, 2002). As such, objectivists believe that there is one objective reality experienced the same way by everyone, whereas constructivists insist that reality is 'constructed' differently by each of us (Sutrisna, 2009).

Epistemology, on the other hand, is concerned with the nature and forms of knowledge (Cohen et al., 2007). Epistemological assumptions involve how knowledge can be created, acquired and communicated (Scotland, 2012), usually addressing the forms of the knowledge of reality (Crotty, 1998), the significance of knowing about it (Guba & Lincon, 1994), and the relationship between the researcher and the participants (Denzin & Lincoln, 1998). The most commonly adopted epistemological positions are positivism and interpretivism. Positivism advocates the application of methods used in natural science to the study of reality and beyond, and as such, the 'truth' (or the reality) is out there to be discovered (by the researcher) (Sutrisna, 2009). Interpretivism, conversely, asserts that the objects of natural science are there in reality that is separate from the agents, and it is the researchers who construct their own 'truth' about the world (Sutrisna, 2009). As such, a positivist believes that the reality can be observed, studied and even 'modelled' whilst an interpretivist holds that the reality can only be interpreted.

From the above discussion, links between ontology and epistemology are evident. For instance, positivism accords with objectivism while interpretivism aligns with constructivism (Grix, 2002). Positivism mainly takes objectivism as its basis, holding that there is only one objective reality experienced by everyone, and thus, the job of researchers is to discover that one objective reality and model it. Interpretivism, on the other hand, closely aligned with constructivism, insists that reality is constructed individually and interpreted differently by individuals. Positivism lends itself to deductive research methodologies where theory is tested and the researcher is separate from the subjects investigated (Johnson & Onwuegbuzie, 2004). A positivist stance is primarily utilised for quantitative studies, where empirical data are collected and analysed in order to confirm or depute a hypothesis (Cohen et al., 2007). Conversely, constructivism lends itself to inductive research, where data are sorted to generate a new theory or knowledge (Johnson & Onwuegbuzie, 2004; Lincoln & Guba, 2000). A constructivist stance is largely taken in qualitative research (Bahr & Pendergast, 2007; Grix 2002). However, mixed methods involving the integration of both qualitative and quantitative methodologies has become more popular in social science research, particularly in

educational studies (Creswell, 2014; Johnson & Onwuegbuzie, 2004; O'Toole & Beckett, 2013; Tashakkori & Teddlie, 2010).

### **3.1.2 An Interpretivist /Constructivist Paradigm**

According to Mertens (2005), the exact nature of any research is fundamentally affected by “the researcher’s theoretical framework” used to “establish relationships between or among constructs that describe or explain a phenomenon by going beyond the local event and trying to connect it with similar events” (p. 2). Theoretical frameworks are also referred to as ‘paradigms’, which can influence how knowledge is studied and interpreted, though distinct from a theory (Mertens, 2005). According to Scotland (2012) and Mackenzie and Knipe (2006), a research paradigm is the underlying lens through which the research is conducted. The absence of a paradigm as the first step can be problematic as no basis is provided for subsequent choices regarding methodology, methods, literature or research design (Mackenzie et al., 2006; Scotland, 2012). As Mackenzie et al. (2006) contend, “it is the choice of paradigm that sets down the intent, motivation and expectations for the research” (p. 193). Therefore, it is necessary for researchers to clarify the paradigm underpinning the study prior to undertaking any research, as acknowledged by Grix (2002) and O'Toole and Beckett (2013).

Every paradigm is based upon its own ontology and epistemology. Different paradigms are inherited from particular ontological and epistemological views, resulting in diverse assumptions of reality and knowledge that underpin the particular research approach.

The current study adopts an interpretivist/constructivist paradigm to research perceptions about learning approaches used by CIS in Australian universities. Indeed, with foci on the inter-dependency of research questions with the research methodologies (Cohen & Manion, 1994), the interpretivist/constructivist approaches to research rely upon interpretation of the “participants’ views of the situation being studied” (Creswell, 2014, p. 8), insisting that “reality is socially constructed” (Mertens, 2005, p. 12), and thus participants’ own backgrounds and experiences should be highlighted.

In the current study, objectivist ontology was initially deemed to fit in with this project, as the aim was to discover perceptions of CIS, ADS and lecturers about how Chinese students learned in the Australian context and also to find out how CIS and their lecturers negotiated and adjusted their approaches to learning and teaching. As such, it concerned “the study of being” in the ontology of objectivism (Crotty, 1998, p. 10). However, upon further examination of the learning structure of CIS, it became evident that the constructivist paradigm appeared more suitable in this study due to the fact that student approaches to learning can be influenced, as discussed in the literature review



chapter, by variables such as students' social and cultural backgrounds, personal learning experiences and the setting in which learning occurs. Namely, approaches to learning are what can 'be constructed' or 'modelled'. Therefore, a constructivist view of ontology was adopted in this study.

As outlined in Section 1.4, this study aimed to investigate 'the perceptions' of CIS, ADS and their lecturers regarding CIS' approaches to learning. According to Entwistle (1987), Entwistle et al. (2002) and Hassall and Joyce (2001), 'perceptions' are the primary influence on how learning materials are utilised by students and the choices they make in their approaches to learning. Entwistle et al. (2002) argue that student learning is affected more by their perceptions of teaching than by the method of teaching itself. Rather than merely focusing on a study that was limited to providing empirical evidence about the approaches Chinese students employ in their learning, this project adopted an interpretivist stance of epistemology, examining Chinese students' learning behaviours from a historical, cultural and sociocultural point of view, and trying to uncover reasons behind their learning approaches in order to construct the 'whole picture' of their learning. As such, a mainly quantitative positivist approach on its own was not deemed to be the most appropriate methodological framework for answering the research questions, which were not focused on just reporting empirical evidence (Creswell, 2014; Johnson & Onwuegbuzie, 2004). Instead, a mixed methods approach, with quantitative and qualitative methods combined, provided more opportunity for the students' voices to be heard and also supported data triangulation to strengthen the findings (Creswell, 2014; Tashakkori & Teddlie, 2010).

Hence the interpretivist/constructivist paradigm was considered appropriate for the current research in which the interpretivist design focused on the unique and genuine expressions and perceptions of the participants regarding approaches to learning, while the constructivist approach employed to collect data assisted in the development of a broader picture of the Chinese way of learning in Australian universities.

### **3.1.3 Methodology**

Before undertaking research, an array of factors required consideration in order to determine the most effective manner in which to explore the research questions (Creswell, 2014; Tashakkori & Teddlie, 2010; Yin, 2003). Methodology in social research, as explained by Dunne (2005), determines what researchers do and how they understand their actions and experiences and those traces of the society to be constructed as data. Research methodology involves the principles and procedures of logical thought processes applied to a scientific investigation (Fellows & Liu, 1997). It includes the overall strategy or "plan of action which lies behind the choice and use of

particular methods” (Crotty, 1998, p. 3), such as why, what, from where, when and how data are collected and analysed.

**Mixed Methods Approach.** Two generic research methods are frequently utilised in measuring student approaches to learning, namely, quantitative and qualitative (Case & Marshall, 2009), with the former dealing with the generation of data in quantifiable form while the latter involving examining, comprehending, and clarifying the meanings of social phenomena (Merriam, 2009). Creswell (2014) suggests that the use of both, or mixed methods, can better address complex problems in social sciences.

Johnson and Onwuegbuzie (2004) define mixed methods research as “where the researcher mixes or combines quantitative and qualitative research techniques, methods, approaches, concepts, or language into a single study” (p. 17). Tashakkori and Teddlie (2010) argue that mixed methods research “enables the researcher to simultaneously answer confirmatory and exploratory questions, and therefore verify and generate theory in the same study” (p. 15). In Davis’ (2010) perspective, mixed research provides a rich and in-depth understanding of the research questions and therefore has been accepted as an effective approach in the field of education (Creswell & Garrett, 2008).

How Chinese students approach their learning is complex with multiple elements interacting including exterior factors such as sociohistorical, cultural, and academic settings, and internal factors such as students’ motivation and their intellectual development (Wu, 2015). The research questions, as stipulated in Section 1.5 in Chapter 1, required data from CIS, ADS and the lecturers teaching them, in terms of the students’ approaches to learning and the coping strategies employed, which could be gathered in a variety of ways. Whilst part of the research questions could have been answered through a quantitative survey, other aspects, particularly in relation to the social-cultural contexts, required a richer source of data deemed obtainable via interviews. The interviews were intended to examine the research questions concerning the learning and teaching experiences of both CIS and their Australian lecturers, and to derive meaning from those experiences, and as such were qualitative in nature (Pitney & Parker, 2009). Furthermore, the choice of mixed methods also emerged from the identified limitations in the literature regarding the study of perceptions per se. The research questions in the current study required data mainly in relation to stakeholder perceptions, which tends to require both broad and deep interpretations which are not always possible to attain via a single method (Plunkett, 2005). Therefore, a triangulated concurrent mixed methods approach (Creswell, 2014) was eventually decided on for this study, details of which are included in Section 3.1.4.

**Cross Cultural Research.** Methodologically, this study was located within the framework of cross cultural research, despite the location being Australia. Cross cultural

research requires consideration and understanding of the various mores associated with not just the country in which the research is being conducted, but also the research participants, and should extend to historical, social, religious, and political mores (Hall & Kulig, 2004).

Biggs (1991) initially identified two main methods as underpinning much cross cultural research, and these are still relevant today. The first method of 'etic' research involved a comparison of different cultures on universal categories making generalisations across cultures that take into account all human behaviours (Brislin, 1976) while 'emic' research, based on culture-specific category, concerns documenting specific behaviours of the culture under study, taking into account what the people themselves value as meaningful and important. Brislin (1976) promoted the etic-emic distinction as a major methodological orientation to cross cultural studies and it is still plausible to relate it to aspects of the current study. For instance, in terms of the collection of data, with qualitative data associated with an emic approach and quantitative data associated with an etic approach.

Although the current study was conducted in Australia, there were still a number of methodological aspects that required consideration regarding language. While there was an expectation that all student participants had achieved a reasonable level of English proficiency, due to being accepted to study in an Australian tertiary institution, some CIS may still have felt more comfortable presenting their views in their first language, Mandarin. Language problems are often cited as a hurdle for CIS' acculturation in Western institutions (e.g., Case, 2008; Clason, 2014; Heng, 2018). As such, CIS participants were offered the choice of completing surveys and interviews in either English or Chinese, after adapting and preparing questions in English and then translating them into Mandarin (Harkness & Schoua-Glusberg, 1998).

Due to linguistic and cultural differences, this translation process can be methodologically challenging (Hilton & Skrutkowski, 2002; Rode, 2005; Sousa & Rojjanasira, 2011), requiring careful examination of consistency, validity and reliability across the original and translated versions (Gjersing, Caplehorn, & Clausen, 2010; Rode, 2005). This was particularly important for the survey in the current study, which was being used in an original and a translated version and had been adapted from a main measure, the R-SPQ-2F, used in studies conducted predominantly in Western countries. As such, it was anticipated that translation into the first language of both sets of assist the research participants to freely express their views.

The interview questions were also designed to tap into ideas prevalent in the literature, therefore cultural relevance and comprehensibility were necessary while at the same time ensuring the intent and meaning of the original sources were maintained

(Sperber, 2004). As such, interviews with Chinese students were conducted mainly in Mandarin, the mother tongue of the Chinese participants. Additionally, the strategy of back-translation (Brislin, 1976) was employed to transcribe the data gathered from interviews from the international student respondents.

Another concern often raised in relation to cross cultural research involves a shared cultural background between the researcher and participants, which can prove beneficial or limiting. In the current study, the researcher shared a cultural background with one set of participants – the CIS, but not the ADS or the academics, which could be seen as a form of potential bias, particularly in relation to personal interpretations of data (Bishop, 2005). However, as the CIS were the main focus of the study, the shared cultural background helped to reduce potential linguistic barriers. Nevertheless, the potential for personal bias highlighted the value of seeking professional expert advice regarding data collection and analysis. In fact, assistance was sought from and provided by five experts, two being Chinese academics with expertise in the field of translation. They assisted with the original translation of the survey and interview questions and translation and back-translation (from English to Mandarin and vice versa) using a sample of the interview transcripts (Chen & Boore, 2010; Regmi, Naidoo, & Pilkington, 2010). Other assistance was accepted in relation to survey development, particularly in the online environment. Details regarding assistance from experts are provided and further explained in Section 3.3.2 in the pilot study section.

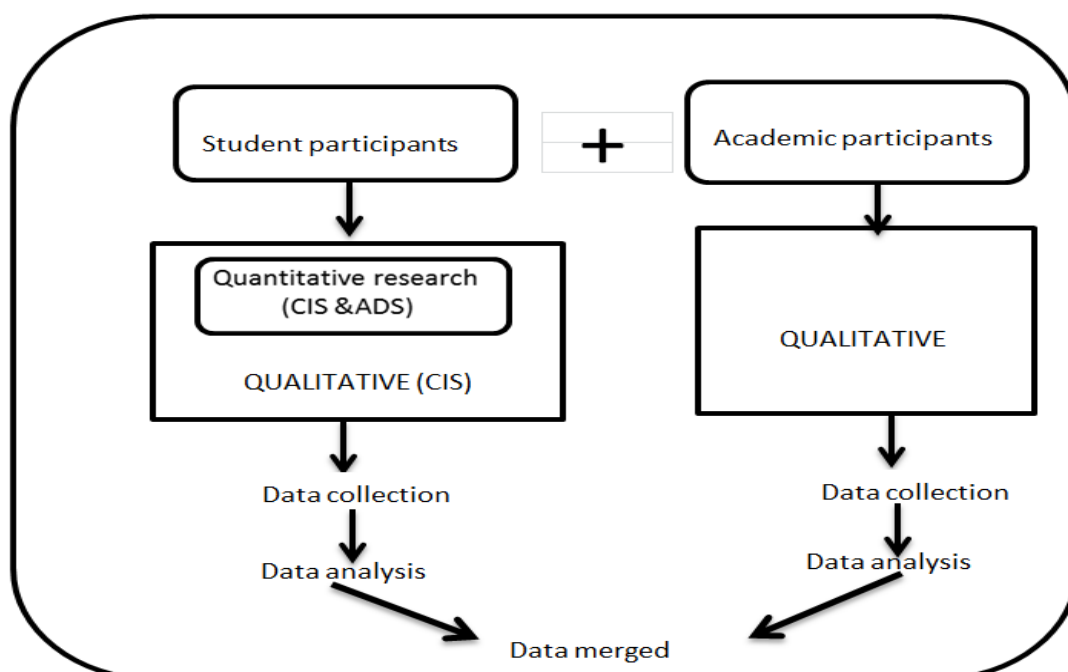
### **3.1.4 Research Methods**

Research methods are different from methodology, and according to Dunne (2005), are the “procedures and techniques which comprise the systematic means by which data are produced, interpreted and reported” (p. 162). Sutrisna (2009) suggests that research methods are ‘tools’ or ‘channels’ utilised to realise a research methodology. In Stake’s (1995) perspective, a research method is not a choice by the researcher but rather, a choice of the research itself. The function of a research method is to ensure that the evidence obtained enables the researcher to answer the initial research question as unambiguously as possible.

**Triangulated Concurrent Design.** Creswell (2009) outlines six major strategies that could be employed in designing a mixed methods research, namely, sequential explanatory, sequential exploratory, sequential transformative, concurrent triangulation, concurrent embedded and concurrent transformative strategy. However, none of these strategies suited this study as different methods of data collection and analysis were considered necessary for each of the three different cohorts–CIS, ADS and lecturers. Hence, a triangulated design was used as illustrated in Figure 3.1.

Figure 3.1

*A Triangulated Concurrent Design of Mixed Methods Approach*



Note. “+” indicates concurrent data collection with both quantitative and qualitative data collected at same time; arrows indicate the sequence of data collection with one building on the other; the capitalised ‘quantitative’ and ‘qualitative’ indicate the equality between the two forms of data.

As outlined in Figure 3.1, a concurrent embedded approach (Creswell, 2014) was used to obtain data from student participants, with the quantitative method embedded into the qualitative one to collect data from CIS, and a quantitative one to collect data from ADS, while a qualitative method was used to collect data from lecturer participants. The data from both threads were then triangulated and integrated at the data analysis stage to determine a holistic picture of the characteristics of CIS’ learning structure and coping measures they took to cooperate and negotiate.

When devising mixed methods research, the following aspects need to be considered: 1) the timing of collecting qualitative and quantitative data (concurrent or sequential); 2) the weighting given to each type of data; 3) the mixing of two types of data; and 4) the theorising of the entire design (Creswell, 2014).

**Concurrent Embedded Approach.** In a concurrent embedded approach, quantitative and qualitative data are collected simultaneously, but there is one predominant method guiding the project, with a minor one subordinated or embedded providing a supporting role in the procedure (Creswell, 2014). By embedding, it means that the minor method addresses a different question than the primary method or seeks information at a different level of analysis (Creswell, 2014). While collecting data from the students in this research, although both data (quantitative and qualitative) were collected

at the same stage, it was over a matter of weeks. When the quantitative data were obtained, preliminary analysis was conducted in order to provide direction for the follow-up qualitative data collection. Hence there was generally the opportunity to examine the qualitative data in advance so that anything significant could be pursued in interviews. When two types of data collection were completed, the two databases were mixed or integrated “by transforming the qualitative themes into counts and comparing these counts with descriptive quantitative data” (Creswell, 2009, p. 208). More emphasis was placed on the qualitative aspects and thus the minor method (quantitative) was embedded in the major or predominant method (qualitative).

As Creswell (2014) argues, this concurrent embedded design is advantageous in that quantitative and qualitative data can be obtained simultaneously as a time and energy saver, and by using the two different methods in this fashion, a wider perspective can be gathered so that a holistic picture can be obtained. In terms of limitations, the data collected need to be transformed in some way to enable integration within the analysis phase of the research. If the two databases are compared, discrepancies may occur that might be hard to address (Creswell, 2014). Furthermore, because the two methods are unequal in their priority and weight, this approach also brings about unequal evidence within a study, which may be a disadvantage when interpreting the final results. Although these limitations are certainly acknowledged, Yin (2003) offers some theoretical guidance for the analysis of data in studies that integrate qualitative and quantitative methods in a large mixed methods design. Hence, a further qualitative method was adopted, as demonstrated in the right-hand side of Figure 3.1, which provides “an overall composite assessment of the problem” conducive to the final results of this research (Creswell, 2009, p. 214).

Hence, a concurrent triangulated mixed methods approach integrated with a concurrent embedded strategy was deemed appropriate to address the research questions regarding CIS’ approaches to learning in Australian universities.

**Constructive Paradigm of Research Methods.** In order to demonstrate how this research was conducted, a tabular form of the sub-questions and the associated research methods are illustrated in Table 3.1.

Table 3.1

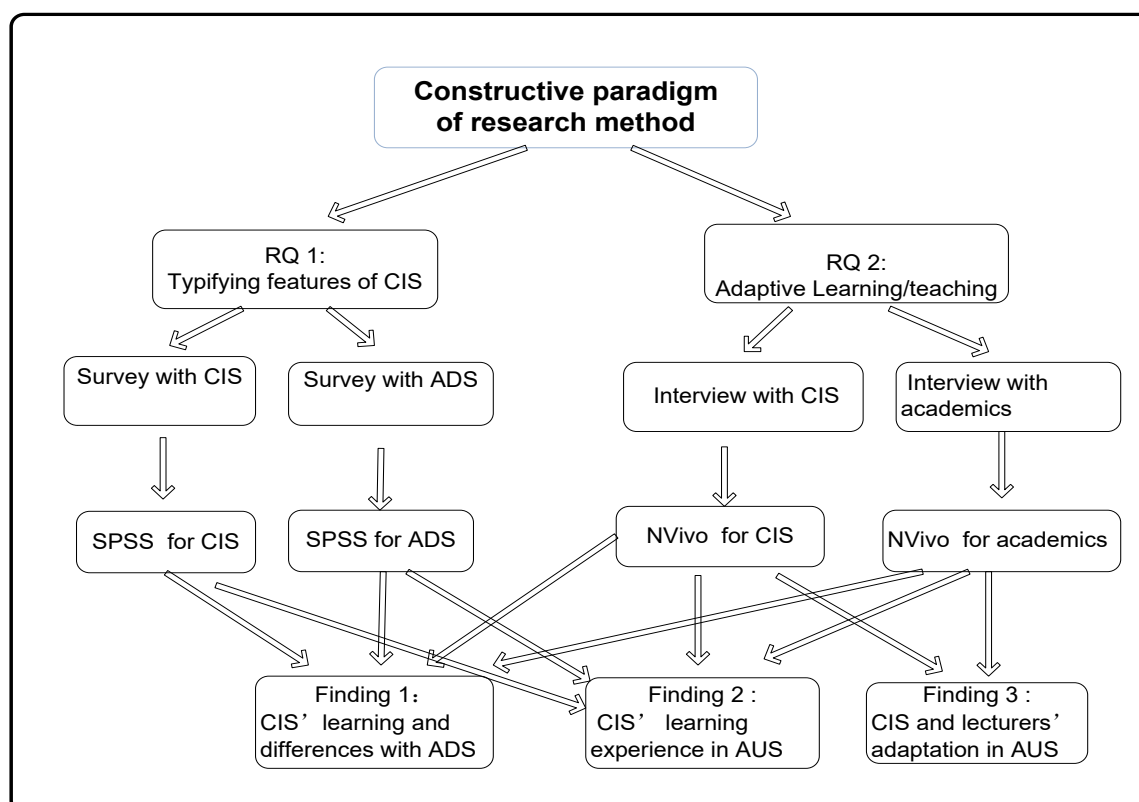
*Research Sub-questions and Relevant Methods in This Study*

Research Questions	Research Methods	How/Who
<b>1) What typifies Chinese international students' approaches to learning in Australian universities</b>		
a) From the perspective of students	Survey for CIS	An adapted version of R-SPQ-2F used to survey CIS and ADS in two Australian universities to determine differences in learning approaches.
	Survey for ADS	Open-ended questions were designed in the surveys to obtain data about learning differences between CIS and ADS.
b) From the perspective of lecturers	Interview with academics	Interviews conducted with lecturers in the same universities regarding their perceptions of CIS' learning structures as compared to ADS.
<b>2) How do CIS and their lecturers negotiate and adjust their approaches to learning and teaching in Australian universities</b>		
a) From the perspective of CIS	Interview with CIS	Interviews conducted with CIS regarding their perceptions of differences in learning structures, as compared with ADS, and the way they negotiated & adjusted their learning approaches in Australian HE.
b) From the perspective of lecturers	Interview with academics	Interviews conducted with academics regarding their practice of teaching CIS and relevant issues identified.

Specifically, a constructive paradigm of research methods was established as shown in Figure 3.2. The first research question (RQ1), typifying features of CIS as compared with ADS, was explored by conducting surveys with two student cohorts (CIS and ADS) mainly through questions adapted from the R-SPQ-2F. The data collected were entered into SPSS for analysis, and results compared in order to determine CIS' and ADS' learning approaches in terms of deep and surface learning. The second question (RQ2), concerning adaptive leaning and teaching, was explored by conducting semi-structured interviews with CIS and academics, with data entered into NVivo and analysed separately in order to characterise how CIS and their Australian lecturers cooperated and negotiated their learning and teaching in Australian universities. The data analyses were conducive to the implications concerning the internationalisation of learning and teaching in Australian HE.

Figure 3.2

### Constructive Paradigm of Research Methods



## 3.2 Theoretical Underpinnings

As stated earlier, the overarching research question was to uncover the perceptions of how CIS learned in Australian universities. If interpreted according to Biggs' (1991) categorisation of cross cultural research, this question was basically concerned with the emic learning and teaching of CIS in Australian universities. In order to achieve the overall propositions proposed by the research questions, the study deliberately adopted Biggs' 3P Model of learning and sociocultural theory of learning as its theoretical lens.

### ***Presage-Process-Product (3P) Model of Framework***

The theoretical lens for this project was first underpinned by Biggs' et al. (2001) Presage-Process-Product (3P) Model of learning (also see Figure 2.3). According to Biggs (1993), the relationship between the 3Ps is relational. Students' personal factors, coupled with the contextual environments in which they are situated, determine how they approach their learning, ultimately determining the quality of their learning outcomes. AK (2008) interprets approaches to learning in the 3P model as a combination of "preferred, ongoing and contextual" approaches (p. 714). A preferred approach, as asserted by AK (2008), involves "how individuals differ within a given teaching context (presage)", while ongoing approaches are concerned with "how specific tasks are handled by students

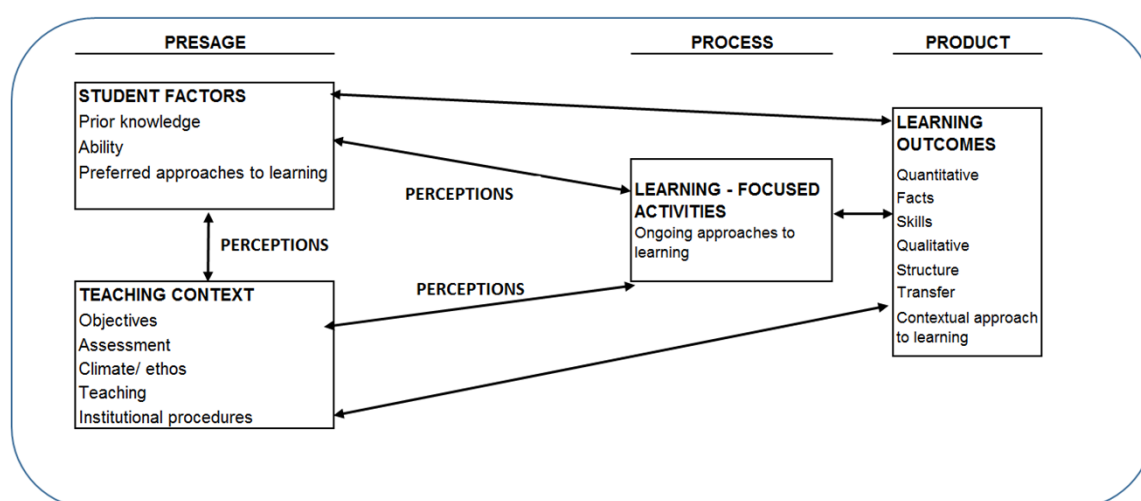


(process)”, and contextual approaches deal with “how teaching contexts differ from each other (product)” (p. 714).

Rather than examining all the stages embraced in the 3P model (including the Presage, Process and the Product), this study concentrated only on the intermediate stage, the perception of learning approaches from the viewpoints of CIS and their lecturers in an Australian context marked as **perceptions** in Figure 3.3.

Figure 3.3

*3P Model of Student Learning with the Studying Areas Specified*



Note: Adapted from “The Revised Two-factor Study Process Questionnaire: R-SPQ-2F” by J. Biggs, D. Kember and D. Leung, 2001, p. 136, *British Journal of Educational Psychology*, 71, 133-149. Copyright 2001 by the British Psychological Society.

The 3P model highlights that student approaches to learning are determined by a number of variables, and that learning approaches, as a mediating link between the presage and the product, are influenced by student characteristics, learning environment, and learning outcomes. The implication is that, “if proper strategies are applied, it might be possible to move students’ learning approaches from a surface to a deep orientation”, as noted by AK (2008, p. 717).

In order to define CIS’ learning approaches, as expressed in Biggs’ 3P framework, the current study started from the **Process** stage by conducting a survey with two student cohorts (CIS and ADS). A return to the **Presage** stage was facilitated through conducting interviews with CIS and their Australian lecturers. The data collected from this stage served as feedback to the **Process** (how students go about their learning), which, in turn, justified the quality of their learning outcomes as exemplified in the **Product** stage.

Underpinned by the 3P framework, this study sought to investigate CIS’ approaches to learning from the following stages:

1) **The Presage** was designed to investigate predetermining factors that influenced Chinese students' learning in Australian universities. Two investigations were involved in this phase. Chinese students' factors such as their prior experience, language abilities, and preferred ways of learning were investigated with an aim to track down the sociocultural influences on their adoption of specific approaches in Australian universities. Meanwhile, this phase also involved an investigation of the present teaching context in Australian HE. A wide range of variables such as the curriculum, teaching patterns, assessment and institutional practices that targeted international students, including CIS, were examined. Semi-structured interviews were devised to obtain data from CIS and Australian academics in relation to their perceptions of the CIS' learning and teaching practiced in Australian universities.

2) **The Process** was designed to illuminate the characteristics of CIS' learning approaches in Australia. A multi-part questionnaire, mainly based the R-SPQ-2F by Biggs et al. (2001), was used to collect quantitative data from CIS and ADS respectively with the aim of determining and comparing their learning differences in the domains of deep and surface learning. Follow-up interviews were conducted with Chinese participants to obtain qualitative data related to their learning experiences in Australia such as challenges encountered, learning differences perceived with ADS, and supports received from Australian universities. In addition, the data related to the coping measures CIS adopted to adjust to the learning/ teaching in Australian HE was also collected.

3) **The Product** phase was designed to figure out the interconnection between the approaches students adopted with their concomitant results achieved in learning. It was expected that Chinese students worked to overcome challenges associated with their learning in Australia, and to adapt to the Australian education system, while Australian academics were expected to implement internationalised teaching to accommodate both international students, including CIS, and domestic students.

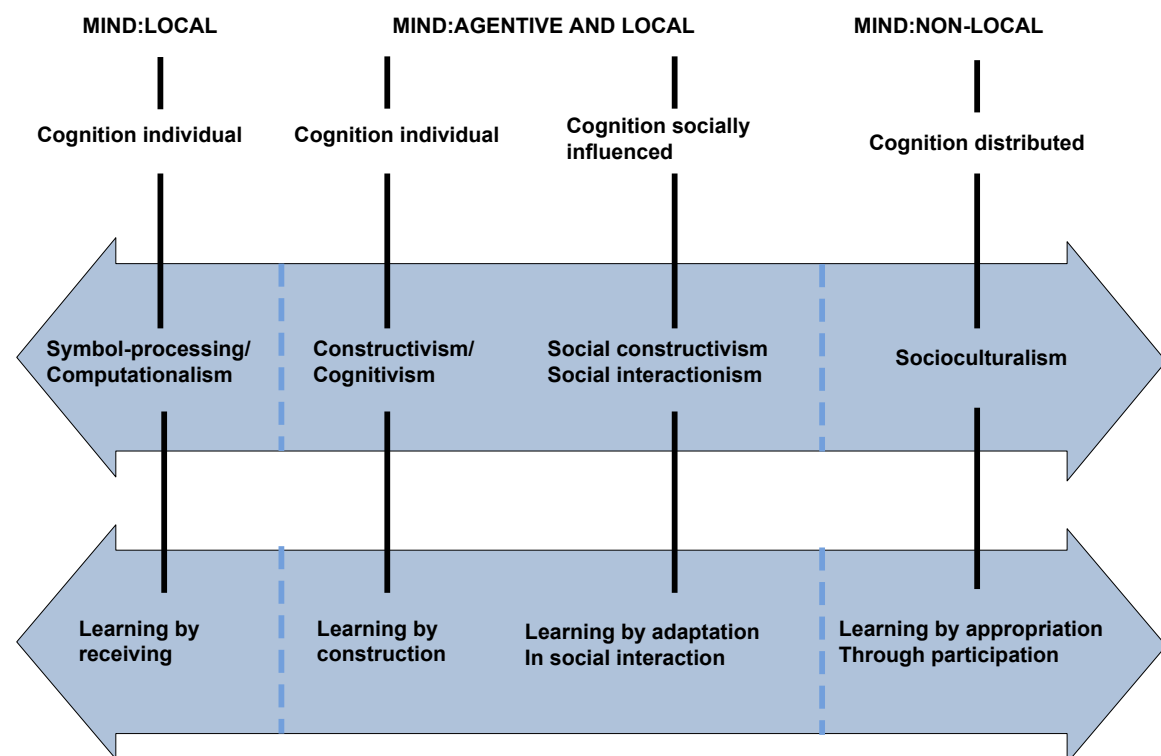
### ***Sociocultural Framework of Learning***

This research was also underpinned by a sociocultural theory of learning to explore the sociocultural and historical reasons behind Chinese students' learning behaviours in Australian universities. The sociocultural perspective of learning, also referred to as social constructivist theory (Vygotsky, 1978), is based on Vygotskian sociocultural theory (SCT), which posits that human cognition is highly influenced by one's social, historical, and cultural milieu (Vygotsky, 1978). With a focus on the roles of "social interaction and cultural context in learning" (Gipps, 1999, p. 362), SCT aims to interpret the interrelationships between individuals' mental functioning and the cultural,

institutional, and historical situations in which this functioning occurs (Wertsch et al., 1995). In this perspective, learning is viewed as a semiotic process attributable to participation in social activities rather than internal mental processes solely by the individual (Lantolf, 2000; Lantolf & Thorne, 2006). According to Murphy et al. (2008), learning, which is located in an agentic and local view of mind, happens by adaptation in social interaction and appropriation through participation, as demonstrated in Figure 3.4.

Figure 3.4

*Learning Theory Continuum*



Note. Reprinted from "Curriculum, Learning and Society: Investigating Practice" by P. Murphy, K. Hall, R. McCormick & R. Drury, 2008, *Curriculum, learning and society: Investigating practice* (Study guide, Masters in Education). Open University. Copyright 2008-2015 by Open University.

According to Lantolf (2007), the sociocultural framework of learning can be fundamentally encapsulated into two aspects: 1) learning is mediated and internalised, and 2) learning is situated and appropriated. Mediation, as the most fundamental concept in Vygotsky's sociocultural model of learning (Shabani, 2016), emphasises the functional interdependence of individual and collective learning processes (Peck, Gallucci, Sloan, & Lippincott, 2009). Learning, in Vygotsky's (1978) perspective, is a dynamic process mediated and constructed through a process of internalisation and transformation of cultural tools as individuals participate in social practice (Herrenkohl &

Wertsch, 1999). From a sociocultural stance, internalisation, as a representational activity, is a process that occurs simultaneously in social practice and in human mind.

In addition, sociocultural theory also holds that humans are embedded within and shaped by their sociocultural contexts (Heng, 2018), and each individual has the potency to act distinctively in diverse sociocultural milieus because humans are endowed with the agency to change the values, beliefs, and behaviour associated with different sociocultural contexts. As Willis (1993) argues, humans are not passive beings but “active appropriators” (p. 175) who struggle in and contest their reproduction of current social structures. That is, learning is socially and culturally situated and mediated. Given changing expectations, values, and beliefs, humans may behave differently (González, Moll, & Amanti, 2005; Phelan, Davidson, & Yu, 1993). By “situating learning as an aspect of interrelated historical, cultural, institutional and communicative process” (Renshaw, 1998, p. 83), sociocultural theory of learning has profound implications for teaching, learning and education as a whole (Tharp & Gallimore, 1988).

The current research positioned Chinese students to study their perceptions of learning approaches within a sociocultural framework, i.e., their previous and current contexts, allowing for an examination of the differences between Chinese students and their Australian peers, and the influence of Chinese culture on their learning structures in an Australian context. Meanwhile, this theoretical prism enabled an investigation of how the Chinese educational system, particularly the prevalent examination system, impacted on student perspectives. Furthermore, a sociocultural theoretical approach to this study also enabled exploration of the key contextual factors such as curriculum, teaching methods, and assessment procedures that pertained to fostering deep learning among university students, including ADS and CIS, when addressing internationalised teaching in Australian HE.

As such, the current research, based on Biggs’ 3P framework, studied CIS’ learning and teaching in an Australian context framed within Vygotsky’s sociocultural framing.

### **3.3 Data Collection**

Creswell (2003) points out, “it is useful to consider the full range of possibilities for data collection in any study” (p. 17). Data collection is an important process in which “the inferences, hypotheses or generalisations tentatively held may be identified as valid, verified as correct, or rejected as untenable” (Koul, 2009, p. 205). According to Patton (2002, p. 40), “rich and illuminative data” can be obtained only by getting close, physically and psychologically, to the objects under study.

As specified in Figure 3.2, a concurrent, triangulated mixed approach was adopted in this research. Hence, a two-line data collection was designed to collect data from

students and academics respectively. Specifically, three categories of data were needed: data from CIS, ADS and Australian academics. CIS data were obtained through an embedded strategy of surveys (quantitative method) embedded into interviews (qualitative method), while data from ADS was obtained through another similar survey (quantitative method), and data from Australian academics obtained via interviews.

Accordingly, three sets of instruments were prepared for the current project for use with CIS, ADS and their lecturers. Plain Language Information Statements (PLIS) and Consent Forms were developed for each group of participants, with the ones for the CIS included in Appendix E and F as examples. The others were not included due to the large degree of similarity between them all.

### **3.3.1 Sample Selection**

**A Purposive Sampling Method.** According to Onwuegbuzie and Collins (2007), once a decision has been made to use a mixed methods approach, the next step is to select a design for the sampling. In this research, a ‘purposive sampling method’, as termed by Teddlie and Yu (2007), was adopted to select the matched participants. Purposive sampling involves selecting samples based on a specific purpose rather than randomly (Tashakkori & Teddlie, 2014). Teddlie and Yu (2007) recommend the use of purposive sampling for social science studies because it increases transferability of the results and helps “achieve representativeness or comparability” of data (p. 81). In Guba’s (1981) view, purposive sampling can “maximise the range of information uncovered” (p. 86).

The research was conducted over a period of one university year involving two cohorts of university student participants (CIS and ADS) and academics teaching both CIS and ADS. Student participants were mainly recruited among undergraduates over 18 who had been at university at least one semester, and included students across all year levels of their degree programs. It was considered important that students, especially CIS had completed at least one full semester in an Australian university to enable them to adequately report and reflect on their approaches to learning.

While there is little agreement in the academic literature regarding the appropriate sample size for research, Tabachnick and Fidell (2013) suggest a sample size of at least 300 cases in quantitative research could be considered as “comforting” (p. 613). However, they later conceded that a smaller size of 150 cases should be sufficient provided that solutions have several high loading marker variables. Pallant (2016) agrees that an ideal overall sample size should be over 150. As such, the recruited samples of 156 CIS and 212 ADS in this research were adequate for this study.

In the review of the literature, it was identified that disciplinary differences can affect students' approaches to learning. Some researchers (e.g., Alexander, 1997; Biggs, 1978; Hager & Hodkinson, 2011) suggest that the academic domain of the task under investigation can influence students' approaches to learning. Therefore, this study considered enlisting participants from different disciplines that could represent the generic characteristics of student learning approaches. As disciplines such as Accounting, Business Management, Science and Information Technology are popular among CIS, the majority of the respondents were enlisted from Business schools and those offering Science, Technology, Engineering and Mathematics (STEM) related disciplines, with smaller numbers from Arts and Education schools.

Other considerations included students' ethnic backgrounds. Chinese participants were enlisted on the grounds that they were native-born Chinese, who had lived and been educated in Mainland China for most of their lives, who came to Australia to pursue a degree, and a Chinese dialect was their native tongue. In the same departments or faculties, Australian domestic respondents were selected on the basis that they were domestic (not international), and English was their first language. Academics teaching both CIS and ADS, for whom English was their first language, were invited for interviews.

**A Nested Sampling with Multilevel Methods.** Onwuegbuzie and Collins (2007) hold that there are four kinds of relationships between quantitative and qualitative samples in concurrent triangulation designs of mixed methods: 1) identical, where the same participants are involved in the quantitative and qualitative phases; 2) parallel, where different participants are involved in the quantitative and qualitative phases, but they are drawn from the same community; 3) nested, where the sample of one phase is a subset of the same sample that was used in the other phase; and 4) multilevel, where the participants in the quantitative and qualitative phases are different and are drawn from different communities. In the current study, both nested and multilevel components were utilised. Specifically, a nested concurrent sampling was adopted so Chinese survey participants could choose to further participate in the follow-up interviews. Multilevel was also evident in that none of the cohorts participated in the same data collection methods.

In terms of the academic participants in this research, details of academics who were teaching both Chinese and domestic students in the target universities were first sourced from the related university websites. Emails were then sent to possible academics inviting their participation. This initial approach was followed by a snowball sampling method to approach academics who were participating already to recommend details of other academics who might be suitable to invite via emails. Snowball sampling, also termed as chain sampling, is a recruitment method whereby research participants are asked to assist researchers by recognising and identifying other potential participants

(Marshall & Rossman, 2006). Patton (2002) considers it as “locating information-rich key informants or critical cases” (p. 237). It is often acknowledged that snowball sampling could bias the data collected for the potential similarities among participants. However, only one academic was recruited via snowballing in the current study, and was from a different university in a different discipline from the participant who recommended, and thus the likelihood of potential bias was minimal.

### **3.3.2 Data Collection from Students: Surveys and Interviews**

Data collection was conducted over the period of a year (from March 2019 to February 2020). First, two online surveys were conducted with CIS and ADS to obtain quantitative data regarding their perceptions, and then semi-structured interviews were conducted among CIS to gather qualitative data further confirming their learning approaches and the coping measures they undertook to adjust to Australian higher education.

**Survey as a Research Tool.** Trochim and Donnelly (2008) argue that quantitative data collection helps researchers to identify the relationships between variables. The most commonly used method to gather quantitative data is through surveys, which are recognised as an effective tool to gather a large volume of data from a sizeable population in a relatively short period of time (Creswell, 2014; Teddlie & Tashakkori, 2009). According to Johnson and Christensen (2008), surveys are particularly suitable and useful in mixed methods research to obtain data regarding participants’ perceptions, feelings, attitudes and beliefs toward the topics under study, because they allow for gathering a breadth of information including demographic background information.

In the current study, surveys were conducted with the two student cohorts, and results were compared and integrated to provide data for the triangulation of the ultimate findings of this research.

**Incorporating the R-SPQ-2F.** The surveys integrated the elements of the universally conceived characteristics of approaches to learning, particularly in terms of deep approaches (DA) and surface approaches (SA) to learning. This enabled identification of the defining features of the two cohorts (CIS and ADS) and the differences between them, helping derive the questions for the follow-up qualitative interview conducted with CIS.

The review of literature in Chapter 2 demonstrated the availability of a host of instruments previously designed to measure student learning, among which the SPQ by Biggs (1987) is one of the most extensively employed inventories to measure student learning approaches (Asikainen & Gijbels, 2017; Jones, 2002; Kember, Wong, & Leung, 1999; Richardson, 2004; Xie, 2014). Biggs (1991) suggests that the scores students

achieved from the SPQ “give an indication of the extent to which students are in general likely to rote learn, to seek meaning, or to maximise grades, or any combination of these” (p. 29). However, for the purposes of the current study, it was decided to use Biggs et al.’s (2001) revised version (R-SPQ-2F) due to the improved construct validity and closer relevance to the specific context of this study (Kember, 1996; Watkins & Biggs, 1996). Although the development of the R-SPQ-2F was not originally intended to build up scales that could possibly characterise the understanding and memorising strategy adopted by Asian students, as admitted by Biggs et al. (2001), it did endeavour to ensure that the DA and SA scales were aligned with the clearer descriptions that had emerged from the previous study on students’ approaches to learning.

The other important insight for the establishment of the R-SPQ-2F was related to a better comprehension of extrinsic motivation, which had contributed to the original surface motive scale in the SPQ. Kember et al. (1999) advance their evidence that career-oriented motives are entirely compatible with intrinsic motivation, and thus, the original version of the SPQ needs to be reworded in order to reflect the tendency to minimise the cognitive level of the task. In addition, the R-SPQ-2F evolved due to “a need for a shorter two-factor version of the SPQ, addressing deep and surface approaches only, that can be administered quickly and easily by a regular teacher, for use in monitoring teaching contexts” (Biggs et al., 2001, p. 139). As such:

The principal motivation for the re-development of the instrument [the SPQ] was our commitment to teachers researching the learning environment in their own classrooms. ... The most effective way of ensuring high quality teaching and learning is for teachers to take responsibility for ensuring that assessment and other contextual elements...are constructively aligned to promote deep approaches to learning (Biggs et al., 2001, p. 145).

More importantly, the R-SPQ-2F has been validated as a reliable instrument that can be employed to diagnose students’ deep and surface learning by various scholars including Asikainen and Gijbels (2017), Biggs et al. (2001), Byrne et al. (2002) and Dennehy (2015), and replicated in the field of educational research by Martinelli and Raykov (2017) and Mimirinis and Bhattacharya (2007). Biggs et al. (2001) reported that the internal construct validity of the R-SPQ-2F was good in terms of the items and dimensions. As Asikainen and Gijbels, (2017) found in their systematic review of longitudinal studies on deep and surface approaches to learning from 1980s to date, of the multitude of inventories developed to measure student learning approaches, the SPQ and its successor - the R-SPQ were the most extensively instrument (with 9 out of 43 articles included in their review), with Entwistle’s (Approaches to Studying Inventory, ASI)



being the second most commonly used. Similarly, Martinelli and Raykov (2017), in their investigation of the feasibility of application of the R-SPQ-2F among undergraduate student teachers, found that this questionnaire had acceptable internal consistency and is a promising short instrument for the diagnosis of deep and surface approaches to learning. Other researchers (e.g., Fryer et al., 2012; Leung et al., 2008; Stes et al., 2013) also provide compelling evidence that the R-SPQ-2F is a valid instrument that can be adopted to evaluate students' learning in cross cultural settings. For example, Xie (2014), through the NEO Five-Factor Inventory-3 (NEO-FFI-3), investigated the validity of the R-SPQ-2F, suggesting that among Chinese university students, the R-SPQ-2F has acceptable "internal consistency reliability, test-retest reliability as well as good internal and external construct validity" (p. 4), and therefore, "a reliable and valid instrument for Chinese university students" (p. 15).

Although the R-SPQ-2F has been recognised and gradually accepted by Chinese scholars, it has not yet been fully validated or even translated among the university students in Mainland China, although there was a psychometric evaluation of Chinese university students from Hong Kong by Biggs et al. (2001). Xie (2014) also investigated the psychometric properties of this inventory among Chinese university students. As certified by Zhu, et al. (2008) and Xie (2014), the old longer version of the SPQ is still popularly administered in China to examine students' approaches to learning. Nevertheless, Zhang (2000) and Xie (2014) suggest that the R-SPQ-2F is a more suitable instrument that should be more extensively used by educators in China to investigate Chinese university students' learning approaches.

As such, the R-SPQ-2F was utilised as the survey instrument for determining how CIS and ADS approached their learning as well as how they perceived their differences in learning in Australian HE.

**Composition of Student Surveys.** Pallant (2016) argues that a survey with a combination of both closed and open-ended questions works best. Accordingly, in the current study, closed questions with options of defined responses and open-ended questions with additional categories were provided. Two versions of the questionnaire were prepared, one for CIS and the other for ADS with both containing the items from the R-SPQ-2F to detect approaches to learning used in Australian universities.

This survey was made up of four parts (See Appendix A and B). Part A was designed to obtain demographic information and differed slightly for the two cohorts. Part B was an adapted version of the R-SPQ-2F associated with perceptions of approaches to learning in terms of deep and surface learning, as specified by Biggs et al. (2001). The R-SPQ-2F is a self-report questionnaire consisting of twenty items measuring four subscales, with each representing various subscales of the approach to studying,

namely, deep motive (DM), deep strategy (DS), surface motive (SM) and surface strategy (SS). Each subscale contains five items with the statement describing a particular learning behaviour, to which students were asked to rate themselves on the scale indicating the degree of their agreement or disagreement with particular statements ranging from '*Never True of Me*' to '*Always True of Me*'. Part C investigated perceptions about the approaches to learning adopted by their counterparts highlighting differences outlined in the literature between Chinese and Australian students. Part D included open-ended questions, and once again, there were a number of small differences between the questions contained in the CIS and ADS surveys, although both inquired into the type of support provided to CIS in Australian universities.

Through the two surveys, this study aimed to address part of the overarching question posted in Chapter 1: "What are the perceptions of CIS' learning approach in Australian universities?" and the sub-question, "What typifies CIS' approaches to learning as compared with ADS from students' perspective?"

**Pilot Study for the Surveys.** In preparation for the surveys to be placed online, a pilot survey was conducted with 17 CIS and 13 ADS from a number of disciplines including Business, Arts, Social Science, Nursing and IT, to help ensure that the questions were understood as a way of improving the validity of the survey. Based on their feedback, minor alterations were made to wording, expression and format design. A number of issues were raised by Chinese students in relation to the questions in the R-SPQ 2F. For example, in the original version of Q15, "I find it is not helpful to study topics in depth. It confuses and wastes time, when all you need is a passing acquaintance with topics", a number of Chinese respondents in particular were not familiar with the phrase 'a passing acquaintance'. Thus, in order to improve the clarity and comprehension, the item was altered to read '... It confuses *me* and wastes time, when all you need is a *general knowledge* about the topics.' In the same way, the original wording of Q17 'I come to most classes with questions in mind that I want *answering*' was adapted into '... that I want *answers for*'.

**Refining the Surveys.** Prior to the student pilot, assistance had been sought from a number of experts to ensure the appropriateness of the design of the surveys and accuracy of the language translation used in the survey with CIS. Two Chinese academics in the field of Education and Information Technology (IT) with expertise in multi-lingual survey research, one IT academic with professional LimeSurvey knowledge, and two PhD students in the fields of Education and Business who were undertaking mixed method research, were all asked to provide feedback on the design and accuracy of the survey. The translation of the interview questions was also checked by the two Chinese academics, as was the back translation of a sample of the interview transcripts.

Advice in relation to the format of Parts B and C was considered, with the previous seven-Likert scaling in Part B altered to a five-scale with clearer labelling in the statements of the choices. Similarly, response choices in Part C were reduced from 5 to 4 to reduce the choice of a neutral option, which had been shown to be an issue in the pilot study.

**Survey Validation.** Validity and reliability are important concepts in data collection and analysis. Validity indicates how well the instrument gauges what it is supposed to measure, while reliability concerns whether the instrumentation is stable and consistent in measuring the similar underlying attributes (Wu, 2010), or the extent to which the items of the instrument “hang together” (Pallant, 2016, p. 6).

As previously explained, piloting of the surveys was conducted and a number of amendments made to the instrument. According to Johnson and Christensen (2008), the validity of instrument content is “based on a judgment of the degree to which the items, tasks, or questions on a test adequately represent the construct domain of interest” (p. 152). As explained earlier, in this research, Part B in both surveys was essentially an adapted version of the R-SPQ-2F by Biggs et al. (2001). Although this inventory was developed in English among Hong Kong university students, and has been validated as a stable and valid instrument (Dennehy, 2015) with Chinese Mainland students (Xie, 2014) and Australian university students (Leung et al., 2008; Phan & Deo, 2006), it is still not possible to forecast confidently that the findings generated from Hong Kong, a Chinese context, can be generalised to CIS in Australian universities. As scale reliability can vary dependent on the context (Pallant, 2016; Wu 2010), it is important to conduct reliability checks with each sample. As almost twenty years have elapsed since the revision and formation of the R-SPQ-2F in 2001, and students’ learning approaches most likely have changed over time, it was important to determine validity and reliability for the specific samples in the current research, which is further discussed in Chapter 4.

**Survey Implementation.** A variety of channels were utilised to elicit student participation, including the LimeSurvey platform. Once the surveys were activated, two uniform resource locators (URL), accessible via computer, iPad or mobile, were automatically created on the web and were retrievable on Facebook, Twitter, or Chinese Wechat or QQ<sup>□</sup>. Advertisement for the recruitment of participants was made through university news and through flyers, with the survey URL posted in conspicuous places in the two universities who had provided permission. These places included event centres, lecture theatres, computer labs, university housing, library and multi-cultural international

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<sup>□</sup> Wechat and QQ are two popular instant communication tools in Mainland China. With them, one can send text and voice, video or picture, talk live with others, send the document point-to-point, share files, pay bills and make purchases online.

student offices, which outlined the research purpose, procedures, time requirements and contact details. While the online data collection was in process, hardcopies were also printed for students who preferred this format. Chinese participants who had completed the survey were further invited to participate in follow-up interviews by clicking the indication icon at the end of the online survey, or the tick box on the hardcopy.

**Student Interviews.** The purpose of qualitative data collection is to obtain an in-depth understanding for the topic under study and to answer the research questions (Creswell, 2014). Minichiello, Aroni, and Hays (2008) define qualitative research as an enquiry that seeks to “capture people’s meanings, definitions and descriptions of events” rather than to “count and measure things” (p. 8). An important feature of qualitative research is that it offers a way to understand participants’ lived experiences, specifically “how things got to be the way they are, how people involved feel about the way things are, what they believe, what meanings they attach to various activities, and so forth” (Gay, Mills, & Airasian, 2012, p. 209).

Given the nature of the research questions, this research also involved investigating the specific approaches to learning that were defined by respondents’ cultural, historical and contextual backgrounds, or the emic features possessed by Chinese international respondents. The interviews with CIS aimed to collect data pertaining to their own perceptions of their learning behaviours relating to the challenges they had encountered, learning differences with their Australian peers, the teaching differences they had experienced in Australia compared with previous experiences in China, and the coping strategies they had adopted to negotiate and adjust to the new learning and teaching systems in Australian HE.

**Semi-Structured Interviews.** Interviewing is the most common method employed to collect qualitative data to elicit the perceptions, opinions and experiences of a group of informants. It is widely accepted as an effective research method within social sciences (Koul, 2009; Seidman, 2012) used to “discover the nature of phenomena as humanly experienced” (Minichiello et al., 2008, p. 10). As a powerful and flexible data collection method, interviews enable researchers to obtain vital objectives within a manageable methodological context (Patton, 2002). Seidman (2012) suggests that interview techniques offer toolkits for bringing the meaning of structures to the surface which are often hidden, and the data collected from interviews can be employed, together with quantitative data, to explain and confirm findings (Creswell, 2014; Teddlie & Tashakkori, 2009).

The current study employed semi-structured interviews to collect qualitative data concerning perceptions of both Chinese students and their lecturers regarding the students’ approaches to learning in Australian Higher Education. Semi-structured

interview is a hybrid form of interviewing between structured and in-depth interviews (Doody & Noonan, 2013). This technique enables researchers to use a list of already pre-determined questions and themes to obtain respondents' opinions of the topic under discussion. One of the advantages of semi-structured interview is that while granting respondents an opportunity to respond to the topic raised and freely talk during the course of the interview, it also provides flexibility for researchers (Hatch, 2002). Although the guiding questions were pre-designed, they were, in effect, open-ended enough to engage participants to reflect deeply, talk freely, and "actually construct their social worlds" (Silverman, 1997, p. 21).

**Interview Design.** The interviews in the current research attempted to include typical themes emerging from the literature review, research questions and underpinning theoretical framework. The interview questions for CIS were developed from a detailed exploration of the issues associated with CIS' learning experience in Australia documented in the review of literature (e.g., Biggs, 1991; Biggs et al., 2001; Clason, 2014; Tan, 2011; Wang, 2015), particularly associated with their culturally conditioned emic characteristics of memorising and understanding approach, and achieving strategies (e.g., Biggs, 1994; Dennehy, 2015; Ryan, 2016; Tan, 2011; Wu, 2015; Xu, 2016).

The CIS interview questions were designed to address specific components of both research questions, in particular:

- 1) *What typifies CIS' approaches to learning in Australian universities as compared with their Australian peers from the perspective of CIS?*
- 2) *How do CIS negotiate and adjust their approaches to learning in Australian universities from the perspective of CIS?*

The questions were related to what the participants experienced with regard to the difficulties encountered in their academic life, the differences perceived in their learning approaches from that of their Australian peers, the teaching discrepancies between China and Australia discovered in Australian universities compared with their previous study in China, and some effective measures they adopted to survive and thrive in the Australian HE system (See Appendix C for CIS interview questions).

**Interview Implementation.** After the questions were designed, a pilot interview was conducted with three Chinese students to gauge whether the questions could be understood and flowed logically. As a result, minor amendments were made to some of the questions to improve clarity and reduce any ambiguity in words or meanings.

As stated previously in Section 3.3.1, a nested sampling was adopted to enlist CIS interviewees. An indication button was included at the end of the CIS survey for those

who wished to participate in the follow-up interview to leave their email address, so they could opt to be further contacted. Altogether 20 survey participants provided their contact details. In order to ensure the sample was as representative as possible, consideration was given to the gender, year level, and discipline of the 20 who had agreed. As there was a disproportionate number from the Business discipline, only 10 participants were eventually selected, who came from a range of disciplines including Commerce, Accounting, Marketing, Nursing, IT and Education and included five males and five females across three year levels of the degrees. After arranging appointments with the agreed respondents, interviews were conducted face-to-face with five students and by Skype/Zoom with the other five. In order for the participants to clearly understand the questions and fully express their thoughts or ideas deeply embedded within their culture that may be challenging to translate (Davies, 2008), the interviews were conducted in Chinese Mandarin, the mother language of Chinese students.

Creswell (2014) highlighted the importance of the relationship between the interviewer and the interviewees in qualitative research. In order to collect enough effective information pertaining to the themes of this research from the participants, an intimacy with the respondents was established by introducing and explaining the background, purpose, and methodology of this study in the initial communication, with a more interpersonal approach used during the interview. Interviews were recorded (with permission) but field notes were also kept in order to generate further understanding of the respondents' narration and provide credibility for the interviewees' ideas.

Once the interview audios had been transcribed verbatim into Chinese text by the researcher, they were returned to the student participants for member checking. It was thought to be more culturally appropriate to have the transcripts member checked in Mandarin rather English so that interviewees were clear about the information they had provided in the language in which they were most proficient, and this was the preference of all interviewees when consulted. A further check to ensure trustworthiness was through the process of translation checking whereby a sample of the translations to English conducted by the researcher were checked by two Chinese academics with expertise in translation and cross cultural research.

### **3.3.3 Data Collection from Lecturers: Academic Interviews**

The other type of qualitative data in this study was gathered from Australian academics teaching both CIS and ADS in two Australian universities. The semi-structured interviews (See Appendix D) were designed to obtain data concerning perceptions of Chinese students' emic learning structure and any adaptive strategies they had utilised to accommodate the learning needs of students from China. Three

areas were involved in the interviews. First, demographic questions were included to gather information about the academic participants in order to frame their experiences. Second, topics regarding academics' observations of Chinese students were designed to elicit data concerning their perceptions of the learning structure of Chinese students. Finally, topics regarding academics' teaching experience of CIS were devised to obtain data about academic reflection on effective teaching of, not only this special cohort but also, domestic students. These interview questions were formulated on the basis of the research objectives and questions (Cohen et al., 2007), aiming to address the following sections of the research questions:

*1b) What are academics' perceptions of CIS' approaches to learning compared with ADS in Australian universities?*

*2b) How do academics negotiate and adjust their teaching of CIS in Australian universities?*

As with student interviews, a small pilot interview was conducted with two academics, who pointed out a few minor areas that required slight alterations for clarity. Formal interviews were conducted with 10 academic participants with five administered face-to-face and the other five by Skype/Zoom. Interviews were audio-taped, and data were transcribed and then sent back to the respondents for accuracy checks. Seven of the academic participants responded to requests for member checking of their transcripts, with a small number of clarifications suggested. With the three participants who did not respond with any clarifications or changes, their transcripts were assumed to be accurate representations of the interviews, particularly in light of the very small number of minor clarifications suggested for the other seven transcripts.

### **3.3.4 Language Considerations in Data Collection**

International students' language challenges are frequently profiled as a primary hurdle for their further learning in sojourning countries (e.g., Clason, 2014; Heng, 2018). Curry (1983) stresses the importance of the language used to administer the study. In Curry's perspective, if research is conducted in English with non-English speakers, problems may arise resulting from different interpretations of the wording. Richardson (2004) makes clear the necessity of revising the wording of surveys or interviews when used with students from different cultural contexts. However, it should be noted, as warned by Curry (1983), if the research questions are translated into different languages, subtle changes in the nature of the questions may influence students' responses to the questions. Therefore, in this study, in order to enable easier comprehension for CIS, language adaptation was made in the survey for CIS with Chinese translation proceeding English items (see Appendix A and Appendix C). Additionally, the interview questions,

along with the Plain Language Information Statement (PLIS) and Consent Form for CIS (See Appendices E & F), were adapted and prepared in both English and Chinese versions to ensure CIS participants were able to fully comprehend the questions posed. Interviews with CIS were conducted mainly in Mandarin to avail them of the opportunity for full participation.

### **3.4. Data Analysis Procedure**

Data analysis is an important stage in social science research as it involves careful selection of appropriate analytical procedures to draw meaningful information from the raw data to answer the research questions (Creswell, 2014; Johnson & Christensen, 2008).

As the triangulated concurrent design of mixed methods was adopted in this study, the quantitative and qualitative data from students were collected concurrently, and then the results were merged with the database obtained from academic participants, and further integrated as a form of triangulation. As stated in the previous section, the platform, *LimeSurvey*, was adopted to collect survey data online for CIS and ADS, with 66 hardcopy surveys also completed. The demographic data collected in Part A were used for identifying suitable sampling for this study. Surveys not meeting the requirements of ethnic origins, first language, and duration of enrolment were discarded, resulting in the final total number of 156 valid CIS and 221 ADS. As far as age limits, while seven participants were aged below 18 when data were being collected, they were deemed eligible to participate as they were university students in line with university guidelines. Following data accuracy checking, the next step was to manipulate the raw data into different sets for conducting analysis and testing hypotheses (Pallant, 2016). In this study, a number of analytical procedures were utilised to analyse the quantitative and qualitative data collected from surveys and interviews. Quantitative data obtained from the surveys were downloaded into an Excel format and transferred into SPSS.25 for preliminary data analysis. Qualitative data from open-ended questions in the surveys and the transcribed interview transcripts were thematically coded through NVivo.12 software.

#### **3.4.1 Quantitative Analysis through SPSS**

A series of analytical procedures were performed on each part of the surveys. For Part A of both surveys, descriptive analyses were conducted to capture participants' background information. For part B, factor analysis was first conducted to validate the reliability and validity of the R-SPQ-2F with the two student cohorts, followed by determination of Cronbach's alpha coefficient as a reliability measure of the two broad overall scales of deep (DA) and surface approaches (SA) as expressed in the R-SPQ-2F.



Then, independent-samples t-tests were conducted to determine any significant discrepancy between CIS and ADS in their learning approaches represented by the mean scores in terms of DA and SA. Additional independent-samples t-test was run to detect differences between CIS' expectations and their learning approaches. Third, two multivariate analysis of variance (MANOVA) were performed to determine gender disparities in learning approaches among students from different universities (referred to as RegionalUni and MetroUni), and among students studying different degrees. For Part C of the surveys, independent-samples t-tests were conducted to determine any differences in students' perceptions of learning approaches adopted by the counterparts. For Part D of both surveys, the written responses to the open-ended questions, though qualitative in effect, were entered into Nvivo for quantified analysis due to the large number of responses, with themes identified and results mainly presented in tables. Each of the statistical procedures will be further discussed in Chapter 4.

### **3.4.2 Qualitative Analysis through NVIVO**

A long and iterative process was used to organise the qualitative data collected from interviews with CIS and academic participants. The 40 to 60-minute length of each interview recording was first transcribed into text verbatim, and edited based on the main meaning with conversational slang and gap fillers removed, as proposed by Regmi et al. (2010), before being entered into NVivo 12 software for thematic coding. The Chinese audio from interviewees was first transcribed verbatim, and then translated into English text. After that, back-translation was conducted and further edited by the current researcher before being sent to two independent language experts majoring in Chinese-English translation for further back-translation prior to thematic analysis. It needs to be noted that transcripts are not an exact representation of the interviews, but rather the researcher's interpretations (DiCicco-Bloom & Crabtree, 2006).

The next step was to try to identify themes through coding. According to Bernard and Ryan (2010), coding is a way of identifying and sorting themes, which allows researchers to recontextualise the data, helping them "move from individual document analysis to theorising, all the while retaining access to the original material" (Jackson & Bazeley, 2019, p.68). Through NVivo, the transcribed data from each interviewee was coded into broad themes and then further coded into different nodes with the pre-determined topics in the interviews and data-generated from participants' responses combined.

**Establishing Trustworthiness of Qualitative Data.** Just as quantitative data analysis requires reliability and validity to be established through a series of tests, qualitative data also needs to be treated just as rigorously but through different

processes and with a different lens (Farrelly, 2013). Although a range of different 'measures' have been developed, the five components of trustworthiness, credibility, confirmability, dependability and transferability suggested by Lincoln and Guba (1985) have been widely used. These, however, were reduced to four by Denzin and Lincoln (2000), with trustworthiness left off, but as Flick (2009) suggested, that was because those four components actually underpinned the ability to demonstrate trustworthiness.

In the current study, both credibility and confirmability were established through the triangulation of the data collection and analysis (Lincoln & Guba, 1985). The qualitative data collected through interviews was able to both build on and also confirm data collected via surveys. Although member checks, as recommended by Lincoln and Guba (1985), were not conducted across the board with the interview transcripts, due to time limitations, ten student and seven academic transcripts were member checked for accuracy. As no amendments were required within the sample, it was deemed reasonable to assume that accuracy had been established. Peer review was also another form of checking, with the PhD supervisors providing guidance. Also having two expert academics checking translation and cross translation of the Chinese data provided a level of credibility.

In terms of dependability, and the close association with confirmability, an audit trail (Farrelly, 2013; Flick, 2009) was established through the development of a set of extensive field notes that included all details relating to the setting up and conducting of interviews and particularly personal reflections relating to all aspects of the interviews. This was a valuable resource to assist in the analysis of the data as it helped in remembering the context and details. This audit trail was supplemented by the use of NVivo software, which provided a source of tracking for data analysis, to ensure that the analytic process was traceable and dependable, and this formed part of the regular discussion with supervisors. Other factors assisting confirmability included acknowledgement of the position held by myself as the researcher in the project through a process of reflexivity, which Trainor and Graue (2013) describe as "acknowledging, reflecting and reporting how one's identities, beliefs, knowledge, relationships to people, material and concepts influences one's work" (p. 130). Personal experience as both a student and academic in the Chinese and Australian education systems provided a level of understanding that was both valuable but also potentially restrictive, so the continual need for embedding a reflexive approach to the implementation of the project was important. This also helped address concerns raised by Farrelly (2013), regarding the need for attention to detail and integrity, to help overcome the inevitable challenge of objectivity faced by all qualitative researchers.

Thick descriptions and rich data help to enable transferability of findings emanating from qualitative data (Lincoln & Guba, 1985). Although only two universities were involved in the project, the interview data was rich and involved a great amount of detail due to the duration of the interviews with 10 academics and 10 CIS. Furthermore, as the qualitative data also built upon the broad range of quantitative data obtained from the surveys, it provided a greater opportunity for interpreting the cultural context and thereby building on social meaning. Having a personal understanding of the research context and associated assumptions (Farrelly, 2013) enabled a deeper conceptualisation of the data to emerge, albeit with an awareness of the necessity for continually addressing the possibility of personal bias impacting on the analytic process. The reality is that transferability is always a concern with quantitative data, but the nature of the data collected within this project was both broad and deep and so it is plausible that the findings will be transferable across the wider Australian university sector, and that the emerging recommendations are more broadly applicable.

### **3.5 Ethical Considerations**

Ethical considerations are fundamental to any form of research. Ethics refers to the codes of behaviour that steer the researcher's conduct in relation to the rights of those who participate in the research (Saunders et al., 2000). It involves the issues of the researchers' loyalty, honesty and integrity in the research (Denzin & Lincoln, 2011). Ethical issues in social science research deal with the accepted codes of ethics that the researchers abide by during the process of research, particularly in data collection and data analysis, such as informed consent, privacy and confidentiality (Denzin & Lincoln, 2011).

Prior to the commencement of this research, ethics approval was granted from the Human Research Ethics Committee (HREC) of Federation University with approval reference number 18-144A (also see Final report Appendix G). Much of the thinking behind the development of the project was underpinned by Ellis' (2004) concept of "ethics in practice" (Ellis, 2007, p.4). The project was also informed by the requirements set out in the National Statement on Ethical Conduct in Human Research (NHMRC, 2018). Although termed 'low risk' in relation to the nature and design of the project, there are often concerns around international students with different cultural and political backgrounds participating in "Western style" projects, where individual ideas and opinions are sought. For this reason, the PLIS for the Chinese students included the following information in relation to possible risks associated with participation:

The survey is low risk. The researchers are seeking information about your learning experiences in Australian universities, which may create

some mixed feelings or uneasiness. This research is being conducted purely for academic purposes and does not include any questions that relate to political factors. If you feel uneasy with any of the questions, you are entitled to withdraw from the research, and any data collected before your completion will be removed from the aggregate. (See Appendix E)

To further ensure safety of all participants in the research, details were also included in the PLIS about how to access 24-hour counselling via Lifeline, a free counselling service in Australia (also see Appendix E).

There was certainly the possibility of benefits associated with participation through the opportunity to reflect on personal learning and learning preferences, strengths and weaknesses, which could provide a greater understanding at both a personal and more global level. Ellis (2007) referred to this as “relational ethics”, whereby “mutual respect, dignity and connectedness” (p .4) with participants is valued. This was particularly important during interviews, but also during recruitment of both CIS and ADS when there was an opportunity for explaining the rationale and motivation behind the study in more detail.

In line with the Ethics approval granted for this study, data collected from the participants and the institutions were de-identified, with pseudonyms used to protect anonymity. All data sources including field notes, recordings, and transcripts were securely stored and will be destroyed as per ethics requirements. It is anticipated that the findings from the study will be published beyond this thesis, as a way of ensuring that the efforts of the participants to inform this important topic are broadly disseminated.

### **3.6 Reflexivity**

Given the researcher’s insider position in the current research, reflexivity is of particular importance in the research process. Reflexivity refers to the researcher’s conscious self-understanding of the research process (Hammersley & Atkinson, 1995). As pointed out by Hammersley and Atkinson (1995), researchers are likely to be influenced by their “socio-historical locations” including “the values and interests that these locations confer upon them”, and therefore the research is or can be likely to be “carried out in some autonomous realm that is insulated from the wider society and from the particular biography of the researcher in such a way that its findings can be unaffected by social processes and personal characteristics” (p. 16). That is, the researcher’s life experience, academic background and cultural orientation can unconsciously influence the choice of research topics, theoretical framework and empirical approach in the process of research. Therefore, during the whole process of data collection and generation, the researcher was fully cognisant of her own status in this research, and understood the “reciprocal

influence” between herself and the research settings and the participants (Anderson, 2006, p. 382). With a non-essentialist<sup>□</sup> view of learning adopted, the researcher endeavoured to collect as much data from different perspectives and analysed them objectively in order to achieve the validity of critical ethnography, as suggested by Wainwright (1997). This process was supported by the use of a range of triangulation methods and the use of peer review via the researcher’s supervisory team who provided a checking process for each analytic stage of the research to ensure the absence of bias.

### **3.7 Methodological Limitations**

The methodological limitations associated with the current project related mainly to scope, with only two universities in one state of Australia participating. While efforts were made to include more universities, it was not possible to attain the required consent to meet the ethics requirements of the granting university. It is acknowledged that there may have been different processes that could have been adopted to gain access to a broader sample of students and academics, however, time constraints made it necessary to make the most of the two universities that did provide permission for access to their academics and students. The fact that a regional university (RegionalUni) and a university from the Group of Eight (Go8) top Australian research universities (MetroUni) were included did widen the representation, and also the number of participants and the different data sets helped to alleviate some of the concerns relating to this limitation.

### **3.8 Chapter Summary**

This chapter outlined the processes involved in selecting the research design for this study. An interpretivist/constructivist paradigm was justified as a suitable framework for the study, utilising a mixed methods approach for collecting and analysing data. The chapter also detailed the chosen theoretical lens provided by the 3P framework. Next, the method for collecting and analysing data collected via surveys and interviews was explained. Finally, a discussion of ethical considerations and methodological limitations associated with this research was presented. The next two chapters will provide details of the data analysis and findings relating to the research questions.

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<sup>□</sup> Essentialism is a view that purports individuals are possessed with a set of attributes necessary to their identity and function that are determined by national and ethnic groupings. As contrasted by essentialism, non-essentialism purports that individual identities are formed in a complex and dynamic environment where global, national, local and individual realities overlap and interact (Grimshaw, 2010).

## Chapter 4 Quantitative Data Analysis and Findings

The previous chapter described the methodology utilised in this study to gather and analyse data to answer the central research question, namely, *What are the perceptions of Chinese international students and their Australian student counterparts and lecturers regarding the approaches to learning used by these students in Australian universities?* A mixed methods approach for data collection and analysis was adopted, utilising surveys and semi-structured interviews. This chapter will present the analysis and initial discussion of findings relating to data collected from the surveys conducted with both the Chinese international students (CIS) and Australian domestic (ADS) students while the next chapter will focus on findings from the interviews conducted with the CIS and Australian lecturers.

As described in Chapter 3, the surveys designed for both CIS and ADS cohorts comprised four parts (See Appendices A & B). Part A sought participants' general background information while Part B, which was an adapted version of Biggs et al.'s (2001) R-SPQ-2F, involved an investigation of students' learning approaches. Part C probed students' perceptions of learning differences between CIS and ADS, and Part D comprised open-ended questions aiming to provide insights from both student cohorts on learning and support provided to CIS studying in Australian universities.

This chapter will outline how the data collected from both surveys were sorted and analysed according to the four sections. The first section of the chapter will provide introductory background data gleaned from Part A of the surveys. The second will outline the techniques utilised to analyse the survey data in Part B (based on the R-SPQ-2F). A number of analytic tests were conducted with this data set including Principal Component factor analysis, independent-samples t-tests and multivariate analysis of variance (MANOVA). The third section will present findings from the analysis of the 11 questions in Part C of the surveys which required each cohort to comment on their counterparts approaches to learning. Finally, the fourth section of this chapter will address how the qualitative data collected in Part D of the surveys were coded and interpreted through thematic analysis, and will present the emerging themes and sub-themes from the responses to the open-ended questions.

### 4.1 Participant Background: Part A of the Surveys

As described previously, the *LimeSurvey* online platform was used to implement the survey, although in some instances, as explained in Chapter 3, Section 3.3.2, hard copies were also distributed and completed. A total of 368 valid surveys were collected after data scrutiny. The following section describes the general backgrounds of the

students who participated in this research. As shown in Table 4.1, participants were recruited from two Australian universities with large Chinese international cohorts including one ‘Group of Eight’ metropolitan university (termed as MetroUni and involving 221 participants) and a regional university (termed as RegionalUni and involving 147 participants).

Table 4.1

*Survey Participant Numbers*

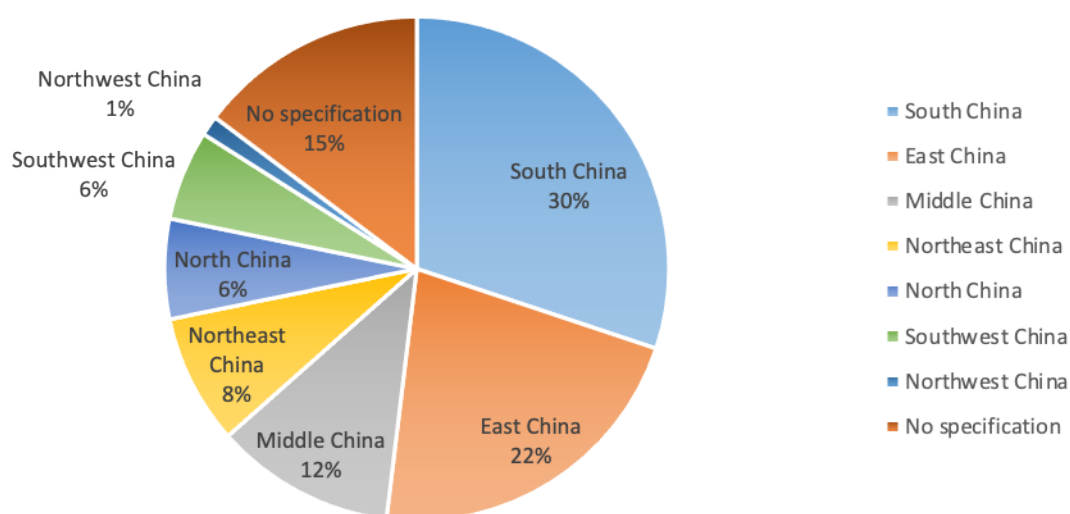
<b>Instrument</b>	<b>Cohort</b>	<b>MetroUni</b>	<b>RegionalUni</b>	<b>Total number</b>
Surveys	CIS	125	31	156
	ADS	96	116	212
	<b>Total</b>	<b>221</b>	<b>147</b>	<b>368</b>

Altogether 156 CIS and 212 ADS completed surveys. Of the 368 survey participants, 361 (98.1%) reported being over 18 years of age, while 7 (1.9%) reported being under 18, but were considered qualified for this research, as explained in Chapter 3.4. In terms of gender, there were 226 (61.4%) female participants (82 CIS and 144 ADS) and 142 (36.8%) male participants (65 CIS and 77 ADS). As stated in Chapter 3, the CIS whose first language was other than Mandarin were screened from the aggregate valid CIS sample based on the purpose of this research. Therefore, all the CIS participants were of Mandarin language origin, though 19 (12.2%) respondents also reported speaking other languages such as Cantonese, Caozhou language and Kejia language, which belong to various dialects, or vernaculars of the Chinese language system. Figure 4.1 provides a geographical picture of the origins of the Chinese student participants.

As demonstrated in Figure 4.1, most CIS participants were from South China (30%) and East China (22%), with lesser numbers originating from Southwest China (6%) and North China (1%). Literature highlights the impact students’ prior experience may have on their learning (e.g., Dochy et al., 2002; Honkimaki et al., 2004; Li, 2015). As such, locale may have an impact on learning approaches according to whether students came from China’s developed areas such as in the south and east or less developed areas in the west. It was not an intention of this study, however, to examine the impact of locale but to look at CIS more broadly as a single cohort in keeping with the research aims as specified in Section 1.3., and also due to the uneven representation of students from across China.

Figure 4.1

*Origins of CIS Participants Based on Geographical Division of China*<sup>□</sup>



Note: This geographic division of China was based on “Politics of Scale’ in Administrative Division Adjustment in China” by F. L. Wang and Y. G. Liu, 2019, *Journal of Geography*, 74(10), 2136-2146. Copyright 2019 by the Journal of Geography.

#### **4.1.1 Chinese Participants’ Interest in and Engagement with Australian Universities**

In order to determine why the Chinese students chose to study in Australian universities, a five-choice item was included in their survey. This item allowed for multiple responses by participants, with almost half (74 or 47.4%) choosing ‘anticipated teaching quality of Australian universities’ as a main reason for studying in Australia, and a quarter (39 or 25%) reporting ‘promising job opportunities’ that Australian degrees could provide in their future job market. A further 26 (16.6%) reported ‘parental arrangements’, 8 (5.1%) reported ‘recommendations by friends or relatives’, and 9 (5.8%) identified ‘other reasons’. For example, two participants expressed uneasiness in relation to the Chinese university screening system (Gaokao), with ‘university cooperation’, ‘agreeable natural environments’ and ‘reasonable tuition fees’ also cited by participants.

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<sup>□</sup> Geographically, there are seven regional distributions in China, namely, East, North, South, Central, Northeast, Southwest and Northwest China, with each including several provinces, autonomous regions or cities. For example, North China comprises such areas as Beijing, Tianjin, Hebei, Shanxi and Inner Mongolia. South China is made up of Guangdong, Guangxi, Hainan, Hong Kong and Macao. It is assumed that students from different regions of China may present differing learning characteristics.



The CIS participants were also asked whether they had attended any other universities in Australia prior to their current ones. Only four participants reported attending another university, mainly to complete foundation courses. However, almost half of the respondents (72 or 46.2%) reported completing an English language program in Australia prior to or at the beginning of their current course. Three broad categories of language programs were identified by participants, namely, 'Bridging English' or 'Foundation English' courses (43 mentions), International English Language Testing Service (IELTS) (13 mentions) and English language support programs such as English for Academic Purpose (EAP) courses and English intensive programs (9 mentions). Seven respondents did not provide any details.

Table 4.2 outlines that the vast majority (151 or 96.8%) of CIS participants identified themselves as full fee-paying students with only 2 (1.3%) as scholarship recipients. Less than half (64 or 41%) reported coming to study in Australia via self-applications based on either Chinese university entrance records (Gaokao) or IELTS scores, often with the assistance of an agent. Forty-six (29.5%) CIS came via joint programs offered between Sino-Australian universities, 9 (5.8%) as exchange program students, 24 (15.4%) via other avenues such as completing high school education or a foundation year in Australia, or immigration, while 11 (7.1%) did not respond to this question.

Table 4.2

*Avenues taken by CIS Participants to Enrol in Australian Universities*

<b>Avenue</b>	<b>N. of participants</b>	<b>Percent</b>
Full fee international student	151	96.8%
Exchange program student	9	5.8%
Scholarship student	2	1.3%
University joint program student	46	29.5%
Self-application	64	41.0%
Other avenues	24	15.4%

Note: Total is larger than actual participant number due to some providing multiple responses

#### **4.1.2. Australian Domestic Students' Prior Engagement with China**

The Australian Domestic Student (ADS) participants comprised students born in Australia with English as their first language, with non-Australians or Australians with first language other than English screened out. However, two students reported dual citizenships (Australian/Greek and Australian/German). Of the 212 ADS respondents, only 45 (21.2%) had ever been to China, for holidays, school trips, study, family reunions, work experience, or through programs such as the New Colombo Plan. ADS participants were asked if there were CIS in their current classes, with just over half of the cohort (114 or 53.8%) answering 'yes', and the remaining 46.2% answering 'no'. When asked

about previous experience with CIS throughout their education, 138 (65.1%) reported having this experience while 74 (34.9%) responded that they had not.

#### 4 1.3 Participants' Discipline Areas

Initially nine discipline choices were provided in both surveys to investigate study areas of participants, but for data analysis, these were collapsed into five broad discipline areas for conformity to university descriptors. Both ADS and CIS participants were drawn from a variety of disciplines including 1) Humanities, Arts and Social Sciences (HASS); 2) Business, Commerce and Management (BCM); 3) Science, Technology, Engineering and Mathematics (STEM); 4) Health Sciences (HS), and 5) Education (ED). Participants were also from different year levels within their degrees, as measured by the year of commencement of their studies and detailed in Table 4.3.

Table 4.3

*Discipline Categories of Participants and the Starting Year of Enrolment*

Cohort	Discipline	Starting year of enrolment					Total
		2019	2018	2017	2016	Other year	
CIS	HASS	–	5	3	2	–	10
	BCM	20	51	26	10	4	111
	STEM	7	9	6	2	2	26
	HS	–	–	1	2	–	3
	ED	3	1	5	1	1	11
	Double degree	1	2	1	3	–	7
	Not specified	1	1	–	–	–	2
	<b>Total</b>	<b>32</b>	<b>69</b>	<b>42</b>	<b>20</b>	<b>7</b>	<b>180</b>
ADS	HASS	21	22	12	9	7	71
	BCM	23	13	10	7	4	57
	STEM	15	18	20	1	–	54
	HS	16	7	9	2	2	36
	ED	1	1	6	3	1	12
	Double degree	4	4	7	3	2	20
	Not specified	2	–	–	–	–	2
	<b>Total</b>	<b>87</b>	<b>65</b>	<b>64</b>	<b>25</b>	<b>16</b>	<b>252</b>

Note: Double degrees are scattered throughout the five disciplines although shown separately

As demonstrated in Table 4.3, participants were recruited from a range of disciplines, with around 40% involved in BCM, 20% in HASS and a further 20% in STEM disciplines. There was representation from a range of year levels, but more than half (64%) of the participants were in the first or second year of their undergraduate degrees (beginning in 2018 or 2019). A small percentage (6%) had started prior to 2016 but were still completing their degrees due to changing programs or obtaining special consideration.

## 4. 2 Data Analysis of Student Learning Approaches: Part B of the Surveys

In the current study, both surveys incorporated the Revised Two-Factor Study Process Questionnaire (R-SPQ-2F) by Biggs, Kember, and Leung (2001) as a means of collecting data relating to participants' approaches to learning. In responding to this section of the survey, participants rated how true the 20 statements were in relation to their learning preferences using a five-point Likert scale with anchors ranging from 1 (*Never true of me*) to 5 (*Always true of me*).

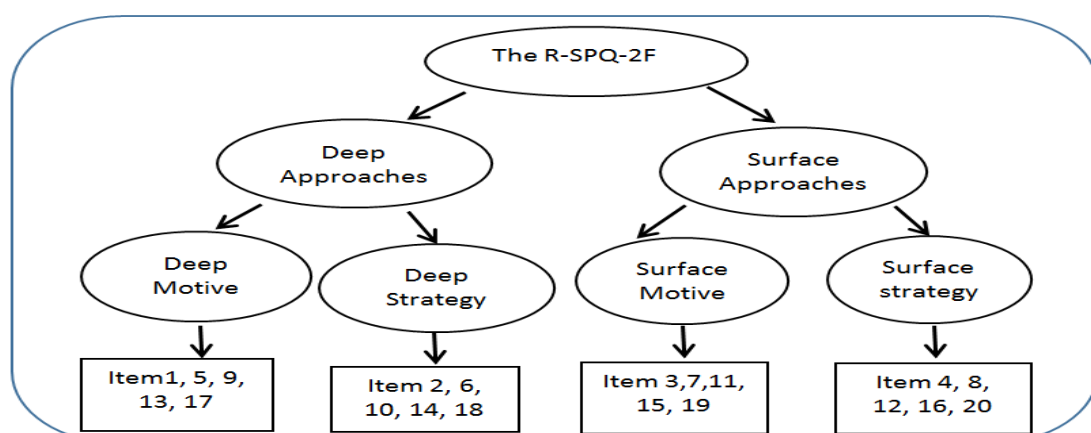
Data were entered into SPSS.25, and a series of descriptive and statistical techniques were performed to ensure the appropriateness for use in determining findings. As Part B of the surveys was based on a validated instrument, the data gathered in this part were subjected to a factor analysis in the form of Principal Component Analysis (PCA). Other tests including independent-samples t-tests were performed to analyse differences between the student cohorts (CIS and ADS) in their approaches to learning. In addition, multivariate analyses of variance (MANVOVA) were conducted on the data from the CIS sample and the cohorts from the two universities (MetroUni and RegionalUni) to investigate students' attributes within their approaches to learning.

### 4.2.1 Factor Analysis of the R-SPQ-2F

According to Biggs et al. (2001), the R-SPQ-2F comprises two factors: Deep Approach (DA) and Surface Approach (SA), and each consists of two subscales, namely, Deep Motives (DM), Deep Strategies (DS), and Surface Motives (SM) and Surface Strategies (SS), as described in Chapter 2.2.2.2 and in Table 2.3. Figure 4.2 illustrates the internal construct of the R-SPQ-2F and the specific items in each subscale.

Figure 4.2

*Internal Construct of the R-SPQ-2F*



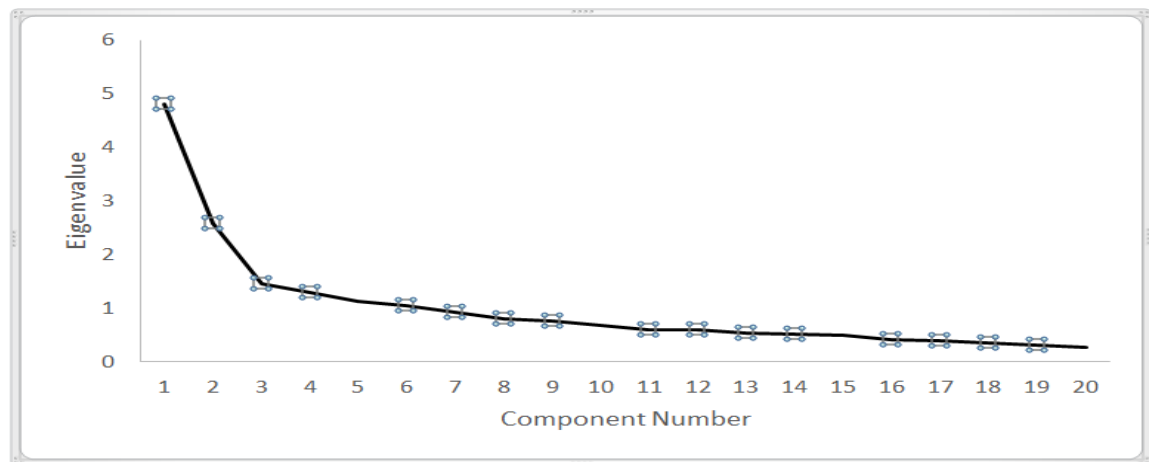
Note. Based on "The Revised Two-factor Study Process Questionnaire: R-SPQ-2F" by J. Biggs, D. Kember and D. Leung, 2001, *British Journal of Educational Psychology*, 71, 133-149. Copyright 2001 by the British Psychological Society.

As outlined in the Methodology Chapter (Section 3.3.2), both surveys were piloted to ensure they were appropriately designed in terms of content, language and format for both online and hardcopy versions. Although past research by Biggs et al. (2001) and others such as Donche et al. (2013), Leung et al. (2008), and Xie (2014) had demonstrated satisfactory validity and reliability in the two-factor constructs of this instrument, measures of validity and reliability checks were performed to ensure that the R-SPQ-2F was valid and reliable with the current data sets. The following sections outline the process of factor analysis for the CIS and ADS samples.

**4.2.1.1 Factor Analysis of the R-SPQ-2F with the CIS Sample.** To explore and validate the underlying factor structure of the R-SPQ-2F with the current CIS sample, the 20 items of the scale were subjected to principal component analysis (PCA). A range of assumptions were first assessed to ensure suitability for factor analysis. According to Pallant (2016), an ideal sample size for a factor analysis should be more than 150 and there should be a ratio of at least five cases of each variable. With a size of 156 and a 20-item variable, the CIS sample met this requirement. The measure of the Kaiser-Meyer-Olkin (KMO) and Barlett's Test of Sphericity (BTS), the two commonly used indicators (Pallant, 2016), were applied to ensure the adequacy of the data for factor analysis. An inspection of the correlation matrix revealed the presence of many coefficients of .3 and above, suggesting most items in this scale had solid construct validity. In the current research, the KMO value was .76 (higher than .60) and the BTS value (840.08) was significant ( $p < .01$ ), signifying that the data was suitable for factor analysis (Wu, 2010). Linearity and outlier checks were also met.

The PCA revealed the presence of six components with eigenvalues exceeding 1 (4.60, 2.55, 1.48, 1.32, 1.17 and 1.06), explaining 22.99%, 12.76%, 7.38%, 6.62%, 5.83% and 5.29% of the variance respectively. The scree plot, as shown in Figure 4.3, appears to support a four-component settlement of this scale.

Figure 4.3  
*Scree Plot of CIS Sample*



However, the component matrix demonstrated the loadings of the 20 items were quite strong (most above .4) on the first two components with very few items loading onto the others, suggesting a two-factor solution of this inventory might be appropriate, which was further supported by parallel analysis (Monte Carlo for PCA). Compared with the eigenvalues from PCA of 4.60 and 2.55 for the CIS data, the random eigenvalues of parallel analyses were smaller at 1.69 and 1.56, which, confirmed the appropriateness of two components in this scale (20 variables x 156 respondents) (Pallant, 2016).

Then a two-factor extraction of PCA on the CIS scale was performed again, finding that the two factors explained a total of 35.76% of the variance, with Component 1 contributing 23% and Component 2 contributing 12.76%. To facilitate the comprehension of the two-factor scaling, a Varimax rotation (VR) was performed. The rotated solution discovered 10 items with a loading matrix over .4 loaded on each of the two components, which, according to Pallant (2016), indicated a strong correlation. While the component correlation matrix between the two factors ( $r=.184$ ) was low, it further confirmed the discrimination of the two factors in the construct of the R-SPQ-2F for the CIS sample. This correlation matrix further justified the adoption of orthogonal rotation (VR in this case), as according to Tabachnick and Fidell (2013, p. 652), “if the correlation matrix of the two components was below 0.32, orthogonal rotation is preferred”.

Table 4.4 outlines the structure matrix for PCA with VR of two factor solution of the R-SPQ-2F for the CIS sample together with communality between them.

Table 4.4

*Structure Matrix for PCA with Varimax Rotation of Two Factor Solution of the R-SPQ-2F for CIS Sample*

Item	Component 1	Component 2	Communality
B14	<b>.71</b>	.11	.50
B6	<b>.69</b>	.28	.50
B13	<b>.67</b>	.07	.45
B9	<b>.66</b>	.23	.44
B1	<b>.62</b>	.19	.39
B18	<b>.59</b>	.06	.35
B10	<b>.58</b>	.18	.34
B5	<b>.57</b>	.23	.35
B17	<b>.43</b>	-.05	.20
B2	<b>.41</b>	.02	.17
B19	.13	<b>.70</b>	.49
B12	.19	<b>.69</b>	.48
B16	.24	<b>.62</b>	.40
B20	.10	<b>.61</b>	.37
B7	.33	<b>.61</b>	.42
B8	.27	<b>.56</b>	.35
B3	.09	<b>.53</b>	.28
B11	-.05	<b>.52</b>	.30
B15	-.06	<b>.44</b>	.22
B4	.10	<b>.41</b>	.17

The pattern matrix after VR demonstrated that ten items (1, 2, 5, 6, 9, 10, 13, 14, 17, and 18) were embraced in Component 1, while the other ten items (3, 4, 7, 8, 11, 12, 15, 16, 19, and 20) were included in Component 2. If taking on the descriptors created by Biggs et al. (2001), they would refer to a Deep Approach (DA) and Surface Approach (SA) to learning. This result accorded with the use of the DA and SA items as separate dimensions in the R-SPQ-2F by the founders of the inventory, Biggs et al. (2001), with each including ten items, as expressed by:

$$DA = \text{Items } 1 + 2 + 5 + 6 + 9 + 10 + 13 + 14 + 17 + 18$$

$$SA = \text{Items } 3 + 4 + 7 + 8 + 11 + 12 + 15 + 16 + 19 + 20$$

Cronbach alpha coefficients are the most commonly used indicators for the internal consistency of a scale (Serbetar & Sedlar, 2016). The coefficients for the CIS sample were .80 for DA and .77 for SA, both above the .7 requirement for acceptability proposed by Pallant (2016). Biggs et al. (2001) reported alpha coefficients of .73 for DA and .64 for SA respectively. Therefore, the construct of the DA and SA dimensions in the current study was considered reliable for the CIS sample.

**4.2.1.2 Factor Analysis of the R-SPQ-2F with the ADS Sample.** A similar process for PCA was followed with the ADS data set, and assumptions of the KMO and BTS

were met with a KMO value of .80 (above .60) and the BTS value statistically significant ( $p<.01$ ), implying suitability for factor analysis. The PCA on the ADS sample demonstrated that five components with an eigenvalue above 1 were present with a result of 4.35, 2.68, 1.36, 1.23 and 1.12, explaining 21.73%, 13.37%, 6.82%, 6.14% and 5.60% of the variance respectively. While the scree plots seemed to have supported a four-factor solution of this scale, the parallel analysis confirmed only two random eigenvalues of 1.57 and 1.46 were comparable with the results of 4.35 and 2.68 in the Total Variance, which suggested a suitability of a two-factor classification.

The two-factor extraction PCA for the ADS sample explained a total of 35.1% of the variance, with Component 1 accounting for 21.7% and Component 2 contributing 13.3%. The varimax rotated solution also revealed the presence of a two-factor structure of the instrument. The strong loading variables above .3 (Pallant, 2016), substantially loaded on Component 1 and 2, while there was weak negative correlation between the two factors ( $r=-.56$ ), further identifying two-factor labelling of the instrument for the ADS sample. Table 4.5 displays the component matrix for PCA with VR of two factor solution of the R-SPQ-2F with the ADS sample.

Table 4.5

*Component Matrix for PCA with VR of Two-Factor Structure of the R-SPQ-2F for ADS Sample*

<b>Item</b>	<b>Component 1</b>	<b>Component 2</b>	<b>Communalities</b>
B6	<b>.67</b>	.06	.45
B10	<b>.66</b>	-.10	.44
B1	<b>.66</b>	.16	.45
B13	<b>.63</b>	.28	.48
B2	<b>.62</b>	.05	.39
B14	<b>.53</b>	.14	.31
B9	<b>.53</b>	.06	.28
B18	<b>.50</b>	.18	.28
B17	<b>.45</b>	-.08	.21
B5	<b>.34</b>	-.09	.13
B19	.01	<b>.71</b>	.51
B16	-.03	<b>.63</b>	.40
B12	.28	<b>.61</b>	.45
B15	.15	<b>.60</b>	.38
B11	-.20	<b>.54</b>	.33
B20	-.07	<b>.53</b>	.29
B3	.34	<b>.46</b>	.32
B7	.40	<b>.45</b>	.36
B8	-.39	<b>.44</b>	.34
B4	.20	<b>.44</b>	.23

The rotated component matrix discovered 10 items were included in Component 1 and Component 2, termed by Biggs et al. (2001) as DA and SA respectively. This labelling was exactly coordinated with the previous classification of the instrument by Biggs et al. (2001), with DA including 10 items (1, 2, 5, 6, 9, 10, 13, 14, 17, and 18) and SA also including 10 items (3, 4, 7, 8, 11, 12, 15, 16, 19, and 20).

Each of the ten items of DA and SA were entered into SPSS for reliability checking, and the Cronbach alpha values were .78 and .74 respectively, suggesting suitable reliability and validity for use with the ADS sample in this research.

**4.2.1.3 Analysis of Subscales with both the CIS and ADS Samples.** The statistical analysis with data from the CIS and ADS samples validated the R-SPQ-2F as containing two underlying constructs: DA and SA with subscales measuring Deep Motives (DM) and Deep Strategies (DS), and Surface Motives (SM) and Surface Strategies (SS). In order to test the sub-construct consistency of the two general overall dimensions of DA and SA with the CIS and ADS samples, further principal component analyses were performed.

The aim of the DA and SA subscales in the R-SPQ-2F was to examine the approach participants took to handling their learning in order to meet requirements in specific contexts. However, while extensive analysis was conducted with regard to the subscales within the DA and SA scales for both the CIS and ADS samples, it was not possible to get the desired number of items (more than 3) within each of the subscales that matched across the two student samples for comparison.

This supports previous cross cultural research on the item inclusion in the two subscales entailed in the R-SPQ-2F, which has produced varied results. For example, Leung et al. (2008) as well as Phan and Deo (2006) identified that the R-SPQ-2F was valid and reliable with students in Australia and the South Pacific region. However, Fryer et al. (2012), Immekus and Imbrie (2010), and Stes et al. (2013) found the original factor structure of the R-SPQ-2F was not valid among students from Japan, America and Belgium. Justicia et al.'s (2008) study of Spanish students also showed that a thriftier model without the subscale divisions of learning motivation and learning strategy was more appropriate compared with the original model proposed by Biggs et al. (2001). Similarly, Xie's (2014) study also confirmed that, the SPQ-2F, though reliable on Chinese university students, had a "simpler construct and better psychometric properties" if "without the division into the learning motivation and strategy subscales" (p. 4). Therefore, they contended that it was not necessary to divide approaches to learning into the sub-constructs of learning motivation and strategy, which is the decision that was reached for the current study. The analyses of the four subscales are included in Appendix H and I,



and an analysis of the contribution of the four subscales of CIS conducted through a standard multiple regression is included in Appendix J.

**Section Summary.** This section explored the underlying factor structure of the R-SPQ-2F with the current samples. The PCA with varimax rotation validated the reliability of the two-factor constructs of the R-SPQ-2F, i.e., DA and SA for the CIS and ADS sample respectively. The two-factor construct of the R-SPQ-2F had a good fit for both samples, with each containing 10 items in the two overall dimensions of DA and SA, consistent with Biggs et al.'s (2001) validation of those scales. However, further validation discovered some particularities in the specific item inclusion of the four subscales of DM, DS, SM and SS on the two samples. Table 4.6 summarises the scales and subscales of the R-SPQ-2F as validated on both CIS and ADS samples.

Table 4.6

*Results of Validation of the R-SPQ-2F Subscales of DA, SA, DM, DS, SM and SS*

	<b>DA</b>	<b>SA</b>	<b>DM</b>	<b>DS</b>	<b>SM</b>	<b>SS</b>
<b>CIS</b>	1, 2, 5, 6, 9, 10 13, 14, 17, 18	3, 4, 7, 8, 11, 12 15, 16, 19, 20	<b>1</b> , 5, 9 13	2, 10 <b>14</b>	3, 7 11	4, 12 16
<b>ADS</b>	1, 2, 5, 6, 9, 10 13, 14, 17, 18	3, 4, 7, 8, 11, 12 15, 16, 19, 20	5, 9, <b>14</b>	<b>1</b> , 2, 6 10, 18	3, 7 15	8, 16 20

The highlighted items in Table 4.6 indicate crossover between the subscales showing that none of the four subscales included matching items for comparison between the two student cohorts.

The reliability of DA and SA components, coupled with their subscales of DM, DS, SM and SS was also assessed. It was found, compared with the values of the four subscales, the Cronbach alpha coefficients for DA and SA for both samples were over .75 in this study. This implies that the two-construct of the R-SPQ-2F fits better with the current two samples than the one with sub-constructs of learning motivation and learning strategies, supporting earlier research by Justicia et al. (2008). Xie (2014) also argued that without the segregation of the learning motivation and strategy subscales, the R-SPQ-2F had a “simpler construct” yet “better psychometric properties” (p. 4).

The current study validated the two subscales of DA and SA in the R-SPQ-2F as reliable and valid with both the CIS and ADS samples. However, it also ratified that the specific item labelling of the four dimensions (DM, DS, SM, and SS) was more parsimonious, and for this reason it was deemed unsuitable to compare the four subscales but rather examine differences between individual items within the subscales.

## 4.2.2 Analysis of Students' Perceptions of Learning Approaches

In order to find out how students approached their learning in Australian universities, one sub-question was devised as outlined in Section 1.4, namely:

*What typifies Chinese international undergraduates' approaches to learning in Australian universities as compared with their Australian peers?*

a) *From the perspective of CIS and ADS*

This sub-question was addressed through several independent-samples t-tests that were conducted to compare differences between scores achieved on the DA and SA components of the R-SPQ-2F. Independent-samples t-tests were conducted respectively on the CIS and ADS samples and the CIS sample with different expectations about Australian universities. MANOVA was then performed to determine if different cohorts in different universities, or different genders of student cohorts in different universities, had differing learning approaches, and whether students' disciplines had any impact on their approach to learning in terms of DA and SA subscales. This sub-question is further analysed in the next section by another t-test conducted to compare students' mutual perceptions of learning approaches.

**4.2.2.1 Analysis of Differences between Responses of CIS and ADS to R-SPQ-2F.** As previously certified in the factor analysis, the R-SPQ-2F was validated with different items entailed in the four subscales of DM, DS, SM and SS with CIS and ADS samples, which made it hard to compare the two cohorts in these aspects. However, as also ratified in the factor analysis, the two-factor construct of the R-SPQ-2F was reliable and valid for both samples, with DA consisting of Items 1, 2, 5, 6, 9, 10, 13, 14, 17 and 18 and SA consisting of Items 3, 4, 7, 8, 11, 12, 15, 16, 19 and 20. Therefore, it was decided to compare the learning differences between the two cohorts using the two broad categories of DA and SA.

A descriptive analysis was conducted on data provided by CIS and ADS. Table 4.7 provides the mean, standard deviation and minimum and maximum scores achieved by both student cohorts in the two components of the R-SPQ-2F.

Table 4.7

*Scores Obtained by CIS and ADS on the R-SPQ-2F*

Scale component	Mean		Std. Deviation		Min		Max	
	CIS	ADS	CIS	ADS	CIS	ADS	CIS	ADS
DA	29.24	29.00	5.89	5.75	14	12	43	45
SA	35.62	33.68	5.90	5.81	19	14	49	45

Independent samples t-test were used to compare the mean scores of the two student cohorts to the 20 items in the R-SPQ-2F (Pallant, 2016), to determine whether

differences existed between the two student cohorts' perceptions about deep or surface learning in relation to their own learning.

Preliminary testing was conducted to ensure that assumptions relating to normality and homogeneity were met. The results of the Kolmogorov-Smirnov statistic demonstrated a reasonably 'normal' distribution, implying suitability for an independent-samples t-test (Pallant, 2016). Levene's tests were also noted with non-violation of homogeneity with  $F=1.00$ , and  $p=.32$  for DA, and  $F=.06$  and  $p=.80$  for SA respectively.

The independent-samples t-tests demonstrated that CIS and ADS were almost identical in scores for DA between the CIS sample ( $M=29.24$ ,  $SD=5.89$ ) and the ADS sample ( $M=29.00$ ,  $SD=5.75$ ) with  $t(366)=.387$  and two tailed  $p=.70 >.05$ . Thus, in terms of perceptions about their use of a deep approach to learning, the result indicated the two groups were not significantly different in this regard. However, in relation to perceptions about the use of a surface approach to learning, the scores of CIS and ADS were significantly different (CIS sample:  $M=35.62$ ,  $SD=5.90$ , ADS sample:  $M=33.68$ ,  $SD=5.81$ ,  $t(366)=3.15$ , and  $p=.002 <.05$ , two tailed), indicating an observable disparity existed between the two cohorts. The calculated effect size was  $d=.33$ , which, according to Cohen (1988), indicated a medium difference between the SA scores for the two cohorts.

As such, this t-test indicated a moderate degree of difference between CIS and ADS in terms of utilisation of a surface approach to their learning but no real difference in terms of strategies associated with a deep approach to learning.

**4.2.2.2 Analysis of Differences between Responses of Students from Different Universities to R-SPQ-2F.** It is also important to explore any disparities within the responses from different universities to the 20 items in the R-SPQ-2F. As specified previously in Table 4.1, 147 respondents were recruited from RegionalUni with 31 CIS and 116 ADS included, and 221 from MetroUni with 125 CIS and 96 ADS included.. The following section uses Multivariate Analysis of Variance (MANOVA) to examine whether differences existed in learning approaches between the two groups of students from the two different universities.

Prior to MANOVA, assumptions were checked against outliers (univariate and multivariate), normality, linearity, homogeneity of variance, covariance matrices, and multi-collinearity. The Pearson correlation values ( $r=.24$ ) suggested no violation of the multi-collinearity between the two dependent variables. The Mahal Distance was 13.04, which was smaller as compared with the two-numbered variable critical value of 13.82, implying no substantial multivariate outliers and meeting the normality assumption. With its Sig. of .781 (larger than .001), Box's test signified no violation of homogeneity of

variance and covariance matrices. Furthermore, the Levene's test indicated equal homogeneity variances.

A one-way between groups MANOVA was conducted to examine learning differences between the two student cohorts (CIS and ADS) in the two different universities (RegionalUni and MetroUni) with DA and SA as dependent variables and universities and student cohorts as independent variables. The analysis illustrated a statistically significant difference between student cohorts (CIS and ADS) on the combined variables, i.e., learning approaches (DA and SA) and Australian universities  $F(2, 363)=4.20$ ,  $p=.016$ , Wilk's Lambda=.98, Partial eta squared( $h^2$ )=.023. This result demonstrated that CIS and ADS in the two universities under investigation were disparate in their use of learning approaches (with DA and SA combined), although the difference was only small (with  $p=.016<.05$ , and ( $h^2$ )=.023 <.2).

When the dependent variables (DA and SA) were assessed individually, the only disparity to reach statistical significance was SA with  $F(1, 364) =8.13$ ,  $p=.005<.05$ . Employing a Bonferroni adjusted alpha level of  $.05/2=.025$ , the partial eta squared ( $h^2$ ) =.022 was smaller, which, as suggested by Pallant (2016), indicated CIS and ADS in the two universities were specifically different in term of SA yet with no obvious difference found in terms of DA. A closer inspection of the mean scores implied that surface learning made a slightly bigger difference for MetroUni ( $M=34.58$ ,  $SD=5.70$ ) compared with RegionalUni ( $M=34.38$ ,  $SD=6.26$ ). It further affirmed the difference existent in CIS and ADS in the two universities in terms of the use of SA.

While statistical difference did exist in their use of a surface approach to learning among the two student cohorts (CIS and ADS) in the two universities under investigation, this analysis indicated no significant difference among students (with CIS and ADS combined) in the two universities in terms of learning approaches. That is, the learning approaches adopted by students at both universities were similar. This result lent support to the conformity and consistency of the learning approach of tertiary students across institutions.

#### **4.2.2.3 Analysis of Gender Differences between Responses to R-SPQ-2F.**

It was also meaningful to interrogate whether gender differences were evident from the analysis of the responses provided to the 20 items in the R-SPQ-2F. As stated in Section 4.1, there were 226 (61.4%) female participants (82 CIS and 144 ADS) and 142 (36.8%) male participants (65 CIS and 77 ADS) from two universities who provided responses to the R-SPQ-2F survey. The following section again uses one-way Multivariate Analysis of Variance (MANOVA) to examine whether differences existed in learning approaches between male and female students from the two different universities.

Prior to MANOVA, assumptions were conducted to check against outliers such as univariate and multivariate, normality, linearity, homogeneity of variance, covariance matrices, and multi-collinearity. The Pearson correlation values ( $r=.24$ ) indicated non-violation of the multi-collinearity between the two dependent variables (DA and SA subscales). The Mahal Distance of 13.04 was smaller than the two-numbered variable critical value of 13.82, suggesting no substantial multivariate outliers and meeting the normality assumption. The Sig. of .434 (above .001) for Box's test suggests no violation of homogeneity of variance and covariance matrices, and Levene's test also indicated equal homogeneity variances.

A one-way between groups MANOVA was conducted to explore learning differences between male and female cohorts of CIS and ADS in the two different universities (RegionalUni and MetroUni) with DA and SA as dependent variables, and gender, university and student cohort (CIS and ADS) as independent variables. The analysis illustrated that, except for a statistically significant disparity detected between CIS and ADS with  $F(2, 359)=4.03$ ,  $p=.019<.05$ , Wilk's Lambda=.978, partial eta squared( $\eta^2$ )=.022, no other disparities were found in either different universities or genders. When the dependent variables (DA and SA) were assessed individually, the only disparity to reach statistical significance when employing a Bonferroni adjusted alpha level of  $.05/2=.025$  was SA among CIS and ADS with  $F(1, 360)=7.95$ ,  $p=.005$ , partial eta squared ( $\eta^2$ )=.022. An inspection of the mean scores implied that CIS were more variant in terms of SA ( $M=35.62$ ,  $SD=5.90$ ) than ADS ( $M=33.68$ ,  $SD=5.81$ ).

This MANOVA was conducted to detect any difference between student genders in terms of their learning approaches as expressed by DA and SA. It, however, indicated no difference between female and male students between the two student groups: CIS and ADS In the two universities. This finding confirmed results of the t-test in Section 4.2.2.1 and the MANOVA in Section 4.2.2.2 regarding the higher ratings for use of surface approaches among CIS compared with ADS.

**4.2.2.4 Analysis of CIS' Expectations and Their Learning Approaches.** Within the CIS sample, different expectations about the universities they were studying in were reported, so it is meaningful to explore the relationship between students' perceptions of their environment and their learning approaches. As addressed by the 3P model of classroom learning by Biggs et al. (2001), students' learning approaches are influenced by their perceptions of the environment in which they are placed. As such, students' approaches to learning result from their interaction with the teaching environment, and students themselves "have a large say in the quality of the product or outcome of learning" (Biggs, 1995, p. 154).

In order to explore the interconnection between CIS' learning approaches and perceptions of their environment, independent-samples t-tests were conducted to analyse the relationships between CIS' perceptions about their Australian universities and their learning approaches as expressed by the DA and SA components.

In the CIS survey (see Appendix A: Q1 in Part D), students were asked whether the university they were studying in met their expectations. Of the 156 CIS participants, 113 (72.5%) responded affirmatively, with 41 (26.3%) non-affirmative responses and 2 (1.3%) non-responses.

Preliminary assumptions were checked for normality and homogeneity of the dependant variables (DA and SA) to ensure suitability. Levene's tests for equality of variances were also conducted with no violation of homogeneity with  $F=.02$ ,  $p=.90$  for DA;  $F=3.00$ ,  $p=.09$  for SA respectively.

An independent-samples t-test demonstrated a statistically significant difference in scores for DA between the sample reporting their expectations were fulfilled ( $M=30.15$ ,  $SD=5.54$ ) and the sample reporting their expectations were unfulfilled ( $M=26.34$ ,  $SD=5.74$ ;  $t(68.82)=3.67$ ,  $p<.01$ , two tailed). The calculated effect size was  $d=.67$ , indicating a medium difference between the DA scores for the CIS sample who reported having their expectations met and those CIS sample who reported having their expectations not met by the universities in which they were studying.

The independent-samples t-test also illustrated a statistically significant discrepancy in the scores for the SA subscale between the CIS sample reporting their expectations were met ( $M=36.75$ ,  $SD=5.32$ ) and those whose expectations were unmet ( $M=32.44$ ,  $SD=6.31$ ). With  $t(152)=4.22$ , and  $p<.01$ (two tailed), it signposted a close correlation between CIS' learning approaches and their expectations about the universities they were studying in. The calculated effect size was  $d=.74 >.05$ , signifying a medium disparity in the SA scores for CIS whose expectations were met and those not met by the universities in which they were studying.

As such, CIS' expectations about the universities they were studying in had an influence on their adoption of both deep and surface approaches to learning. That is, CIS were more likely to adopt a deep approach to learning if their expectations were met by the universities. This study provides some insights for Australian universities, indicating that meeting of students' expectations is important and can impact on how students engage with their learning. CIS' expectations about the universities they were studying in will be further discussed in the open-ended question section and also in Chapter 5.

#### **4.2.2.5 Analysis of Variance of Students' Degrees and Learning Differences.**

This section uses MANOVA to explore the differences in students' learning approaches in terms of DA and SA among the participants pursuing different degrees.

Participants were asked to specify the degrees they were enrolled in and the summary of disciplines was introduced in Table 4.3, displaying a compilation of discipline areas rather than specific degrees. The 27 double degrees in which participants had been enrolled were recoded as a single discipline for this analysis based on their first degree in the faculty. Table 4.8 demonstrates the breakdown of discipline areas by student cohort with double degrees scattered throughout. The figures, therefore, do not match exactly with Table 4.3.

Table 4.8

*Degrees by Schools or Faculties*

<b>Participant</b>	<b>HASS</b>	<b>BCM</b>	<b>STEM</b>	<b>HS</b>	<b>ED</b>	<b>Total</b>
CIS	10	109	26	1	8	154
ADS	71	47	47	35	10	210
<b>Total</b>	<b>81</b>	<b>156</b>	<b>73</b>	<b>36</b>	<b>18</b>	<b>364</b>

Note: Humanities, Arts and Social Sciences (HASS); Business, Commerce and Management (BCM); Science, Technology, Engineering and Mathematics (STEM); Health Sciences (HS); and Education (ED).

Of the 368 survey participants, four respondents did not specify their degrees and were discriminated from this analysis, leaving 154 CIS and 210 ADS for MANOVA analysis. The literature frequently reported students' learning approaches might vary according to the disciplines studied. To determine whether the study of different discipline areas impacts on learning approaches, MANOVA was conducted on CIS and ADS data based on their discipline areas.

Prior to MANOVA, a series of assumptions were investigated to identify outliers (univariate and multivariate) and guard against any violations of assumptions relating to normality, linearity, homogeneity of variance, covariance matrices, and multi-collinearity. With the Pearson correlation values ( $r=.24$ ), the Mahal Distance 13.04 and Sig. of .305 ( $>.001$ ) of Box's test, no serious violations were noted.

A one-way MANOVA was conducted to examine discipline differences in approaches to learning between the two student cohorts of CIS and ADS. Two dependent variables were DA and SA total scores while the independent variables were disciplines (i.e., HASS, BCM, STEM, HS and ED) and student cohorts. This analysis demonstrated a statistically meaningful difference between student cohorts (CIS and ADS) on the combined variables, that is, learning approaches (DA and SA combined) and disciplines,  $F(2, 353)=8.45$ ,  $p<.01$ , Wilk's Lambda=0.95, Partial eta squared ( $\eta^2$ )=.046. The results indicated that CIS and ADS studying different disciplines were discrepant in their use of deep and surface approaches. However, when the independent variables (DA and SA) were assessed individually, significant differences were found in

both disciplines and student cohorts only in the terms of SA (no significant difference in terms of DA) by employing a Bonferroni adjusted alpha level of  $0.05/2=0.025$ , with  $F(4, 354)=2.93$ ,  $p=.021$ , partial eta squared ( $\eta^2$ )=.032 on disciplines, and  $F(1, 354)=16.89$ ,  $p<.01$ , partial eta squared ( $\eta^2$ )=.046 on student cohorts. That is, CIS and ADS studying various disciplines differed in the adoption of a surface approach. A closer look into the mean scores implied that disciplines made a slightly bigger difference in the SA score with CIS ( $M=35.66$ ,  $SD=5.91$ ) than ADS ( $M=33.68$ ,  $SD=5.83$ ). It showed that disciplines had a greater influence on CIS' adoption of SA than that of ADS.

As such, MANOVA was performed to analyse participants' major differences, as categorised by the disciplines they were studying, student groups, as represented by CIS and ADS, and their learning approaches, as embodied by the two domains of DA and SA. This research illustrated that disciplines could make a difference to students' surface learning while not significantly influencing students' deep learning. It also found that disciplines had more impact on CIS' than ADS' use of surface learning approaches. However, it should be noted that, due to the imbalanced number of participants with the vast majority enlisted from BCM, this result needs to be further validated in future research.

**Section Summary.** This section explored the differences in students' perceptions of learning approaches as measured by the DA and SA subscales in the R-SPQ-2F. Independent-samples t-tests were conducted and revealed a statistically significant difference in the scores for SA between the CIS and ADS samples. It was also noted that a statistically significant difference was found in DA and SA scores of CIS with contrasting expectations about their Australian university experience. Meanwhile, two MANOVA were performed and found that no statistically obvious disparity existed in learning approaches among the samples from the two universities (RegionalUni and MetroUni), and no obvious gender difference existed among student cohorts in different universities except that a significant disparity existed among student cohorts (CIS and ADS) in terms of SA. It was also found that the disciplines students were studying could exert a statistically significant impact on the use of SA by CIS and ADS.

### **4.3 Analysis of Students' Perceptions of Learning Approaches Adopted by Counterparts: Part C of the Surveys**

This section addresses analysis of the quantitative dataset collected from Part C of the surveys concerning students' perception of learning approaches adopted by their counterparts. As stated previously in Section 3.3.2, in both surveys, Part C was designed to investigate how CIS and ADS mutually perceived their learning approaches in terms of characteristics including inquisitive learning, rote-learning and engagement in class



activities in Australian universities. A 4-point Likert scale was utilised to rate each item ranging from 1 = strongly disagree to 4 = strongly agree, with higher points indicating higher perceptions of their counterparts.

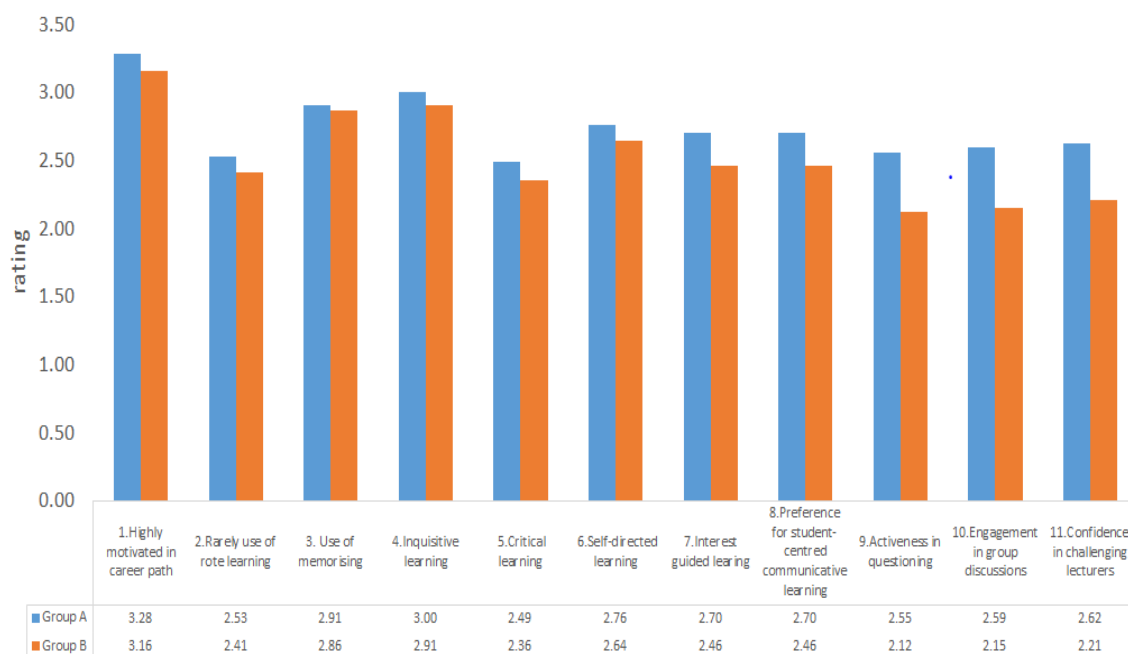
As with Part B of the surveys, the content and language for Part C was tested through a pilot study to enhance appropriateness for both student cohorts. Reliability checks were also conducted to evaluate the consistency of the 11 items in both surveys, with alpha coefficients of .885 for CIS and .884 for ADS indicating satisfactory reliability.

#### ***4.3.1 Analysis of ADS Reporting Different Experiences with CIS regarding CIS' Learning Approaches***

As previously mentioned in Section 4.1.2, of the 212 ADS who participated in the survey, two groups were identified, with one (138, 65.1%) reporting having classroom experience with CIS during their education while another (74,34.9%) reporting having no such experience. In order to determine whether there were differences in their perceptions of CIS' learning approaches, a descriptive analysis was conducted. Figure 4.4 illustrates the mean scores achieved by the two groups: Group A (those with no experience of CIS) and Group B (those with experience of CIS) concerning their perceptions of CIS' learning approaches.

Figure 4.4

*Perceptions of CIS' Learning Approaches by ADS with Different Experiences of CIS*



As illustrated in Figure 4.4, the mean ratings for Group A were higher than those of Group B for all 11 items. In order to determine whether significant differences existed between ratings, independent-samples t-tests were conducted on the eleven items, with results outlined in Table 4.9. All assumptions were met prior to conducting the t-tests. The t-tests identified that statistically significant differences existed in five of the eleven items (Items 7, 8, 9, 10 and 11) between the two ADS groups. Note the exact wording from the survey for the 11 Items is used in Tables 4.9 and 4.10 but is abbreviated to fit in Figures 4.4 and 4.5.

Table 4.9

*Independent-Samples T-test for ADS with Different Experience with CIS*

Item	Participant	Mean	Std. Dev	t	df	Sig. (2-tailed)	d value	MD
1. Highly motivated in learning toward career path	Group A	3.28	.61	1.23	210	.22	–	.12
	Group B	3.16	.75					
2. Rarely rely on rote learning	Group A	2.53	.67	1.06	210	.29	–	.11
	Group B	2.41	.78					
3. Moderate use of memorising where applicable in learning	Group A	2.91	.53	.48	210	.63	–	.04
	Group B	2.86	.66					
4. Inquiry based learners seeking deep understanding	Group A	3	.7	.84	210	.40	–	.09
	Group B	2.91	.81					
5. Critical learners unwilling	Group A	2.49	.76	1.22	210	.23	–	.13

to accept whatever told	Group B	2.36	.74					
6. Self-directed learners who choose levels/direction of participation	Group A	2.76	.79	.97	210	.33	–	.11
	Group B	2.64	.8					
7. Learning strongly based on interests	Group A	2.7	.77	2.11	210	<b>.04</b>	.31	.24
	Group B	2.46	.79					
8. Preference for student-centred communicative teaching	Group A	2.7	.68	2.41	210	<b>.02</b>	.34	.25
	Group B	2.46	.73					
9. Active in asking and offering answers in class	Group A	2.55	.89	3.39	210	<b>.00</b>	.49	.43
	Group B	2.12	.88					
10. Active in group discussions	Group A	2.59	.84	3.57	210	<b>.00</b>	.52	.44
	Group B	2.15	.87					
11. Bold enough to challenge lecturers	Group A	2.62	.9	3.21	210	<b>.00</b>	.46	.41
	Group B	2.21	.88					

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Note: Group A: ADS with no experience of CIS; Group B: ADS with experience of CIS.

This t-test demonstrated that ADS who had reported no prior experience of working with CIS had different perceptions of how CIS approached their learning, with significantly higher mean scores particularly for 5 of the 11 items. The two groups contrasted in their perceptions of CIS' learning approaches in terms of interest guided learning, preference for student-centred teaching, activeness in class, engagement in discussions, and confidence in challenging lecturers. Effect sizes for these items varied from small (.31 to 0.49) for Items 7, 8, 9 and 11 to medium (.52) for Item 10. Therefore, in order to enhance the accuracy of this study, it was decided to only include ADS who reported having some educational experience with CIS in the following t-test analyses. Consequently, 156 CIS and 138 ADS were included in the analysis.

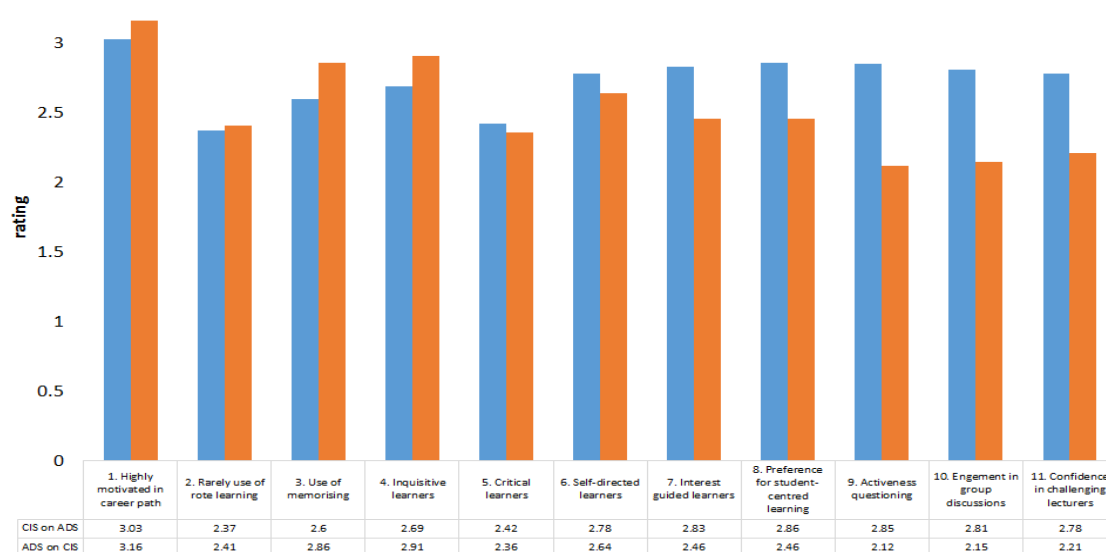
#### ***4.3.2 Analysis of Students' Perceptions of Learning Approaches Adopted by the Counterparts***

In order to map and compare how the two samples perceived the learning approaches adopted by their counterparts, a descriptive analysis was conducted. Figure 4.5 illustrates the mean scores achieved by the 156 CIS and 138 ADS regarding their perceptions of learning approaches adopted by their counterparts.

As illustrated in Figure 4.5, ratings were mixed, with ADS scoring CIS higher than CIS scored them for the first four approaches, while ADS received higher scores from CIS than CIS gave them for the last seven approaches.

Figure 4.5

### Perceptions of the Learning Approaches Adopted by Counterparts



Note: Orange columns represented what CIS scored ADS/ blue represented what ADS scored CIS.

In order to detect whether significant differences existed between ratings, independent-samples t-tests were conducted on the eleven items, with results outlined in Table 4.10.

Table 4.10

#### Student Perceptions of Learning Approaches Adopted by Counterparts

Item	Participant	Mean	Std. Dev	t	df	Sig. (2-tailed)	d value	MD
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1. Highly motivated in career path	CIS	2.77	.87	-4.07	292	<b>.00</b>	<b>.48</b>	-.38
	ADS	3.16	.75					
2. Rare use of rote learning	CIS	2.37	.91	-.48	292	.63	–	-.05
	ADS	2.41	.78					
3. Use of memorising	CIS	2.60	.92	-2.8	281	<b>.01</b>	<b>.32</b>	-.26
	ADS	2.86	.66					
4. Inquisitive learning	CIS	2.69	.97	-2.06	291	<b>.04</b>	<b>.24</b>	-.21
	ADS	2.91	.81					
5. Critical learning	CIS	2.42	.91	.70	292	.49	–	.07
	ADS	2.32	.74					
6. Self-directed learning	CIS	2.78	.93	1.29	292	.20	–	.13
	ADS	2.64	.80					
7. Interest guided learning	CIS	2.83	1.00	3.52	289	<b>.00</b>	<b>.41</b>	.37
	ADS	2.46	.79					
8. Preference for student-centred communicative learning	CIS	2.86	.99	4.00	282	<b>.00</b>	<b>.46</b>	.40
	ADS	2.46	.73					
9. Activeness in questioning	CIS	2.85	1.05	6.44	291	<b>.00</b>	<b>.75</b>	.72
	ADS	2.12	.90					
10. Engagement in group discussions	CIS	2.81	1.00	6.00	292	<b>.00</b>	<b>.70</b>	.66
	ADS	2.15	.87					
11. Confidence in challenging lecturers	CIS	2.78	.99	5.18	292	<b>.00</b>	<b>.60</b>	.57
	ADS	2.21	.88					

Note: MD (Mean difference) = Mean<sub>(CIS)</sub> - Mean<sub>(ADS)</sub>

As demonstrated in Table 4.10, three items (Items 2, 5 and 6) had *p* values of .67, .63, .49 and .20 respectively (all higher than .05), which indicated no statistically significant differences in these items. That is, the CIS and ADS samples held similar perceptions towards each other in terms of motivation for career path, reliance on rote learning, critical learning and self-directed learning. The MDs (mean difference) of the four items were between .05 to .13, which were very small, further indicated no significant disparity.

However, eight items (Items 3, 4, 7, 8, 9, 10 and 11) had statistically significant differences in ratings as highlighted in bold in Table 4.10. The *p* values between .00 to .04, which were smaller than .05, signified that CIS and ADS had significantly discrepant perceptions towards each other in these items. Effect sizes for these eight Items ranged from small (above .2) for Items 1, 3, 4, 7 and 8 to medium (above .5) for Items 9, 10 and 11, but none could be considered large (above .8). This finding indicated that CIS and ADS perceived differences between themselves in terms of motivation for career path, use of memory in learning, inquisitive learning, interest guided learning,

preference for student-centred communicative learning, activeness in questioning, engagement in group discussions and confidence in challenging lecturers. The medium effect size demonstrated that CIS and ADS perceived each other differently in terms of classroom engagement in questioning, group discussion and challenging lecturers.

### ***Section Summary***

This section explored differences in how the two student cohorts (ADS and CIS) perceived each other's use of particular learning approaches. Independent-samples t-tests were initially performed on the entire ADS data set but results indicated some significant differences in perceptions of those who had identified as having no prior educational experience of working with CIS and those with such experience. After filtering the ADS sample of 212 to remove those identifying as having no prior experience of working with CIS, the ratings from the smaller group of 138 ADS were analysed to determine how they perceived CIS used the 11 learning approaches. This was to ensure equity as all CIS were working with ADS in their current programs. Independent-samples t-tests found statistically significant differences existed between ratings of the 156 CIS and 138 ADS in seven of the 11 items, with associated small to medium effect sizes. It was noted that CIS and ADS were significantly discrepant in the following learning behaviours: motivation for career path, using of memorising, depth of understanding, interest-based learning, student-centred communicative learning, activeness in questioning, engagement in group discussion and confidence to challenge lecturers.

## **4.4 Data Analysis of Responses to Open-Ended Survey Questions: Part D**

The previous three sections presented findings from analysis of Parts A, B and C of the surveys. This section presents results from the qualitative data analysis of Part D.

Open-ended questions requiring written responses were used in Part D in both CIS and ADS surveys to further probe into students' perceptions of learning approaches. Although the written survey responses could be incorporated in the next chapter with the main qualitative data, due to the large number of written responses (over 2000), it was decided to include them in this chapter, and in effect to quantify the large body of qualitative data (Creswell & Plano Clark, 2009). Thematic analysis using NVivo.12 software provided a means of identifying themes and sub-themes (Zhang & Wildemuth, 2009), which are summarised and presented in theme tables. To differentiate participant quotations from quotes from the literature, italics with single quotation marks were utilised but without associated names, pseudonyms or numbers due to the large number of participants from which the quotes were drawn. The included quotes are generally

short, as were most of the written responses on the survey, and were chosen as representative of the theme/sub-theme following thematic analysis. It should be noted that students' learning characteristics were interpreted based on the analyses of participants' responses. However, as cautioned by Dinsmore and Alexander (2012), self-report data itself may not accord with actual practice and as such it is acknowledged that students' self-reports regarding their learning were not necessarily their actual behaviours.

#### 4.4.1 Chinese Students' Perceptions of Their Learning in Australia

Six open-ended questions were included on the CIS survey and four on the ADS survey, with each representing a pre-determined topic, based on the literature. Table 4.11 outlines the major topics constituting Part D in the surveys for CIS and ADS, with the arrows demonstrating merging of the datasets.

Table 4.11

*Structure of Data Analysis for Part D*

CIS' perceptions of their learning in Australia	ADS' perceptions of CIS' learning in Australia
Expectations of AUS Uni (met and unmet)	CIS' learning characteristics
Supports provided from AUS Unis	ADS' learning differences with CIS
More supports needed	Services provided by AUS Uni to CIS
CIS learning differences with ADS	More strategies needed for CIS in AUS Unis
ADS' learning characteristics	
Recommendations to future CIS	

Note: AUS stands for Australian; Uni stands for universities

In the CIS survey, six open-ended questions were devised based on ideas emerging from the literature, which became the overall topics explored in the following sections.

**Topic 1: CIS' Expectations of Australian Universities.** The first question aimed to explore participants' academic and social expectations of Australian universities. The interrelationship between participants' expectations and the learning approaches they adopted were expounded in Section 4.2.2.4 using an independent-samples t-test. The results showed statistically significant differences between ratings associated with deep approach (DA) and surface approach (SA) based on whether their expectations about

the universities they were attending were met or unmet. This section further discusses the specific expectations and associated reasons.

As stated previously in Section 4.2.2.4, around 72% of CIS participants (113 out of 156) expressed their satisfaction with the universities they were studying in, reporting that their expectations were met, while 26% (41 out of 156) reported unmet expectations. Thematic methods were adopted using NVivo.12 software to analyse the reasons associated with expectations, with two main themes emerging related to the university's high quality of education and potential employability. A number of sub-themes were also identified and are outlined in Table 4.12. It should be noted that not all CIS participants responded to Section D of the survey. Specifically, 53 of the CIS who recorded their expectations as satisfied in Q1 in Part D of the survey and 20 of the 41 who reported unmet expectations did not provide details in the open-ended question.

Table 4.12

*CIS' Expectations of Their Australian Universities*

Themes	Sub-themes	Example of response	Mentions
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Expectations fulfilled	High quality of education	Courses/curricula/degrees	Class, clear routes, methods of learning	34
		Environment	Colorful university life, different living experience, effective language environment, excellent Uni Rankings	8
		Lecturers/tutors	Supportive lecturers, good relationships with lecturers	4
		Services	Support services	2
	Potential employability	Employment support	Practical learning, useful to future career, teamwork skills, improved English skills, self-study skills	6
Expectations unfulfilled	Under-expected quality of education	Courses /curricula/degrees	Difficult content, irrelevant assignments, too much self-work	6
		Lecturers/tutors	Under qualified tutors, unclear instructions for assignments	9
		Environments	Too many students, crowded learning spaces	3
		Limited service with high tuition	High tuition fees, not enough service, low pass rates	7
	Low potential employability	Lack of employment support	Unsure future employment possibilities, limited relevance of content to future career paths	5

Note: Not all CIS participants responded to Section D of the survey. Specifically, 53 of the CIS who recorded their expectations as satisfied in Q1 in Part D of the survey and 20 of the 41 who reported unmet expectations did not provide details in the open-ended question.

The first theme related to the quality of education provided by Australian universities, which had been previously reported as the most important reason for choosing to study in Australia. Sub-themes included courses/curricula, social environment, qualified lecturers and excellent levels of support. With a high frequency of 34 mentions, courses/curriculum offered by universities were deemed as the most important aspect associated with high quality teaching in Australian universities. Aspects including a pleasant environment (8), qualified lecturers (4) and excellent service (2) were also mentioned by participants. The second theme related to expectations associated with study in Australia impacting positively on future employability, with mentions of learning being '*useful*', '*practical*' and '*applicable*', and thereby contributing to future careers.

Two more sub-themes emerged in relation to unmet expectations, with the first (25 mentions) relating to lower than expected quality of the learning and teaching experience, a lack of services and high tuition fees. The second sub-theme (only received five mentions) and dealt with uncertainty about the value of courses in terms of future

employability. The mixture of expectations highlights the importance of Australian universities being aware of what students, particularly international students, such as those from China, expect to receive from their university education and also provides an avenue for discussion of potential improvements that will be explored in later chapters.

**Topic 2: Support Provided to CIS by Australian Universities.** The second open-ended question inquired about the type of support that CIS participants identified as being provided by their Australian universities, with Table 4.13 outlining the main themes to emerge from responses.

Table 4.13

*Type of Support Provided by Australian Universities to CIS*

<b>Supports provided</b>	<b>Sub-themes</b>	<b>Example of response</b>	<b>No. of Responses</b>
<b>Academic support (74)</b>	Programs/ courses	Peer study program, learning workshops, PASS program, course selection, academic writing	26
	Skills development	Learning skill advisors, self-study promotion, peer study skills, self-discipline	14
	Language support	English Connect, grammar assistance	16
	Lecturers or tutors	Approachable academics, helpful tutoring	10
<b>Environment, facilities and services support (57)</b>	Environment	Effective environment for study	5
	Facilities/resources	Reliable educational resources, databases, suitable equipment, 24-hour study room, library support	12
	Services	Living support: security bus, airport pickup, Student Connect	16
		Consultation: learning advice	15
		Career planning and support	9
<b>Social-cultural support (9)</b>	Social activities	Providing a platform for making friends, connect activities	7
	Cultural support	Opportunities for communicating with local students and knowledge of local culture	2
<b>Psychological support (4)</b>	Consultation	Activities to support students,	2
		psychological assistance	2

**Note:** Numbers in brackets refer to the mentions by the participants; the total number of responses was more than participants due to some listing more than one response.

Of the 156 CIS participants, 96 (62%) reported having obtained some assistance or support from Australian universities, while 27 (17%) claimed they were unaware of any support or resources available to them, and 33 (21%) did not provide a response. Of the 146 responses, the most cited form of assistance (74 mentions) related to academic support, including assistance in relation to program or course study (26 mentions), skills

development (14 mentions), and English language support (16 mentions). Scholarly assistance in the form of learning workshops, peer study programs, learning skills advisors, self-study promotions and English Connect language assistance were specifically mentioned as was the quality of staff who were reported as approachable and helpful.

The second type of assistance related to the environment, facilities and services offered by Australian universities to CIS. With 57 mentions, these included effective study environments, rich education resources and well-equipped laboratories. Living support services such as Student Connect and security buses, together with learning advice consultation and career planning, were mentioned as most welcome support for CIS. Other avenues of support identified included a small mention of social-cultural assistance from universities (9 mentions), such as activities held to promote connection networks, as well as psychological financial assistance (4 mentions).

**Topic 3: Support Required by CIS from Australian Universities.** As far as the third open-ended question regarding the type of support that CIS perceived that Australian universities should offer to facilitate their working and living in Australia, four broad themes were generated from the responses. These are displayed in Table 4.14 and are compared with the themes that emerged from the previous question about the type of support that was perceived as being provided by Australian universities.

As displayed in Table 4.14, of 126 responses from the CIS participants, some topics featured more prominently as being required rather than provided. Interestingly, the most mentioned aspect involved lifestyle support for international students. With 24 mentions, supports such as providing varied food and reducing racial discrimination were perceived as important for assisting international students to live and work better in Australia. More reasonable tuition fees (20 mentions), provision of more opportunities to connect with Australian students (15 mentions) were also considered important. Comments included the need for *'special personnel'* to *'assist communications with local students to help us [CIS] better understand Australian culture'* and *'more platforms'* or *'more channels'* provided to *'facilitate our communication with native students'*. Other sub-themes related to the improvement of delivery of programs/courses delivering, and the provision of more assistance to international students, such as more English language support, study method guidance, study plan assistance and clearer course explanations.

Table 4.14

*Type of Support Required from Australian Universities by CIS*

Category of support	Sub-themes	Example of response	Support required (no. of mentions)	Support provided (no. of mentions)
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<b>Academic support (31)</b>	Programs / courses improvement	A better control of fail rate; providing detailed study plans, course information and lecture recording; set up phased testing	14	26
	Skills direction	Providing learning guidance and lectures regarding how to study in Aus	2	19
	Language support	English Connect, grammar assistance	10	16
<b>Environment, facilities and services support (31)</b>	Quality of academics	Better qualified academics with less foreign accent such as Indian.	5	10
	Environment	Improving campus security; better residential management; special personnel needed to address specific problems such as racial discrimination	5	13
	Facilities/ resources	Providing more space for study, esp. 24-hour learning space; lengthening library's service hours; providing more apartment	7	9
	Services: lifestyle support	Caring more international students instead of only charging fees on them; supplying better life convenience services such as food, restaurant, cafeteria and supermarket; improving transport system	24	16
	Career planning	Providing opportunities for part-time job, placement and career paths; to offer more work skills related programs and workshops	10	9
<b>Social-cultural support (24)</b>	Social activities	More activities to promote social network connection	9	7
	Cultural assistance	More channels to communicate with ADS; assigning special personnel to help CIS integrate into local culture; encouraging engagement and cooperation with ADS; establishing school directed international clubs or festivals and team building activities	15	2
<b>Psychological support (0)</b>			0	4
<b>Financial support (25)</b>	Reasonable tuition	To reduce tuition	20	1
	Availability of scholarship	To establish more scholarships for international students	5	1

Note: Numbers in brackets represent the mentions by participants

As also outlined in Table 4.14, other topics, such as lowering fail rates, offering more scholarships, improving lecturer quality, improving career planning and placement supports for international students, were also recorded by the CIS participants. Notably, while no participants included psychological support requirements, four had reported

receiving such assistance in Table 4.13. This could be attributed to CIS' reluctance to accept psychological counselling and will be discussed in Chapter 6.

**Topic 4: Learning Differences with Australian Peers.** The fourth open-ended question investigated perceptions of how CIS' learning differed from that of ADS in Australian universities. This question received responses from 112 (71.3%) of the 156 participants, although 14 reported no perceived obvious differences. Three broad themes emerged which were broken down into seven sub-themes as outlined in Table 4.15.

Table 4.15

*CIS' Perceived Learning Differences Adopted by ADS*

Themes	Subthemes	Examples	No. of mentions
<b>Learning style</b>	More group learning	Preferring community studying with a lot of discussions, more communicative learning	23
	More interactive in class	Asking questions, offering answers, discussing with peers, more interactive with lecturers with more challenging of lecturers and peers.	19
	Better technology-based learning	Learning from online source such as YouTube or recording, preferring taking digital notes	7
	Relaxed learning	Having free and varied learning methods, more relaxed in learning; well-balanced in life and work;	14
<b>Learning approach</b>	More understanding of strategy	Focus on understanding, exploring more deeply (possibly as no language barriers)	21
	Interest-/ practice-based learning	Mainly interest- oriented in learning; Effective in studying theories and applying them to life	10
<b>Learning outcome</b>	Higher efficiency learning	More efficient in study than CIS, spending less time on course learning	4

Note: Numbers in brackets represent the total mentions of the theme

As evident in Table 4.15, factors relating to group learning (23 mentions) and depth of understanding (21 mentions) were the most mentioned responses. In relation to group learning, or '*community learning*' as termed by some CIS, mention was made of how '*local students preferred studying in communities*' with a lot of discussions while *Chinese students like studying 'individually' or 'studying alone'*. As far as depth of learning, mention was made by CIS of how ADS adopted understanding strategies rather than memorising in their learning. With 21 mentions, ADS were reported by CIS as being better at understanding, possibly due to their advantage of studying in their native tongue. As one respondent from RegionalUni reported:

*'Because the native students do not have language problems, they could easily understand what the teachers taught. Therefore, they tend to explore more deeply what they have learnt. We [CIS] have to first try to understand what is being taught'.*

The third subtheme involved ADS' interactive learning in classrooms. ADS were perceived by the CIS participants as being more active and communicative, with more interaction with teachers and peers, offering answers, asking questions and exchanging ideas and challenging them. As one CIS participant from MetroUni wrote:

*'Domestic students are more active in lectures and would like to share their opinions even if it might be wrong', and they tend to 'challenge lecturers more than CIS'.*

The fourth subtheme related to ADS' relaxed learning style. According to the CIS respondents, ADS were more relaxed in learning with a more balanced life-work schedule. As one CIS from MetroUni commented:

*'They [ADS] usually had a better time schedule and work-life balance. Not like most Chinese, including me, who took all the availability of time to study and ignored other activities'.*

The fifth subtheme concerned ADS' motivation in learning, with CIS stating that ADS tended to be more interest-led or practice-oriented in their learning rather than being exam-driven. One CIS respondent from RegionalUni stated:

*'Most ADS are primarily interest-oriented in their learning. In China, students are more exam-focused, where we [CIS] learnt to get a better ranking at school while in Australia, it is more important whether you integrate your knowledge into your life'.*

In addition, ADS were also perceived by CIS as being more adept at *'technology-based learning'*, while many CIS preferred getting information more from *'real resources'* such as lecturers or books. Finally, ADS were also recognised by the CIS participants as highly efficient learners who might *'spend less time on course learning'*, yet seem *'be more efficient in their study...'*.

**Topic 5: Australian Domestic Students' Learning Characteristics.** The fifth open-ended question on the CIS survey aimed to explore how CIS described ADS' learning characteristics. A total of 173 responses from the 156 CIS participants were obtained, albeit some overlapping in the coding process. Table 4.16 demonstrates the main themes and sub-themes that emerged, together with a small number of comments by the CIS participants in relation to ADS' learning characteristics.

Table 4.16

*CIS' Perceptions of the Learning Characteristics Adopted by ADS*

Themes	Sub-themes	Examples of comment	No. of mentions
<b>Learning styles (71)</b>	Active in class	Active in questioning, offering answers, challenging others and engaging in group discussions	27
	Communicative learning	Preferring learning in groups, communicating and exchanging ideas, confident to express ideas	20
	Flexible learning	Flipped classroom style, flexible in learning methods, visual learners	14
	Autonomous learning	Effective in self-studying, self-exploring, being self-directed	10
<b>Learning ethic (31)</b>	Hardworking	Hardworking and dedicated, conscientious in study	10
	Well balanced life-study	Studying hard yet playing well, low pressured and relaxed	21
<b>Learning personality (28)</b>	Welcoming personality	Being active, careful and determined in study, independent, confident	28
<b>Learning approaches (23)</b>	Deep learning	More understanding than memorising, reading a lot, understanding more easily than international students	10
	Critical thinking	Looking at things from differing perspectives, critical in thinking	7
	Interest-motivated learning	Interest-based learning	6
<b>Learning outcomes (9)</b>	Higher learning efficiency	Academically successful, efficient in learning, less effort spent on study yet with higher quality of work, and creative	9

Note: Numbers in brackets refer to the total mentions of the topic

Of the five main themes, ADS' learning styles attracted a high number of mentions (71) by CIS, with active classroom performance, communicative learning, flexible learning methods and autonomous learning described. With 27 mentions, the CIS participants stated that ADS were typified by active engagement in class, frequently asking questions, offering answers, participating in group discussions and challenging lecturers and peers. ADS were identified by the CIS as communicative learners (20 mentions), enjoying studying in groups, and frequently found working together in the library, laboratory or even the cafeteria. As one MetroUni participant remarked, it seemed '*ADS were learning by discussion*'. Additionally, ADS were reported by the CIS participants as being flexible (14 mentions) and self-exploring (10 mentions) in learning. The second theme was related to ADS' learning ethic. With 31 mentions, ADS were described as hardworking and well-balanced in life and study with phrases as '*dedicated, conscientious, low pressured and relaxed*' highly cited by the CIS respondents. One MetroUni participant stated, '*they [ADS] tend to be more laid back in learning [than CIS]*'.

The third theme related to ADS' learning personality. With 28 mentions, ADS were described as generally having welcoming personalities, being '*active, independent, confident and creative*'. Other themes related to ADS' learning approaches and learning outcomes. With 17 mentions, the CIS participants noted that ADS tended to adopt more understanding than memorising strategies, and be more critical in their thinking, looking at things from different perspectives. One CIS from RegionalUni commented:

*'Critical thinking is the most crucial part. ADS usually have their own opinions, who are full of questions and generally bold enough to challenge lecturers'.*

ADS were also generally acknowledged by the CIS participants as effective learners, resulting in possibly less time and effort but higher learning results. Sixteen participants responded they were unsure due to lack of contact with ADS in classes.

As such, the CIS generally perceived ADS as active and communicative learners, who were hardworking and interest-based with welcoming personalities, adopting more deep learning than memorising, and more relaxed yet highly efficient in learning.

**Topic 6: Recommendations for Newcomers from China.** The last open-ended question on the CIS survey required participants to reflect on their own experience and then provide recommendations for newcomers from China. With 158 responses provided (some participants provided more than one recommendation), six general themes emerged and are displayed in Table 4.17.

Table 4.17

*CIS' Recommendations for Newcomers from China*



Recommendation	Typical example	No. of mentions
<b>Improve English competency</b>	To improve English language competency; IELTS is not enough; academic English is also important; learn English well prior to arrival	41
<b>Be prepared for hard work</b>	To study hard, be self-disciplined; prepared for the workload; try all out to learn; cultivate self-learning ability	40
<b>Integrate into the host culture</b>	To immerse into Australian culture; to socialise with local students; actively integrate into local life	18
<b>Become familiar with university/program/courses</b>	To familiarise themselves with learning environment in advance such as the Uni, programs/courses, learning and teaching systems, services provided	22
<b>Be confident</b>	To develop confidence in communicating with locals including teachers and ADS, and in discussing with peers; be brave to share ideas; integrate into classroom activities; not be afraid to ask questions and challenge teachers	15
<b>Develop life skills</b>	To learn life skills such as cooking, driving, managing finances; learn to balance life and study; learn to deal with personal issues and how to seek assistance	10

Not surprisingly, English language competency received the most attention, with common recommendations relating to enhancing English language competency prior to entry into Australian universities. One participant from RegionalUni advised, '*it is paramount to learn English well in China, particularly oral English and listening*'.

Other recommendations included being prepared for the heavy workload in Australian universities, which required '*self-discipline*'. It was recommended that students from China should take the initiative to integrate into the host culture, communicating and making friends with local students. Similarly, newcomers were advised to familiarise themselves with the Australian higher education system including the requirements associated with specific programs or courses prior to arrival, in particular, finding out about the type of services available and contacts if problems arose after their arrival. An important point was developing an understanding of academic writing and referencing conventions and protocols within Australian universities, as these differed significantly from those in China. Developing confidence so that there was more similarity with local students was also recommended, as was learning survival skills or techniques including safety codes, cooking, driving, and ways of dealing appropriately with pressure and stress.

#### 4.4.2 Australian Domestic Students' Perceptions of CIS' Learning in Australia

The ADS survey included four open-ended questions relating to perceptions of CIS' learning characteristics, perceived learning differences with CIS, services they noticed were provided by Australian universities to CIS, and further supports Australian universities could provide for CIS' studying in Australia.

**Topic 1: Perceived CIS' learning Characteristics.** The first open-ended question for ADS explored their perceptions of the learning characteristics of CIS in Australian universities. Four broad themes, matching the first four themes within the CIS analysis, were extracted from an aggregate of 266 responses provided by the 212 ADS participants, as outlined in Table 4.18.

Table 4.18

*CIS' Learning Characteristics Described by ADS*

Theme	Subtheme	No. of mentions
<b>Learning ethic (87)</b>	Hardworking	31
	Dedicated	19
	Determined	12
	Studious	11
	Focused	8
	Disciplined	6
<b>Learning personality (53)</b>	Smart	22
	Reticent	20
	Welcoming characters	11
<b>Learning approach (53)</b>	Memory-based learning	14
	Understanding	8
	Motivated	29
	Unmotivated	2
<b>Learning style (25)</b>	Individual learning	14
	Passive	9
	Active learning	2

Note: Numbers in brackets refer to the total mentions of the topic.

The first aspect acknowledged by the ADS respondents about CIS' learning characteristics concerned their learning ethic, with CIS described as hardworking (31 mentions), dedicated (19), determined (12). Other adjectives such as 'studious' (11), 'focused' (8), and 'disciplined' (6) were also mentioned. The descriptions of CIS' learning approach included some contradictions in relation to being motivated/unmotivated, deep/rote learners, and inquisitive/passive learners. The descriptions regarding CIS' learning approaches include such comments as '*memory-based*' or '*learned straight from*

*books*', which were more frequently mentioned than *'deep learning'*.. One participant remarked, *'in my experience, a lot of CIS used rote learning to get by, but could have trouble with complex topics and theories'*. Others described CIS as seeking a *'deep understanding of knowledge rather than just memorising'*, and *'critical'* and *'never happy to accept surface level answers'*.

The third theme related to CIS' learning attributes mainly related to personality. For example, CIS were portrayed as being smart (22 mentions) with welcoming characters (11 mentions), however they were also described as being reticent (20 mentions). Other descriptions included *'CIS were quiet in class, who tended not to interact with lecturers or other students unless requested'*. They were *'reserved'* and *'normally quiet in group discussions but were good when prompted'*.

Learning style was not mentioned often but included terms such as *'individual learners'* who were *'non-communicative'*, preferring *'solitary learning'*, and *'seemed segregated from the class and not involved'*, *'less engaged or excited by group work'*, although there were two mentions of *'active learners'*, who were *'engaged in class'*.

Apart from the four broad themes, other attributes (6 mentions) included *'appearing to be under great pressure'* and *'tending to seek details in learning'*. In addition, 27 participants reported uncertainty regarding CIS' learning strategies.

**Topic 2: Perceived Learning Differences with CIS.** The second open-ended question on the ADS survey investigated how ADS perceived their learning differences with the CIS in Australian universities. As summarised in Table 4.19, a total of 206 responses were provided by ADS respondents, with two primary themes generated, although 56 reported *'No Observable Differences or Unsure'* responses.

Table 4.19

*CIS' Learning Differences Perceived by ADS*

Themes	Subthemes	CIS' learning characteristics	ADS' learning characteristics	No. of mentions
<b>Learning styles</b>	Interactive /group learning	<b>Individual learning:</b> solitary study, going alone and beyond in their studies; less collaboration	<b>Group learning:</b> lots of discussion and interactions, learning more socially, more collaborative with peer discussions	33
	Participation in class activity	<b>Less active learning:</b> Seldom ask questions or challenge lecturers, seldom challenge academics, reluctant in engaging in conversation	<b>Active learning:</b> Outspoken, ask more questions and offer answers, engaged more in classroom activities, more active involvement with all class members	27
	Effort put into learning	<b>More focused learning:</b> More focused in learning, valuing learning more, dedicating more time to course work, having a superior work ethic, longer study hours and more stress	<b>More relaxed learning:</b> relaxed in learning, less time on assignments/ studying yet often achieve well, more flexible life; However, some ADS 'bludge' and are lazy	27
	Technology-based learning	<b>Less online learning:</b> not so exciting for online learning	<b>More online learners:</b> learning more visually	7
<b>Learning approaches</b>	Level of understanding	<b>More memory-based learning:</b> likely memorising information, using lecture notes, focusing on textbook reading; more language-focused due to having language barriers	<b>More understanding learning:</b> seeking a thorough understanding, digesting content in more varied ways, i.e., audio, hands on/ practice	40
	Motivation in learning	<b>More outcome-oriented:</b> paying less attention to learning process, less application to real life	<b>Interest-/practice-based learning:</b> learning mainly out of interest, learning more for real use	6

Table 4.19 highlights the six main sub-themes that emerged from the ADS survey data, which are very similar to those identified by the CIS cohort. The ADS perceived the first disparity with CIS in learning approach was the level of understanding, perceiving themselves as tending to process more deeply, '*digesting content in a variety of ways, i.e., reading, audio, hands on/ practice*' whilst Chinese peers were seen as focusing more on '*textbook reading*', and '*memorising a lot of information*'. As cited from one respondent from the MetroUni, '*I often seek a thorough understanding of a topic and prepare well for class, but sometimes this is not reflected by my CIS peers*'. The second difference ADS perceived was that, in contrast with CIS, ADS were more interactive, with lots of group work and discussions, whilst CIS tended to '*go alone and beyond in their studies*'. The third distinction with CIS that ADS noticed was that Australian students

seemed more engaged in classroom activities, tending to respond to lecturers more actively with more questions asked, answers offered, and challenging lecturers and peers, whereas Chinese students seldom did so. A RegionalUni participant stated:

*'As an Australian student, I have been raised to interact and challenge my peers and teachers and to ask questions about things I am unsure of. My understanding of Chinese culture, especially in the more traditional sectors of the society is that this is the exact opposite'.*

The fourth disparity recognised by ADS related to the degree of effort put into learning, with ADS reporting how CIS would occasionally experience language barriers in their study, and thus tended to be more focused in their learning while ADS were comparatively more relaxed in learning with more flexible life styles. As pointed out by one respondent from MetroUni, *'due to not having a language barrier, I think, I have to work less than CIS. I can usually learn through reading notes but CIS have to be much more active in their learning'*. In addition, technology use and motivation in learning were also raised as a difference, with ADS perceiving a greater acceptance by them of online (visual) learning, and interest-and/ or practice-based learning.

**Topic 3: Support Provided to CIS by Australian Universities.** The third open-ended question investigated ADS' perceptions of whether sufficient support was provided by Australian universities to facilitate CIS' learning in Australia. Three categories were generated from the responses, namely, those asserting *'Yes enough had been done'*, those asserting *'Yes but more needed'*, and those asserting *'Not enough'*. Also 64 participants did not provide any definitive responses. Table 4.20 demonstrated the categories, themes, sub-themes and mentions of them.

As illustrated in Table 4.20, 46 ADS reported sufficient support had be provided to facilitate CIS' learning and living in Australia. These responses highlighted assistance in a range of areas such as academic support, facility/service support, cultural-social support, and financial assistance. Comments included, *'there are plenty of services available,'* and *'lots of supports and opportunities provided'*.

A small number (13 mentions) of responses acknowledged the provision with room for improvement, particularly in relation to language assistance, scholarly help and cultural support. Comments included, *'the university is trying. But you can still see clear barriers, such as language and learning styles that CIS may require'*, *'multiculturalism is a good thing, so you can never provide enough support'*.

Table 4.20

*ADS' Perceptions of Whether Adequate Support is Provided to CIS*

Response category	Theme	Sub-theme	No. of mentions
<b>Yes, enough done (46)</b>	Academic support	Scholarly assistance	7
		Language assistance	3
	Facility/service support	Facilities	2
		Lifestyle support	5
		Services/organisations	15
	Social-cultural support	Social support	4
		Cultural support	9
	Financial support	Financial assistance	1
<b>Yes, but more needed (13)</b>	Academic	Scholarly assistance	4
		Language assistance	4
	Facilities/services	Facilities	1
		Lifestyle support	–
		Services/organisations	1
	Social-cultural support	Social support	2
		Cultural support	–
	Financial support	Financial assistance	–
<b>No, not enough (55)</b>	Academic	Scholarly assistance	13
		Language assistance	16
	Facilities/services	Facilities	–
		Lifestyle support	4
		Services/organisations	6
	Social-cultural support	Social support	2
		Cultural support	10
	Financial support	Financial assistance	2
	Psychological support	Stress management	2

Note: Numbers in brackets refer to the total mentions of the theme.

Still 55 responses referred to insufficient support provided to CIS in relation to language, cultural and academic support, services and psychological assistance, which, according to one MetroUni participant, *‘were of significance given the fact that our [Australian] universities are financially reliant on the income from CIS’*. Other comments included:

*‘I went to China recently and we had students showing us around and helping us every step of the way. In Australia, we don't do it as well or at all - there could be people showing them around or helping them adjust - it's very different here compared to China.’* (MetroUni participant)

*‘Speaking only from my experience, I believe there’s a lot of support available for all international students, not just Chinese ones. But it can be hard to get these students to take advantage of these services.’ (RegionalUni participant)*

**Topic 4: Additional Strategies Perceived Useful to Facilitate CIS’ Learning in Australia.** The last open-ended question on the ADS survey explored ADS’ perceptions of additional strategies they deemed useful to facilitate CIS’ learning in Australian universities, with five main themes emerging as outlined in Table 4.21. It should be noted that 91 of the ADS participants did not provide specific answers.

Table 4.21

*ADS’ Perceptions of Additional Strategies Useful to Support CIS*

<b>Themes</b>	<b>Sub-themes</b>	<b>Examples</b>	<b>No. of mentions</b>
<b>Academic strategies (57)</b>	Language support	Additional language strategy	29
		Boosting language confidence	6
	Scholarly support	Enabling programs/courses	17
		Improvement of academic quality	5
<b>Social-cultural strategies (49)</b>	Social support	Social support	10
	Cultural support	Integration strategy	27
		Acculturation strategy	8
		Buddy system	2
		Despising racial discrimination	2
<b>Environment, facilities and services (11)</b>	Environment	Welcoming environment	2
	Facilities/resources	Availability of facilities/ resources	3
	Service/ organisations	Establishment of specialised services/organisations	2
		Lifestyle service support	4
<b>Financial strategies (5)</b>	Financial support	Reasonable tuition/ scholarship	5
<b>Psychological Strategies (2)</b>	Psychological support	Stress management	2

Note: Numbers in brackets refer to the total mentions of the theme.

Once again, additional language support was highlighted, with acknowledgment that current support was not enough or inappropriate, as expressed by a MetroUni respondent, *‘The main problems I saw these students face was a lack of understanding of complex topics due to English not being their first language. I think additional English support would help to alleviate this.’*

Effective measures might include more *‘Chinese accessible courses’*, *‘Chinese speaking tutors’* and *‘translator programs’*. Boosting language confidence was noted as a way of encourage CIS’ communication confidence to increase classroom participation in

group discussions and presentations, as well as in interactions with domestic students. Scholarly strategies included the provision of enabling programs and improvement of academics' quality, with suggestions including *'induction programs'* *'one-on-one learning'*, mentoring to improve learning styles; and academics receiving Chinese language training, clearer English articulation, better awareness of cultural perspectives, and language support systems.

In terms of social-cultural strategies, the provision of more social activities or events to enable intermingling with other students, and thereby increase confidence in interacting with domestic students was identified as a need. As one participant from MetroUni wrote, *'I believe they [CIS] need to try and make more local friends and explore outside their own culture safety net. This can help them see things from another perspective'*. Additionally, acculturation strategies were suggested, such as buddy systems or *'more tutoring to help them understand cultural differences'*. Other suggestions related to lifestyle, financial and psychological supports.

This section outlined how the qualitative data obtained from Part D in the surveys were sorted and quantified through the use of NVivo.12 software. The responses to the six CIS and four ADS open-ended survey questions were analysed and findings presented in mainly Tables.

## **4.5 Chapter Summary**

This chapter outlined the data analysis process and associated findings related to the surveys conducted with 156 Chinese international students and 212 Australian domestic students. The first section of the chapter presented demographic data on the two student cohorts collected via Part A of both surveys. The second and third sections outlined results from a range of quantitative tests used to analyse data from Part B and C of the survey. Finally, the open-ended questions that formed Part D of the survey were analysed thematically but due to the large number of responses involved, this qualitative data were quantified into theme tables with the associated commentary. The next chapter presents the findings from the analysis of the qualitative data collected via interviews with 10 CIS and 10 Australian lecturers who were teaching both CIS and ADS in two Australian universities.



## **Chapter 5 Qualitative Data Analysis and Findings**

In the previous chapter the findings from the analysis of the quantitative data from the survey results including the open-ended survey questions were outlined. This chapter will present the analysis of the qualitative data obtained from the semi-structured interviews conducted with the 10 Chinese international students (CIS) and 10 Australian academics. Thematic analysis (Minichiello et al., 2008) was adopted to identify emergent themes and sub-themes from the transcripts by utilising NVivo.12 software, which included free coding and tree-like coding related to each domain of the investigation. The questions in the semi-structured interviews had been trialled and refined in pilot interviews, as outlined previously in Chapter 3. Pseudonyms were used to protect the identity of participants. As with the previous chapter, representative quotes from individual interviewees will be presented in italics with single quotation marks to differentiate them as data rather than literature quotes.

### **5.1 Qualitative Data Analysis of Interviews with Students**

The semi-structured interviews with CIS aimed to probe deeper into their learning experiences in Australian universities. There were thirteen main questions asked in the student interviews, with some further probing questions included where necessary.

#### **5.1.1 Profile of Student Interviewees**

In the current study, 10 students participated in individual interviews with four males and six females aged over 18 from two Australian universities (referred to as MetroUni and RegionalUni). The five interviewees enlisted from MetroUni came from five different Chinese home cities or provinces while four participants recruited from RegionalUni were from Shenzhen, Guangdong Province, who came to study through the partnership between Sino-Australian universities, and one from Changsha, Hunan Province studying the Bachelor of Nursing. Of the ten participants, six were studying a Bachelor degree in the School of Business majoring in Accounting, Commerce or Marketing, while two were in the School of Information Technology (IT), one in the School of Nursing, and one in the School of Education. Most of the interviewees were in their second or third year, having commenced their degrees in 2017 or 2018. While they had different learning experiences in Australian universities, four (mainly from RegionalUni) came to pursue Bachelor degrees through a 3+1/1.5 program after they had completed three years of study in China. Six of the interviewees expressed their wish to pursue a Master's degree after graduation with two planning to seek job opportunities back in China and two planning to stay in Australia for family reasons. Table 5.1, which is presented in a

landscape format on the following pages, provides further detail of the 10 student interviewees.

Table 5.1

*Demographic Information for Student Interviewees*

No.	Pseudonym	Gender	Age	Hometown province	Degree	University	Starting year	Learning experiences	Plans after graduation
S1	Ping	Male	22	Heilongjiang	Bachelor of Business	MetroUni	Jul-18	Studied one year in regional campus of MetroUni before transferring to one of Metropolitan campuses.	Pursue a Masters' degree in another country and then remain in Australia
S2	Qin	Female	21	Kunming, Yunnan	Bachelor of Business & Accounting	MetroUni	Jul-17	Two years of high school in Australia and now two years of university study.	Return to China and seek work in an international collaboration
S3	Xinqing	Female	22	Changsha	Bachelor of Nursing	RegionalUni	Jul-18	Completed 2 years of high school in Australia and completed VCE exams.	Pursue a Masters' degree in one of the Go8 universities, and then seek internship before returning to China
S4	Yinglin	Female	22	Shenzhen	Bachelor of Commerce	RegionalUni	Jul-18	Studied in China for three years, and now in Australia for one year. Has had some internship experience in China; Stressed by the heavy pressure CIS experience.	Return to China to seek a profession in an overseas security or insurance company.
S5	Datong	Male	24	Shenzhen	Bachelor of Accounting	RegionalUni	Jul-18	Came to study in Australia through joint program, and studied in Australia for one year. Completed internship in China.	Return to China to seek employment in the field of their major in finance.
S6	Kun	Male	21	Shenzhen	Bachelor of Marketing	RegionalUni	Jul-18	Studied in Australia through the 3+1.5 program, and had a Diploma from a Chinese college.	Enrol in Masters' degree in another university in Australia then return to China.
S7	Zheng	Female	25	Shenzhen	Bachelor of IT	RegionalUni	Jul-16	Came to Australia through 3+1.5 program.	Study Masters' degree in Software Science, and then seek employment in Australia.

S8	Jiaqi	Female	21	Chongqing	Bachelor of Marketing	MetroUni	Jul-17	First completed a Diploma, but due to low grades, entered remote campus at MetroUni. One year later, transferred to another campus. To date, received offer for a Masters' degree in another university.	Pursue Masters' degree and gain working experience in Australia, then set up business in China.
S9	Tongya	Male	19	Foshan	Bachelor of IT	MetroUni	Mar-19	Studied two years in a high school in Melbourne and through VCE, was admitted to university.	Seek job opportunity in Australia after graduation, return to China two years later
S10	Peiqi	Female	19	Chongqing	Bachelor of Primary & Secondary Teaching	MetroUni	Mar-19	Studied two years in a high school in Melbourne and through VCE, was admitted to university.	Remain in Australia, pursue a Masters' or even PhD, and then return to China.

It needs to be acknowledged that there was diversity among the CIS interviewees, with four of the ten originating from Shenzhen, which is a very advanced city in China, and which may have had implications for their perceptions in comparison with those from less advanced areas. Similarly, four of the ten CIS interview participants had completed two years of high school study in Australia so they would have already had some familiarity with Australian learning environments. However, the aim of the current study was to examine learning attributes from a cultural perspective and so the Chinese cohort were examined as a whole in relation to their learning approaches in Australian universities. The interviewee numbers were not large enough to be able to make meaningful distinctions based on locale or experience, so a broader understanding of CIS' learning approaches was sought, which would still be worthwhile in helping them accommodate their expectations as successful learners in Australia.

### ***5.1.2 CIS' Learning Experience in Australian Universities***

Handling qualitative data is an iterative process where the researcher explores, codes, queries and reflects. The transcribed data were entered into NVivo12.0 for thematic coding and analysing, with coding based on emergent themes utilising a combination of pre-selected nodes that were identified in the outline of the interview and also data-generated nodes from the responses. Out of the 10 CIS' responses to the 13 interview questions (see Appendix C), eight overarching themes were extracted:

- 1) Expectations about Australian universities
- 2) Challenges encountered
- 3) Engagement in class
- 4) Perceived learning differences with ADS
- 5) Perceived differences in teaching to those experienced in China
- 6) Modifications adopted
- 7) Perceived advantages of studying in Australia, and
- 8) Suggestions for enhancements to Australian universities.

These are detailed in Table 5.2.

Table 5.2

*Themes and Sub-themes Generated from Student Interviews*

Themes	Sub-themes	Examples
<b>1. Expectations of Australian universities</b>	Teaching quality	<b>Pros:</b> <u>Courses/programs</u> were moderately difficult; <u>Teachers</u> were responsible and highly qualified. <b>Cons:</b> Have not learned as much as expected due to unexpected quality of the classmates as mentioned by partnership participants
	Learning environment /facilities/	<b>Pros:</b> Inclusive campus, spacious study room, 24-hour study room, well-stocked library; flexibility of time; consistency of pains and gains in learning
	resources	<b>Cons:</b> Heavy workload and the associated psychological stress; segregations with ADS
	Sociocultural life	<b>Pros:</b> Rich with various clubs or associations and other activities; specialised programs targeted at internationals at arrival; special tutors who could speak Chinese <b>Cons:</b> Few activities targeted at internationals; segregation between international and domestic students
<b>2. Challenges encountered in Australian universities</b>	Language associated issues	<b>Difficulties:</b> Understanding course content, completing assignments <b>Coping measures:</b> Devote plenty of time, relearning or reviewing using additional materials; immerse in and practice English; resort to e-translators, cram classes; improve academic writing, or seek extension; adjust to Australian English
	Psychological stressors	<b>Sources:</b> Mainly stemming from changes to life and study e.g., insufficient English, different teaching and learning methods <b>Coping measures:</b> Seek balance of life/study; seek support from lecturers or formal counselling; change mindset to adjust behaviours
	Team work	<b>Challenges:</b> To work with uncooperative team members <b>Coping measures:</b> Seek peer collaboration, but if failed, have to help finish the whole parts.
<b>3. Engagement in class</b>	Engagement in questioning	Seldom ask questions nor offer answers or challenge lecturers and peers
	Participation in discussions	Most were shy and only spoke up when requested
<b>4. Perceived learning differences</b>	Product-centred versus process-centred learning	<b>CIS:</b> paying more heed to achievements (exams or assignments) <b>ADS:</b> focusing more on learning process (the way or journey to achieve a goal)
<b>5. Perceived differences in teaching to those experienced in China</b>	Teaching styles	Interactive and student-centred versus instructive and teacher-directed; teaching for voluntary learning versus enforced learning
	Teaching emphases	Learning process versus learning results Critical thinking cultivation versus knowledge indoctrination Application versus theory
	Teaching assessment	Different use of summative and formative assessment Various testing formats Divergent viewpoints versus unified answers in grading
	Teacher-student relationships	Interactive cooperation versus respectful yet harmonious relationships
<b>6.</b>	<b><u>Strategies to adapt to Australian education system</u></b>	

<b>Modifications adopted</b>	Course content	Self-exploring; interactive learning; learning by doing; autonomous learning; self-disciplined
	Teaching approaches	From heavy reliance on teachers to self-exploring/independent/active learning
	Assignments	Transitioning; interactive learning; an Aussie-like mind in academic writing
	<b><u>Measures to achieve in Australian universities</u></b>	
<b>7. Perceived advantages of studying in Australia</b>	Systematic study	Previewing and reviewing, finishing homework properly
	Rubrics strategy	Completing assignments or exams based on course rubrics
	Practicing past exams	Reviewing past exams
	Using memory	Memorising key points based on understanding
	Better personal development	Better prepared for the readiness for the future
	Broader vision	More open-minded and freer in thinking
<b>8. Suggestions for Australian universities</b>	Potential employment competitiveness	Better equipped with diversified thinking ability and English proficiency
	Curriculum setting	Adequately meet CIS' learning needs; more cohesive
	Student-lecturer contact hour	Lecturers provide time for students to ask questions freely

In order to provide as much detail as possible about student interviewees in a summarised fashion, in the following discussion interviewees' names will be followed by the numbers (1-10) as assigned in Table 5.1 and two letters – an M or R (to represent the university they attend) and M or F to represent their gender. For example, Ping is listed as No. 1 and is at MetroUni and a male, so is referred to as Ping (S1MM). Due to the small number of interviewees, gender and university differences were not a focus of the qualitative data analysis.

An interesting preface to the following discussion is the tendency for the CIS to speak about the collective group, using 'we' rather than 'I'. As this tendency appears to have cultural connotations, it was not altered in any translation.

**5.1.2.1 Expectations about Australian Universities.** The first question in the student interview was designed to explore whether CIS' expectations about the Australian universities in which they were studying were met academically and socially. Three main sub-themes emerged from the responses, relating to teaching quality, learning environment/resources/services, and sociocultural life, with each containing positive and negative aspects. Overall participants reported their expectations of Australian universities were generally met, with phrases, such as *'better than what I expected'* (S3RF and S9MM), and *'pretty much the same to what I thought it would be'* (S2MF), and *'almost in line with my expectations'* (S10MF), commonly reported.

The first sub-theme related to perceived teaching quality provided by the Australian university, which included courses/programs and teacher quality. Seven of the ten participants were mainly positive in their assessment of their university experience,

although three did report some dissatisfaction. Kun (S6RM) commented, *'the teachers are responsible and the curriculums are moderately difficult'*. Jiaqi (S8MF) accredited the professionalism of her lecturers, stating *'they are professional in academia'*, which was echoed by Peiqi (S10MF), who perceived the general teaching faculty in her university as *'highly qualified'* and *'rigorous in scholarship'*, and who *'would never lower the course requirements because you are an international student'*. Yinglin (S4RF) did comment that,

*'the requirements of this university are not so high, so we may not learn as much as we expected. Even if they are friendly to international students, we feel that we have not learned as much as expected'*.

However, this point was not mentioned by any of the other students in terms of teaching quality, although differences did emerge between the two different student cohorts in relation to other aspects of their expectations.

The second sub-theme related to the learning environments, teaching facilities and educational resources provided by Australian universities. A level of satisfaction was expressed with regard to the learning environment, particularly the spacious study rooms, 24-hour study rooms, advanced multimedia labs, and comprehensive library services. A number of participants (e.g., S2MF, S9MM and S10MF) also noted the flexibility of time that the university life offered so that they could be *'the controller of the time'* (S2MF). Peiqi (S10MF) was positive about the consistency of her learning expectations and the efforts she made, stressing the proportional relationship between them, stating, *'for me, I cherished where there is pain, there is gain, which was justified by my achievements in this semester, proving that my hard work was rewarded'*.

In terms of the quality of the learning environment, there were certainly differences between the students from the two different universities. For example, Zheng (S7RF) remarked, *'you could feel, now and then, that the quality of the students is not too high, though the quality of the teachers is pretty good'*. A number of interviewees highlighted the heavy workload and the associated psychological stress imposed on international students, particularly at exam time, which was outside their expectations. As Jiaqi (S8MF) explained, *'the heavy workload made it hard to breathe. I have to spend most of my time learning and learning seems too difficult for me, which gives tremendous pressure'*.

The third sub-theme related to the sociocultural life offered within the Australian university experience. There was positive discussion of various clubs or associations and other activities on campus, and also the frequently discovered announcements for activities on the bulletins, Facebook or even Chinese Wechat. As pointed out by Peiqi (S10MF), *'generally, the university has provided us a rich social life, but depending on different people, some students may choose to join in some or withdraw from them'*.



There was also mention made of specialised programs provided as a form of orientation upon their arrival, for example, the special tutorials held for international students to learn about Australian laws, morals and the like. A number of participants from RegionalUni (e.g., S4RF, S5RM and S6RM) mentioned how helpful it was to have tutors accompanying them throughout the orientation, who could speak Chinese, and who promptly provided guidance and suggestions.

Not all participants expressed satisfaction with social activities, (e.g., S4RF, S5RM, and S8MF) stating that few social activities targeted at international students were organised by the university. Jiaqi (S8MF) said, *'many social activities are privately organised instead of publicly organised by the university. Most of the activities provided by the university are mainly targeted at local students'*. Comments were also made about the segregation between international students and domestic students, particularly for those international students completing the joint programs such as 3+1/1.5. This was highlighted in the following comment from Regional Uni student Datong (S5RM),

*'it was particularly hard to communicate with other local students doing a program such as ours. Because most of the programs were specially scheduled for us [CIS doing joint programs], only a small handful of native students would select such courses. So, we had fewer chances to contact with the local students in class, unless we chose other majors, where we can form a team with them to finish assignments together'.*

Both Yinglin (S4RF) and Kun (S6RM) perceived *'boundaries'* when communicating with local students, making it hard to *'make true friends'*. Jiaqi (S8MF) commented, *'we sometimes could chat for a while, but if you take any further step, for example, to make friends, there's not such a chance'*.

In the next section, specific challenges encountered by CIS, coupled with the corresponding coping measures they used will be discussed.

**5.1.2.2 Challenges Encountered and Coping Measures.** The second main theme generated from the interviews with CIS related to the challenges encountered in Australian universities and the coping measures utilised to counter these challenges. Four main sub-themes were extracted by thematic analysis: issues with language, psychological stress, group assessment and delivery mode.

**Language Associated Issues.** Language challenges were frequently mentioned in interviews, with reference to *'language barriers'* cited by seven research participants, with only three MetroUni students not mentioning this as a major issue - Ping (S1MM), Jiaqi (S8MF) and Tongya (S9MM). The other seven described language challenges as the *'biggest barrier'*, hindering their understanding of course content and the completion of assignments.

All participants acknowledged that language issues presented *'the biggest challenge'* for most international students, noting the extra time it took to try to decipher instructions and understand content presented in classes. For instance, Datong (S5RM) described the difficulty he experienced in learning in a course on organisational laws, commenting, *'for us (Chinese students), it is difficult to follow the lectures. We need to spend more time to understand and grasp it after class. After all, our mother tongue is not English'*. Xinqing (S3RF) described English as a *'hurdle'* to comprehend what was taught by lecturers, stating, *'sometimes although we know its meaning, we still cannot fully understand it'*. Qin (S2MF) also admitted that in English, her biggest problem was to follow the lecturers, particularly *'lecturers who have very strong accents, such as those from India or Italy'*. Peiqi (S10MF) reported her confusion at the seemingly *'endless assignments'* she was confronted with in her first semester in Australia, which she acknowledged was made more challenging *'due to my imperfect English'*. Xinqing (S3RF) explained that it meant, compared with the local students, *'we had much lower learning efficiency.'*

When asked how they dealt with the language issue, the participants offered a number of coping strategies, including devoting plenty of time, relearning, or reviewing what was instructed in class, and looking for additional support materials on the internet through Google and Wikipedia, preferably in Chinese to aid understanding. Yinglin (S4RF) explained how recording the lecture and listening to it again after class was particularly helpful. A second frequently adopted measure to counter difficulties with the English language was to find ways to enhance language competency, which was mentioned by eight out of ten interviewees. Kun (S6RM) explained how he practiced English by immersing himself into listening, reading, and mimicking native speakers and news announcers, claiming, *'there is no shortcut. In order to adapt to the current teaching, we need to improve our English'*. Zheng (S7RF) recalled her experience of practicing listening and speaking by requesting Australian peers to slow down or repeat in a more standard way, stating, *'I did take time to get used to their [Australian] pronunciation and intonation'*.

A third commonly adopted measure was to resort to e-translators such as Google translator, or Chinese translators Baidu and Youdao translator, although some respondents (e.g., Yinglin (S4RF) and Datong (S5RM)) stated such methods might not be reliable, for example, in the translation of terminologies, *'whose meanings might not be so accurately translated'* (Yinglin, S4RF). As suggested by Xinqing (S3RF), *'we tried not to translate too much. But at times, we did find that [translating] seemed to be the only way to get a thorough understanding'*.

In addition, Qin (S2MF) reported her particular way of dealing with the difficulty she faced in understanding course content by signing up for 'cram' classes, whose purpose, was to convert questions that were likely to be on the test into Chinese, helping students understand the main points, and predicting what would probably be on the test. She commented, *'this is similar to that exam-oriented training class in China, and of course, this method works well [for exams]*. But she also recognised the drawback of this method as fostering superficial learning, saying that *'you may go to a cram school and pass your exams, or you may feel okay with your grades, however, you may forget them all after a holiday'* (Qin, S2MF).

Three participants (i.e., S1MM, S2MF and S10MF) also reported their difficulty in completing assignments due to their insufficiency in English. Ping (S1MM) reported how he perfected his academic writing ability through attending workshops provided by the library and the Learning Skills Department, he also sought proofreading help from senior students and discussed his text with peers. He regarded his experience of IELTS training as rewarding. Peiqi (S10MF) explained how useful the extension process was as it gave her *'more time thinking, composing and refining the assignment'*. She recommended, *'we should punctually complete our homework, but if you do have difficulty turning it in before the due date, you can apply for an extension, explaining your reasons and specifying your desired deadline'* (Peiqi, S10).

All interviewees acknowledged a period of adjustment to effectively using English, particularly Australian (Aussie) English. For example, Zheng (S7RF) declared that she became used to the Australian accent when she first arrived, since it seemed different from the English she had learnt in China. Kun (S6RM) recounted that it took him *'three or four months'* to adjust to the English spoken in class. They both acknowledged practice was essential. As Zheng (S7RF) stated, *'It took me several months to get used to Aussie English. Language is not a problem at all at this moment. I personally think my English is advancing by leaps and bounds [after my practice]'*.

**Psychological Stress.** Psychological issues were another challenge frequently mentioned by student interviewees, with all acknowledging they had experienced some kind of confusion and psychological stress during their initial adjustment. Six interviewees detailed periods of quite intense pressure since their arrival in Australia. The sources of pressure and stress mainly stemmed from the changes to life and study associated with the move from China to Australia. For example, the language, the new teaching patterns, different learning requirements, and never before touched disciplines and subjects, all created pressure and stress. Xinqing (S3RF) attributed her psychological tensions to her insufficient English proficiency, pointing out that *'due to the language barrier, which actually was the fundamental root of our challenges in Australia,*

*we [Chinese students] suffer heavier pressure than domestic students'*. Datong (S5RM) and Yinglin (S4RF) reported the immense pressure they experienced in study, arguing it was due to the contrasting learning approaches between what they had utilised in China and those that were demanded of them in Australia. As Yinglin explained:

*'If you study with a Chinese teacher in China, you might be laid back during the whole semester unless it is time to prepare for the mid-term or the final exams.... But here in Australia, teachers always give you different tasks for each week and each stage, ..., We are consistently worried whether we could complete the assignment or not before the deadline'* (S4RF).

Jiaqi (S8MF) detailed how she was overwhelmed by tension and anxiety when she realised her study was actually at risk due to her failure in adjusting to the Australian way of learning in the first semester. She recalled how she studied hard, spending all her time from early morning to late evening, and thus, she lacked life-balance, and subsequently experienced depression. Jiaqi described it as a *'really tough time'*, and stressed the importance of striking a balance between life and study. She pointed out that, when faced with intense tension, students need to take positive measures, such as resorting to consultation with lecturers or taking medication, and most importantly *'change your mindset to adjust your behaviours. After all, whether we study or work, the ultimate goal is to live a good life, so it is granted that we are supposed to enjoy our life sometimes'* (Jiaqi, S8MF).

**Team Work.** The third challenge the CIS interviewees reported was how to cooperate with team members in group tasks. All acknowledged the significance of choosing collaborative members, and most admitted having experienced at least one unhappy collaboration while studying in Australia. Ping (S1MM) explained a situation where he himself completed most of the group assignment with the other two members contributing nothing at all, leading to an unsatisfactory result in the assignment. He described this experience as a *'lesson'* in choosing team members, asserting that *'it tends to be more cooperative with mixed members from different cultures'*. Peiqi (S10MF) stated a preference for working with local students, who she found were generally cooperative, *'I preferred teaming up with local students, particularly in practical courses such as Business, because they know more in these fields, from whom, I could learn more'*.

Jiaqi (S8MF) described similar experiences of unhappy cooperation with another four Chinese members as *'helpless'* since they did nothing at all, and although she attempted to *'save the scene'*, eventually she saw *'the ship sinking into the sea'*. As a result, she could not help questioning her lecturer's arrangement of assigning all Chinese

students to a group and all Australians to another, stating, *'I didn't have a choice, and in the end our team failed. This really made me mad about him [the lecturer]'*.

When further questioned about what action they took to address the lack of involvement of the uncooperative members, most participants reported that they attempted to do as much of the work themselves, but they also took advice from lecturers about group work and collected email correspondence as evidence which they would send to the lecturer. But as Peiqi (S10MF) explained, *'at times, it was useless to do so, because quite often, we still found those who did nothing at all still were graded the same as us.'* Jiaqi (S8MF) detailed her distress at the lower score she earned when four out of five members actually contributed nothing, highlighting the unfairness in the assessment of this group work, commenting, *'It was really unfair to us [who did complete their part]'*. She further explained:

*'Although I knew that Australian lecturers always justify that we need to be trained to cooperate with others in our future careers, and team spirit is of essentiality in our future employment, yes. But if you came across irresponsible team members, you would really break down.... I really think the grading should take into account each of our contributions [instead of giving a total score]'* (Jiaqi, S8MF).

When asked if she had reported her case to the lecturer, Jiaqi (S8MF) replied, *'my experience told me it would not work,'* recalling having reported the misbehaviour of her team members to the lecturer in the first semester, but it turned out *'fruitless'*, and so, *'I stopped telling them about this, because I knew it was useless'*. But she further added,

*'Still, I don't think lecturers are happy to deal with such an issue. They probably think how you cooperate with your team mates is your own business, and you need to get your team to work with you. If they do not do their part, it is your responsibility to find a way to get them on the track, and that justifies why the team exists'* (Jiaqi, S8MF).

**Course Delivery Mode.** Another challenge the interviewees highlighted was related to the mode of delivery of the course. A number of participants (e.g., S1MM, S4RF and S5RM) reported their preference for physical classes than virtual classes, despite the increasing world-wide popularity for online offerings. As Ping (S1MM) explained, *'I do not like that [online course]. You know, if it was a real class, I may attend with other students, but if I am just watching recordings, I may skip it'*. When asked how he covered the assignments if he did not watch the recordings, he explained that he self-learnt by discovering other materials online.

This section demonstrated how insufficient language skills underpinned many of the reported challenges faced by CIS, but learning characteristics also impacted, as explained in the next section.

**5.1.2.3 Engagement in Class.** The third main theme emerging from the interviews with CIS was related to their self-perception of their learning characteristics in classroom. Two main sub-themes were generated from the thematic analysis of the transcripts: engagement in questioning and discussions.

Only two interviewees (S7RF and S9MM) stated that they asked questions **a lot** in classes, while another two (S2MF, and S10MF) reported **sometimes**, and six (S1MM, S3RF, S4RF, S5RM, S6RM and S8MF) reported **seldom** doing so. Zheng (S7RF) reported her experience of always being talkative in class so that occasionally she would be mildly reminded by the lecturers to let other students talk. Yinglin (S4RF) explained her reluctance to ask questions due to having to concentrate, being '*totally in the process of understanding in class*', trying to digest what was instructed, but said she would do privately after class. Datong (S5RM) stated, '*it was always the case that we were listening, trying to understand and having no time to think about questions*'.

In terms of offering answers, only Zheng (S7RF) reported 'always' volunteering answers in class while 'sometimes' was the most frequently cited response by the other nine participants. Both Kun (S6RM) and Peiqi (S10MF) declared that they would not offer answers unless specially requested, for example, when their names were called upon or if taking turns. They both acknowledged one interesting scenario. That is, they would break the ice by volunteering to speak up if no one responded. When asked why, Kun (S6RM) replied, '*if no one replies, the lecturer might be embarrassed*'. Such behaviour might be interpreted as Chinese students' typical empathy to teachers, respecting and trying to help them 'retain the status as teacher' without 'losing face' in front of a class (Xu, 2019, p. 7).

The second sub-theme concerned CIS' engagement in group discussions. Of the ten interviewees, only three (S7RF, S9MM and S10MF) reported active engagement in group discussions, '*communicating with team members actively and integrating into the topics*' (S10MF). The remaining seven admitted they were too shy to be involved in broader group discussions, but enjoyed forming groups of their own, although as confirmed by Yinglin (S4RF), '*actually, there is little discussion of the topic between us [Chinese students]*'. When it came to presenting to the class after discussions, only Tongya (S9MM) declared often taking the initiative to report to the whole class while most just kept silent unless asked by the lecturer. As explained by Xinqing:

*'It often occurred that Australian students volunteered to report while our Chinese group were markedly reticent, so the lecturer would have to call our names, and*

*the one whose name was called would speak with the rest still keeping silent* (S3RF).

Jiaqi (S8MF) stated *'if the lecturer went through the roster, I would start to prepare in my heart. If I was asked, I would speak out. But if not, I would not come forward though I would also get prepared'*. She explained that, due to her lack of confidence, she seldom responded, but if requested by the lecturer, she had to speak up because it would be deemed impolite to keep silent on that occasion based on Chinese courtesy (Jiaqi, S8MF).

**5.1.2.4 Perceived Learning Differences in Australian Universities.** The fourth main theme identified in the student interview data again related to perceptions of learning differences in comparison with their Australian counterparts. The interviewees acknowledged several differences in learning approaches with ADS, matching those identified in Section 4.4.1 and Section 4.4.2. For example, in terms of learning styles, ADS were perceived as being more group/interactive learners (S1MM and S3RF), with higher levels of classroom engagement/participation (S1MM and S6RM), while, in terms of learning approaches, ADS were reported to strive for a deeper level of understanding (S2MF and S10MF).

Most CIS interviewees described ADS as being interest-based learners and more at ease with exams or assignments, perceiving that ADS tended to prepare for assessment tasks earlier with more references included than required. There was discussion of the tendency for many Asian students (with CIS included) to start to engage in assignments in a rush, and with fewer references sourced than required. Tongya (S9MM) commented, *'to my knowledge, many Chinese students just hurriedly did it [the assignment] by the deadline. However, most local students seemed to take it orderly step-by-step'*. He described how typical Australian students would learn when an exam or a deadline was forthcoming: they would start reviewing by watching YouTube at a leisurely pace, then discuss with peers, making everything clear (e.g., the concepts, the principles, or deduction process), even making up the missing notes before setting down to write. He went on to state:

*'While for most of us [CIS], we seemed attach more to the results [scores]. Many would respond [to an exam or assessment] by hurrying down to the topic directly, staying up late to review, memorising or doing more practical questions'* (Tongya, S9MM).

Peiqi (S10MF) described a similar scenario of how she tackled assignments, stating, *'when approaching the deadline, I devoted all my time to studying, staying up late and neglecting anything else and sometimes even sleep and meals'*. However, as Xinqing (S3RF) remarked, *'I think local students rarely stay up late for exams or homework'*.

Peiqi (S10MF) pointed out the nature of differences with ADS might lie in the distinction between **process-centred** learning and **product-centred** learning, with ADS '*enjoying the journey to learn, or what they have done to achieve the goal*', while most CIS, like herself, focusing more on '*the product, or the results*', or '*the assignment grades*'. This idea was reiterated by other interviewees (i.e., S3RF, S4RF, S5RM, and S9MM), who agreed that CIS paid more heed to learning outcomes than ADS.

**5.1.2.5 Perceived Differences in Teaching to Those Experienced in China.** The fifth main theme to emerge from the student interview data related to differences in teaching between China and Australia, with four sub-themes of differences in teaching style, teaching emphasis, assessment systems, and teacher-student relationships.

**Teaching Style.** Six participants (i.e., S3RF, S6RM, S7RF, S8MF, S9MM, and S10MF) highlighted disparities between Australian and Chinese styles of teaching. According to Tongya (S9MM), the Australian teaching style was more interactive and student-centred while the Chinese teaching style was more instructive and teacher-directed, with Chinese teachers '*more serious towards teaching and meticulous in instruction*'. Peiqi (S10MF) described the classroom in Australia as more '*encouraging*', where students were '*stirred to speak up*' '*with everyone sharing their ideas and learning from each other*', which was different from her previous Chinese high school, where '*all students were required to sit quietly, merely listening to the teacher*'. Xinqing (S3RF) described her experience in a Chinese college classroom as teacher-directed that typically followed a routine of teacher instruction based on textbooks, students practicing exercises, and teachers' writing answers on the blackboard. When asked which teaching style she preferred, Xinqing (S3RF) acknowledged that '*I like the Australian one better, which is more participatory and vivid, although sometimes I feel at a loss about what was learnt*'.

Peiqi (S10MF) pointed out another difference between Australian and Chinese styles of teaching, stating:

*'Australian teachers generally do not force students to accomplish or achieve something, who may think that what to learn and how to learn is students' business. However, Chinese teachers tend to make decisions for students, who may think that students come to school to learn. Therefore, they have to absorb that knowledge'*

Both Zheng (S7RF) and Tongya (S9MM) reported Chinese teachers' way of overseeing students' homework, describing it as highly stressful work for teachers as well as students. According to Zheng (S7RF), '*in China, it was the teachers who urged or supervised us to learn, especially in the completion of homework, but here in Australia,*



everything was decided on by ourselves', i.e., which could be seen as teaching for voluntary learning versus enforced learning.

**Teaching Emphasis.** This point of difference of teaching emphasis was raised by six participants (S1MM, S2MF, S3RF, S4RF, S5RM, and S10MF). As observed by Yinglin (S4RF), Chinese teachers comparatively attach more importance to student learning results, and thus tend to be '*examination oriented*', whereas Australian instructors pay more attention to the learning process. Qin (S2MF) remarked on a striking strategy practiced by some Chinese teachers particularly in the basic level of education, '*the Tactic of Question Sea*'<sup>□</sup>, in which, '*in some Chinese teachers' mindset, learning occurs through practising enough exercises, and thus, they tend to cram students with endless practice on questions*'. This method, however, was criticised by Yinglin (S4RF) and Peiqi (S10MF) for the tremendous pressure imposed on students, describing it as '*a facilitator to cultivate graduates with high marks yet low competence*' (S10MF). As pointed out by Xinqing (S3RF), '*some Chinese teachers may apply the teaching methods that focus on indoctrination of knowledge, but the Australian teachers generally highlight the cultivation of students' thinking abilities, such as critical or logical thinking ability*'. 'Therefore', as Ping (S1MM) explained, '*the common method Australian lecturers adopt is to spare no efforts to deepen students' understanding in instruction*'.

Yinglin (S4RF) also pointed out that Chinese teachers tended to focus on definitions and concepts while Australian lecturers gave more detailed explanation on how to use them. That is to say, while Chinese teachers are inclined to focus on the theories of certain knowledge, Australian lecturers focus on the application of them.

**Assessment Systems.** Six student interviewees discussed assessment systems (S1MM, S2MF, S3RF, S4RF, S5RM, and S7RF), reporting a range of differences in the two assessment systems mainly in ways of assessing, assessment formats and grading systems.

Different uses of summative and formative assessment in the two testing systems, leading to differences in students' learning approaches were identified by a number of interviewees. As noted by Xinqing:

*'The scoring system in China gives more weight to the final exams. Therefore, when studying in China, the usual way is to make a concentrated effort in reviewing before the finals, and it always works well. However, in Australia, you would have incremental tasks in different stages of learning, and all of which*

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<sup>□</sup> The Tactic of Question Sea, in Chinese, means 'Ti hai zhan shu'. It is a strategy used by some exam-driven teachers and students, who believe that good grades are derived from endless practice on questions.

*would be counted into the final total scores. Therefore, you cannot relax at any time. You have to focus on your study whenever and wherever possible'* (S3RF).

Qin (S2MF) described the various assessment formats, such as online quizzes, exams and essays, that were adopted in Australian universities, while a relatively monotonous format the exam was most commonly adopted in her previous education in China. She regarded essay writing as a *'more challenging yet worthwhile'* process, because it actually provides *'a way for us [students] to deepen and synthesis what was learnt, and to apply to our daily life'*.

Xinqing (S3RF) reported that Australian testing tended to embrace more divergent viewpoints in grading, and thus highlighted such things as the completeness of the structure, the investment of critical thinking, and the exposition of students' reflection that are demonstrated in the rubrics. However, in China, the grading system is generally rather *'unified, objective'* with answers involving more facts or events.

**Teacher-Student Relationships.** The final sub-theme related to the difference in teacher-student relationships between the two teaching systems. All the interviewees, except Kun (S6RM), reported having a different association with Australian lecturers compared with what they had with their previous Chinese teachers. Tongya (S9MM) described his relationship with his former Chinese instructors as *'respectful yet harmonious'*, which contrasted with a kind of *'cooperative partnership'* he associated with his Australian lecturers. He explained that, in China, students hold their teachers in high regard and can only speak up in class with the teachers' consent after raising their hands, which is embedded in Chinese culture. However, in Australia, students address their lecturers by their first name, *'just like calling a friend'* (Ping, S1MM), which is deemed as impolite in China.

Although Ping (S1MM) regarded his relationship with his Australian teachers in class as *'equal'* and involving *'interactive cooperation'*, he admitted, *'after class, we did not have much interaction'*. All participants mentioned the only way to communicate with Australian lecturers outside contact hour was through emails. Yinglin (S4RF) stated, *'in Australia, communication with teachers after class is slow, merely by email with rather low efficiency'*. This differed from China, where, according to Ping (S1MM), although *'the teacher-student relationship is formal, like kind of superior and subordinate, we are rather harmonious after class'* due to more use of WeChat, QQ, telephone or email, and *'often on the first day, we would become Wechat or QQ friends'*. Peiqi (S10MF) also mentioned her *'close'* relationship with her teachers in China, stating *'we even became friends, and if we had problems, either in study or in our life, we were happy to turn to them for help'*.

**5.1.2.6 Modifications Adopted in Learning.** Question Six in the interview schedule for students was devised to uncover how the CIS modified their approaches to learning in order to survive and thrive in Australian higher education. Two main sub-themes emerged from thematic analysis of the responses: strategies to adapt to the Australian education system and measures to achieve in Australian universities.

**Strategies to Adapt to the Australian Education System.** Eight of the interviewees, with the exception of Ping (S1MM) and Kun (S6RM), acknowledged they had experienced a period of confusion and loss in the transition from high school to university, from the Chinese to the Australian way of learning, and had modified their learning approaches in order to adapt to Australian higher education. The participants reported a series of strategies they used to adjust to course content, teaching approaches and assessment in Australian universities

**Course Content.** Five interviewees (i.e., S2MF, S3RF, S4RF, S5RM, and S10MF) reported having adopted some '*unique*' (Xinqing, S3RF) strategies to learn in Australian universities, which seemed '*so different*' (Datong, S5RM) from their former experience. Both Yinglin (S4RF) and Datong (S5RM) discussed the difficulty they experienced in one subject (Organisation Law) because they could not understand the content as instructed, and so they had to learn to self-explore additional materials via the internet to aid and deepen their understanding. Xinqing (S3RF) remarked, '*it is paramount that you search other sources such as literature or academic papers, to get informed of the relative fields. That is a big difference. Studying in Australia involves more than focusing on the textbook*'. Three participants (S3RF, S4RF, and S5RM) claimed that in order to learn more effectively in Australian universities, it was necessary to become more interactive by actively engaging in discussions with peers. As stated by Xinqing (S3RF), '*discussing and sharing our opinions are in effect a collision of thoughts, which are helpful to cultivate our critical thinking ability and generate new ideas*'.

Peiqi (S10MF) highlighted the practical nature of the courses in Australian universities, which, she believes require students to '*learn by doing*'. Kun (S6RM) agreed, stating '*in Australia, learning is entirely dependent on your autonomy, and individual initiative matters*'. Yinglin (S4RF) concurred, detailing that as international students, '*we [CIS] have to learn to organise our time properly, making ourselves more self-disciplined*'.

**Teaching Methods.** As discussed previously, the participants reported differences between the Australian way of teaching and their prior experience in China, as it is characterised by '*interaction*' and '*student-centredness*' (Tongya, S9MM) and '*voluntary learning*' (Peiqi, S10MF), which highlights '*the cultivation of students' thinking abilities*' (Xinqing, S3RF) and '*application of knowledge*' (Yinglin, S4RF). Most interviewees reported having adopted various strategies in order to adapt to this teaching pattern.

Tongya (S9MM) described his method of self-exploration to adjust to the teaching methods in Australian universities, which, in his perspective, seemed to *'have covered a wide range of areas yet with so much untouched'* for him to explore. Likewise, Jiaqi (S8MF) mentioned that Australian lecturers did not seem to have instructed as *'meticulously'* as her prior Chinese teachers, and thus she had to learn to self-explore.

Another notable difference was the lack of teacher guidance for exams in Australia, compared to China, where teachers were heavily involved. Datong (S5RM) described his three years learning experience in a Chinese college as *'product-centred'* and *'teacher-directed'*, where it was possible to be *'laid back'* during the whole semester till the final tests, which, were dealt with by *'burning night oil'* <sup>□</sup>, and reviewing *'the set range of tests'* provided by lecturers. However, Yinglin (S4RF), who had similar experience as Datong in a Chinese college, observed that, *'in Australia, you are given different tasks for each week and each stage, which forced you to learn with more self-discipline and self-control'*.

Zheng (S7RF) also stressed a change from heavy reliance on teachers' *'indoctrination'*, in her Chinese high school, to an *'autonomous learning mainly dependent on self-exploration'*, further explaining:

*'In China, as long as you kept following the teacher, you did not need to do anything else. Anyway, with so much homework every day, you did not have time to think about what to learn, and how you should learn. But here in Australia, you have to be the master of your own learning, for example, previewing in advance, or reviewing and searching for learning after class, and trying to understand the whole content of the week.... Otherwise, you will never get there in time'.*

Finally, Peiqi (S10MF) described her shift from *'passive learning'* into *'active learning'* by making herself speak up in class, and being more talkative in group discussions. Most importantly, she emphasised a shift from a Chinese thinking pattern into an Australian one, stating, *'to better adapt to the Australian classroom, we [CIS] need to be more Aussie-like'*.

**Assignments.** In terms of assignments, interviewees noted a transition in learning approach from high school into university, and from the Chinese learning approach into the Australian style. Peiqi (S10MF) reported her loss as to how to complete the first assignment with requirements that *'seemed so different'* from what she had learnt in her former Australian high school. She admitted, *'in high school, I had not practiced how to write an essay of more than 1000 words'*. Ping (S1MM) also expressed that he did not have to compose a long essay with referencing in China. However, after a period of

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<sup>□</sup> Burning night oil is a slang term meaning staying up late.

adjustment, they both gradually got used to the rhythm in an Australian university and learnt how to tackle the assignments.

Also, some interviewees reported, in order to adjust to the Australian way of evaluation, they had endeavoured to change from individual learning into interactive learning, perceived as typical for Australian domestic students. For example, both Ping (S1MM) and Tongya (S9MM) reported having completed his assignments '*mainly by discussing with peers*', which, in China was not practised.

A number of interviewees (e.g., S1MM, S2MF and S10MF) reported their adaption to the Australian way of academic writing, which they deemed as most difficult, stressing again the development of English thinking, or Australian thinking mode. Peiqi (S10MF) narrated her initial difficulty in structuring and referencing academic writing, asserting her Chinese thinking mode as an influence. She acknowledged, '*we [CIS] have a deep-rooted Chinese mentality, and its influence is inevitable*'. She reported, some CIS, due to their-entrenched cultural thinking, had to conceive their assignments by writing in Chinese first, and then translating it into English, which was so '*awkward and unproductive*' (Peiqi, S10MF). She explained her modification of academic writing by adopting extensive reading and practices. The strategies she adopted to enhance her writing were to resort to her lecturers, friends and even her parents, who helped her with proofreading, checking grammar and logic. Meanwhile she also sought help from university services such as English Connect<sup>□</sup>, learning how to structure and correctly reference essays. Peiqi (S10MF) concluded by stating, '*since we have come to Australia, we should adapt to the life here and get used to learning in the Australian way, though it is difficult. That is, when in Australia, we should do as the Australians do*'.

**Measures to Achieve Best in Australian Universities.** The second adaptation sub-theme related to the strategies adopted in order to achieve higher scores in assignments or exams. All the interviewees reported they attached importance to achievements, which, after all, were '*evidence of efforts put into learning*' (Peiqi, S10MF). In order to maximise achievement, they had adopted various strategies including systematic study, '*the rubrics strategy*', practicing past exams, and using memory.

The most reported commonly-adopted strategy was to study systematically through step-by-step learning, as mentioned by four interviewees (i.e., S2MF, S7RF, S9MM, and S10MF). Qin (S2MF) reported her endeavours to achieve a desired score by previewing, reviewing and finishing homework, again highlighting '*self-discipline*' when studying in Australia. She pointed out that using some practices, such as '*cramming*' or the '*Tactic of*

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<sup>□</sup> English Connect is a free co-curricular program offered by some Australian universities. It aims to provide academic and conversational language assistance in cultural contexts.

*Question Sea*, might be effective in China, but *'this is not the case in Australia, where you really need to continue to study hard every day'*. Tongya (S9MM) and Peiqi (S10MF) also outlined their practice of obtaining desired achievements by going over what was learnt thoroughly before exams, and finishing every assignment properly including minor quizzes or tests.

Another *'effective'* strategy described by Datong (S5RM) was *'the rubric strategy'*, which was deemed to be *'a rule of thumb'* involving doing *'what was required by the grading norms'*. Yinglin (S4RF) explained that this strategy meant completing assignments or taking exams based on course rubrics, or scoring norms, for which the specific points allocated to the task were defined, for example, with scores given for the structure, personal analysis and research. This was similar to but perhaps more structured than Tongya's (S9MM) strategy of *'going over past exams'*, which he thought was particularly *'useful'* in handling subjects such as mathematics and which he had effectively used while preparing for VCE in his former Australian high school.

Memorisation as a strategy for achieving in exams in particular, was discussed in various ways by all interviewees. While Yinglin (S4RF), Datong (S5RM) and Zheng (S7RF) claimed that they seldom relied on memorisation in their study, the remaining seven interviewees admitted that they used it as a study strategy, reporting on various ways to retain information. Tongya (S9MM) mainly reviewed notes, mastering specific methods, and then practicing questions, while Ping (S1MM) remembered mainly through discussing with peers. Others described writing down key points, in addition to reading and rereading books and/or lecture notes, with rote learning rarely mentioned. Peiqi (S10MF) described her reviewing that involved some memorising before exams as *'different from rote memory'*, saying:

*'I always have tried understanding and grasping what was learnt in my usual study, and thus, in the final reviewing stage, I basically just needed to systematically review what was learnt in this semester. My review, I think, is merely a reinforcement of what was acquired in the whole semester'.*

**5.1.2.7 Perceived Advantages of Studying in Australia.** Generally studying in Australia was considered advantageous by student interviewees due to increased opportunities for personal development, broadening of international horizons, and potential competitiveness in the job market.

The broader platform availed by Australian universities was perceived as better preparation for the future than what was available to their Chinese domestic peers. According to Tongya (S9MM), Australian universities serve as an *'intermediate'*, where students are prepared for entering into society, unlike Chinese universities which often function *'as an extension of high school life'*, where students are still carefully protected

and cared for by their teachers and institutions, which might be a hindrance to their readiness for future society. Peiqi (S10MF) explained that after years of living and studying in Australia, she had developed a deeper understanding of Western culture, enabling her to better integrate into the local culture and life. She also reported her personal growth *'from a timid, shy girl into an independent creative one'* who was not afraid of *'breaking through old thinking patterns and accepting new things'* (Peiqi, S10MF).

Another advantage recognised by interviewees was international vision granted by studying in Australia, where they were trained to *'think critically'* (Xinqing, S3RF), tending to be *'more open-minded and freer in thinking'* (Tongya, S9MM). Finally, the likely potential employment competitiveness was identified as another edge developed through studying in Australia. This was because overseas returnees tended to be regarded as ones who *'had seen the world'*, and were better equipped with diversified thinking ability and better English proficiency, and thus with more possibilities for the future (Tongya, S9MM). However, both Jiaqi (S8MF) and Yinglin (S4RF) raised concerns about the true value of Australian degrees in their home country, with Jiaqi remarking:

*'Now I am concerned that if I go back to China after studying abroad in Australia, the degree(s) might not be so valued in China compared with the ones from other destination countries, such as the United States, the UK and Canada'* (S8MF).

While it was evident that studying in Australia was subject to mixed reviews, something like an *'opportunity cost'*<sup>□</sup> *'having pros and cons'*, was acknowledged by Yinglin (S4RF).

**5.1.2.8. Suggestions for Australian Universities.** The final main theme emerging from student interviews related to suggestions they made to Australian universities, particularly in regard to curriculum setting and student contact time with lecturers.

A number of interviewees proposed that Australian universities should schedule courses based on student needs, particularly international students coming through partnership programs. Both Yinglin (S4RF) and Datong (S5RM) who were completing a Sino-Australian joint program complained about one course (Organisation Law) scheduled for their group, which required prerequisite knowledge of Commercial Law and did not appear to be of relevance. Datong (S5RM) questioned the essence of this course, stating:

*'I did not think this course essential for us, because, in China, the law system in practice is Chinese continental, whereas in Australia it is the Anglo-American*

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<sup>□</sup> Opportunity cost is terminology used in business, referring to the situation of achieving a benefit or profit of something while accompanied by giving up others.

*system. If we are not staying here [in Australia] after graduation, there will be no need to for us to learn this course.'*

Yinglin (S4RF) agreed, suggesting, *'such courses should be modified into electives instead of compulsory ones. University courses should be structured based on student needs and the relevance to their potential careers'*.

Similarly, Jiaqi (S8MF) recommended a more cohesive course setting in Australian universities, as there seemed to be a lack of effective course cohesion between courses in different semesters, so students frequently found it hard to find similar courses to scaffold the knowledge already acquired, and thus that knowledge tended to fade quickly. She proposed that Australian universities pay more attention to course cohesion in successive semesters so as to effectively scaffold what students have built up in their knowledge map.

Half of the interviewees raised concerns about lecturer availability, which was built on what interviewees had already explained about having to rely on email correspondence, which they found to be ineffective and inconvenient and different from what they experienced in China, where they could go directly to the teachers' office and ask them questions. Jiaqi (S8MF) commented these coming and going of emails with Australian lecturers as *'lengthening the process'*, and suggested, *'it would be better if Australian teachers could spare about one hour or so per week for students to ask questions freely'*. This suggestion was supported by other participants such as Ping (S1MM) and Tongya (S9MM), who agreed that this free contact hour would mean a lot to Chinese students, who preferred to ask questions in private.

The evidence from the analysis of CIS' learning experiences in Australian universities has shown that, in order to adapt to the Australian way of teaching and learning, which was so different from their previous experience in China, CIS had endeavoured to adopt unique approaches they deemed *'effective'* to learning in Australian universities. Further analysis of the qualitative data gathered from the academic interviews in regard to their teaching of CIS in Australian universities will be presented in the following section.

## **5.2 Qualitative Data Analysis of Interviews with Academics**

The semi-structured interviews with Australian academics sought to examine how Australian academics perceived Chinese students' learning approaches and how, if at all, they negotiated and adjusted their teaching to cater for this international cohort.



### 5.2.1 Profile of Academic Interviewees

Table 5.2 summarises the demographic background of the academic participants in the semi-structured interviews including a summary of their experience with Chinese international students (CIS). As with the student data, the academics have all been given a pseudonym, which is used in conjunction with their assigned numbers (1-10) and also two initials - an M or R for their university affiliation and M or F for their gender. Also, in keeping the student data, direct quotes from academic interviewees are presented in italics with single quotation marks.

The ten academic interviewees (five males and five females) were enlisted mainly from two Australian universities (i.e., MetroUni and RegionalUni) with one working in both RegionalUni and another university in Melbourne. All had English as their first language although two were bilingual with Serbian and Chinese equally as their first languages. Six interviewees reported having been to China either as a traveller or as a lecturer invited by a partner college, with one also a Mandarin learner in China. All ten had taught CIS for at least one year with the longest having 15 years' experience with CIS, and most four to five years. When interviews were conducted, the participants were working with different numbers of Chinese students, except one academic who had no CIS in her class but had taught '*quite a lot*' in the past. The highest number of students taught by one of the participants was 90. The intention was to have equal representation of academics across the two participating universities, but this was not possible to achieve.

The three interviewees from MetroUni were enlisted from the Business Faculty, and taught courses such as Business Communications, Project Management, and Managerial Skills in the Bachelor of Business degree, and from the Education Faculty, teaching core subjects such as Mathematics Education in the Bachelor of Teaching. The seven academics from RegionalUni were recruited from the Business Faculty (Business Management course), Education Faculty (English Support Service courses), Arts and Humanities Faculty (Social Work, Community Development, Interpersonal Counselling and Communication courses), and Information Technology Faculty, (IT Project Management course).

Table 5.3

*Demographic Information of Academic Interviewees*

No.	Pseudonym	Gender	Uni name	First language	Experience going to China	Length of teaching CIS (yrs)	Courses teaching CIS	Current CIS No.
A1	Albert	Male	MetroUni	English	Many times, as a lecturer/ senior academic, and management responsibility with partnership	10	Business Communications, Project Management, Managerial Skills	Small numbers now on campus, but a lot off campus, and dealt many in past
A2	Bryan	Male	RegionalUni	English	Many times, as a lecturer at a partner college in Mainland China	7	Webpage Design, Communications & Technology, IT Project Management	30-35 on campus, more off-shore students
A3	Caroline	Female	MetroUni	English	None	4	Bachelor of Teaching, Mathematics and Numeracy Education	90
A4	Doris	Female	RegionalUni	English	None	1	Master of Social Work, Placement Supervising, Field Placement	A couple online, 2 face-to-face
A 5	Eliza	Female	MetroUni	English	Yes, but only to Hong Kong	15	Core subjects for Education faculty students	A lot in most classes
A6	Forster	Male	RegionalUni	English	Several times as a tourist in Hong Kong and Macao	7	Mostly Social Theory and Community Development	25 to 30
A 7	George	Male	RegionalUni	English	None	4	Courses in Bachelor of Community/ Human Services	Small numbers
A 8	Helen	Female	RegionalUni	English/Serbian	None	5	English Support Service and EAP	40 to 50
A 9	Isabel	Female	RegionalUni/ another Uni.	English/Chinese	Yes, visited mainland as a traveller	4	EAP programs	Nil currently but around 100 in past
A10	Jasper	Male	RegionalUni	English	Many times, as tourist/ lecturer/Mandarin learner	6	EAP programs	12 currently but a lot in the past

### 5.2.2 Academics' Perceptions of CIS in Australian Universities

In the same manner as for the data from the student interviews, thematic analysis was employed to analyse the interview responses from the Australian academics. Tree-like nodes were established using NVivo 12 software with a combination of pre-selected nodes and data-generated nodes from interviewee responses, as illustrated in Table 5.4.

Table 5.4

*Themes and Sub-themes Emerging from the Responses from Academic Interviews*

Themes	First-level sub-themes	Second-level sub-themes
<b>Perceptions of CIS' learning</b>	CIS' learning characteristics compared with ADS	Classroom participation: questioning/group discussions Understanding and memorising Critical thinking Completing assignments Motivation for learning
	Additional learning requirements for CIS	Language competency Relative degree requirements Familiarity of academic culture in Australia
<b>Teaching of CIS in Australian universities</b>	Challenges in teaching CIS	Silent classroom behaviors Habitual expectations on lecturers Language competency
	Adaptive teaching measures	Inviting individual CIS to speak Collaborative learning activities with ADS Incorporating interaction and instruction
	Internationalised teaching	Catering for CIS' learning needs Internationalised teaching practice Issues with internationalised curriculum
<b>Perceptions of supports provided to CIS by Australian universities</b>	Additional supports needed for CIS	Additional language support: conversational skills, translation Living support: accommodation, part-time work Sociocultural support: transition aids, connective networks, special personnel to work with CIS Psychological support: targeted aids to reduce CIS' stress

As shown in Table 5.4, three overarching themes were identified from the academics' responses: CIS' learning structure, teaching CIS in Australian universities, and supports provided to CIS by Australian universities, with each composed of various first-level and second-level nodes.

The first overarching theme that emerged related to academics' perceptions of the learning structure of CIS, which was categorised into two sub-themes: perceptions of CIS' learning approaches compared with ADS and perceptions of additional requirements that needed to be met by CIS. The former was further sorted into five sub-themes, namely, classroom participation, understanding and memorising, critical thinking,

completing assignments, and motivation for learning. The latter was further subcategorised into three sub-themes, i.e., additional requirements associated with language competency, relative degree requirements and familiarity with Australian academic culture.

**CIS' Learning Approaches.** The Australian academics who were interviewed in this study painted a picture of the learning approaches of CIS as *'quite different to Australian students'*. In their perspective, CIS were *'hardworking and diligent'*, *'focused and on track'*. Helen (A8RF) depicted CIS as her *'favourite cohort'* to teach due to being *'enthusiastic most of the time'*.

**Classroom Participation.** Participation in class was mentioned by most academic interviewees as *'the biggest difference to Australian students'*, according to Isabel (A9RF). All acknowledged that CIS seemed to be reluctant to verbally answer questions in class and tended to disengage in group discussions.

In terms of questioning, such expressions as *'shy'*, *'unconfident'*, *'quiet'* and *'disengaged'* were frequently cited by the academics to describe CIS' learning behaviours in the classroom. In contrast, phrases such as *'upfront'* *'outspoken'* *'confident'* and *'comfortable'* were quoted to depict ADS' classroom performance. As described by Albert (A1MM), *'in the main, the majority of CIS are reluctant to engage, though without generalising, some CIS were good at asking questions'*. Jasper (A10RM) recognised that, CIS rarely volunteered a question, however, *'if they did, it was always a good one related to meaning'*. As described by Helen (A8RF), *'generally domestic students are comfortable asking questions, engaging with each other and discussing with lecturers. But Chinese students are often quite shy and not confident to express themselves openly'*. Similarly, other participants such as Bryan (A2RM) and Isabel (A9RF) also reported that most Australian students were quite *'upfront'*, asking questions and answering a lot while Chinese students generally were *'very shy'*, *'just sitting quietly'* and *'disengaging from eye contact'*. Isabel (A9RF) further pointed out, *'no eye contact from CIS does not mean they were being rude but, instead, appeared to be associated with a lack of confidence in participating'*.

Although CIS were recognised as reluctant to question publicly, some academics (e.g., A1MM, A2RM, and A6RM) reported that many preferred to ask lecturers questions privately after class. Forster (A6RM) explained that, *'Chinese students really prefer coming and sitting with their lecturers, talking about their lectures one-on-one rather than in class'*.

In terms of group discussions, Bryan (A2RM) noticed the disparity between the two student cohorts, stating, *'ADS are generally open to expressing their ideas, arguing, and offering their points of view, while the general CIS are pretty quiet and reserved unless*

*they are pushed to provide input*'. He added that a lot of it came down to confidence, and *'if their [CIS] English skills are competent, they could express themselves well, but generally they stay very quiet, and tend to accept what they are told'*. Caroline (A3MF) also claimed that *'it always seems to be the local students who represent their group to report to the class, while the CIS seem happy to report on behalf of a group just to me [the lecturer] and their group, but they are not as comfortable reporting to the whole group'*.

**Understanding and Memorising.** Another second-level sub-theme related to the disparity in the strategy of memorising texts compared with developing conceptual understanding adopted by CIS and ADS.

In terms of memorising, three academics (i.e., A1MM, A2RM, and A9RF) suggested that CIS were more likely to be *'rote learners'* while the remaining seven academics claimed that they had not noticed this tendency any more in CIS than in ADS. Bryan (A2RM) stated that *'the Chinese students were doing more rote learning, tending to listen to teachers talk in class and write that down, and then recite exactly the same words to answer questions'*. Additionally, he mentioned that CIS, in his experience, often provided answers that were *'very restricted to those words in lecture notes and reading articles, with few really able to explain to the same degree what an English speaker could'*. Isabel (A9RF) stated that she had known of CIS using a memorising technique that involved writing out things repeatedly, which is not something she had noticed with local students. As Albert (A1MM) remarked, *'a lot of the approaches by Chinese students are based on rote learning'*, which involved memorising various materials provided to them. In his perspective, this could be *'problematic'* for academics because of the potential for plagiarism. He mentioned that those who adopted a rote learning style tended to memorise rather than understand content.

While there was quite a lot of discussion of memorisation techniques, most of the academic interviewees also acknowledged that this was not necessarily related to rote learning. They pointed out that memory strategies were used in learning skills sessions and could be a helpful strategy for all students. Eliza (A5MF) suggested that while a lot of CIS did memorise things as a learning technique, *'they were also usually happy to learn actively and critically, joining in pretty enthusiastically most of the time'*. Helen (A8RF) agreed, sharing her observation that CIS did *'employ memorisation techniques to learn such things as definitions and patterns in EAP, and tested these to see whether they could be applied in class'*.

As far as depth of understanding was concerned, nine of the ten academics reported no conspicuous distinction between CIS and ADS. Albert (A1MM) commented, *'I do not think the two cohorts are different in this regard, and in some aspects, I think,*

*my Chinese students demonstrate better understanding.* Jasper (A10RM) also noticed his Chinese students using memorisation to help them develop understanding. In Caroline's (A3MF) experience, there were both domestic and international students who were very knowledgeable and aware of what they needed to learn, while there were also those who were struggling, and in general, CIS achieved higher scores in the subject of mathematics she taught.

Isabel (A9RF) had a dissenting opinion, arguing that *'the most outstanding difference was that the majority of domestic students tended to understand before learning'*, whereas many Chinese students would be *'regurgitating the information before understanding'*. She reported her observation that some CIS wrote down information so that they were able to regurgitate, memorising and delivering in that way. She attributed this learning style by CIS to the way they were trained in a home education system that prioritised exams. She also added that, *'domestic students might have understood some concepts, but they might not necessarily have the skills to deliver those concepts on paper'*. Although Isabel (A9RF) described CIS as having a tendency to be *'rote learners'*, she granted a *'fifty to fifty'* ratio to the adoption of a memorising and understanding strategy by CIS.

**Critical Thinking Skills.** The academic interviewees generally acknowledged that CIS were *'well equipped in thinking abilities'* but this still at times appeared to be less evident in their work than that of ADS. Eliza (A5MF) explained that although CIS were *'good in critical thinking'*, this was at times compromised by their *'hesitancy in speaking in English in front of the class'*. Caroline (A3MF) described CIS' critical thinking abilities as *'fine-tuned to their perceptions of the permission from lecturers'*. Helen (A8RF) stated that CIS *'demonstrated higher levels of thinking competency compared with many other international students in Australia'*, though *'it was still not necessarily that kind of critical thinking expected in Australian universities'*. She further remarked, *'although the Chinese students are generally well equipped to think about things at a deep level, they are not always given the guidance they need to explain what is actually expected at an Australian university'*.

Albert (A1MM) regarded critical thinking skills as an area of weakness for many of the Chinese students he had taught and saw it as *'a real hurdle'* to teaching CIS, though *'it was not insurmountable'*. He asserted, *'the challenge that we all have as academics is to bridge that gap from rote learning to critical thinking'*. Bryan (A2RM) also stated that CIS tended to be *'more restricted in terms of their critical thinking skills than Australian students, although many of them also had well developed skills'*.

**Completing Assignments.** All ten academic interviewees were in agreement that Chinese students engaged well with the assignment process, meeting timelines and

criteria. Forster (A6RM) declared that most CIS he taught achieved quite highly and were more likely to want to please him, as high achievement was seen as a way of *'making me [the lecturer] happy by completing assignments correctly'*. He also explained that if CIS did have a problem with an assessment task, they would send him emails requesting a personal meeting.

According to Caroline (A3MF), her CIS accomplished tasks *'overwhelmingly well and always ahead of time'*. Bryan (A2RM) reported that Chinese students seldom requested an extension or special consideration, but sometimes *'not as much care went into the submission in terms of its format, like spelling and grammar, or missed errors'*, which resulted in *'consistently losing marks for recurring errors'*. Similarly, Helen (A8RF) mentioned language issues and referencing problems in CIS' assignments, while Eliza (A5MF) noted that:

*'Across the board, CIS and ADS are fairly comparable in the completion of assignments', as some local students struggle with putting ideas on paper while some conscientious Chinese students try hard, read the literature, and understand the theory they are applying, so it tends to equal out'.*

**Motivation for Learning.** All academic interviewees agreed that it was difficult to make generalisations about the motivational basis for CIS' learning. Jasper (A10RM) identified a range of motivations for Chinese students, stating that some were very self-motivated and others were pushed, possibly by their parents. Albert (A1MM) agreed, suggesting that a large part of CIS' motivation seemed to be driven by their families. Bryan (A2RM) recognised that motivation was at times driven by students being *'honestly interested in and passionate about what they were studying'*, while others were seemingly pushed by their parents, or just uninterested in what they were studying. Isabel (A9RF) raised the problem of younger Chinese students *'who were just out of high schools going into undergraduate studies with no one around monitoring every single move of their study, or checking every single piece of their homework'*, and how enjoyable *'the newly found freedom in Australian universities could be for them but with the consequence of a lack of motivation'*.

Foster (A6RM) described CIS' motives for studying in Australia as varied and dependent on certain factors. He reported CIS coming to study in Australia with a *'rather narrow view'* of what their future career might be. But after a period of studying in Australia, they came to acquire a better understanding of the Australian system, and so those students who were privately funded would often expect to stay in Australia after graduation, but the government sponsored ones had to return to China. Compared with ADS, Forster (A6) suggested the Chinese students were *'much more motivated to study'*, and tended to *'understand what academic study means and how much time they need to*

*put into that*'. Whereas, quite a lot of domestic students might think *'coming to study just means turning up for class'*, so most of them do part-time work and do not dedicate the necessary extra time to reading, writing and thinking.

**Additional Learning Requirements for CIS.** Most of the academic interviewees acknowledged that in order to learn effectively within Australian universities, CIS needed to improve their language competency, particularly in English conversational skills. Isabel (A9RF) reported on the specific language testing requirement for international students, which varied across Australian universities. Helen (A8RF) referred to the importance of ensuring the achievement of English language levels by CIS through mechanisms such as IELTS, remarking that, *'if their language requirement [was] met, they can understand what you [lecturers] are trying to teach them and the skills that they have to develop'*. Eliza (A5MF) reported several cases where CIS had failed and had to be dispatched back to further work on their English before returning to complete the degree. She commented on the importance of *"getting their English skills up"*. Caroline (A3MF) raised another specific requirement demanded of all initial teacher education students, the LANTITE test<sup>□</sup>, which, she thought, could be a challenge for CIS who had written expression difficulties. Another aspect that was raised related to the need to become familiar with Australian culture, particularly academic culture prior to arriving in Australia. Jasper (A10RM) stated, *'getting used to the western academic model' was 'the key thing' for initial comers from China, 'especially when it came to referencing, paraphrasing, summarising and using their own voice in an essay, but even more importantly was consideration of differences in the argument structure between Chinese and western academic culture'*.

Overall, there appeared to be a general level of agreement between academics that although there were similar levels of academic competency among CIS and ADS, language and cultural differences did impact on the educational experience of CIS and thus accommodations were at times required, but a higher level of preparedness for studying in Australia would help with this significantly.

### **5.2.3 Teaching CIS in Australian Universities**

The second principal theme that emerged from the academic interviewees' responses was their teaching of CIS in Australian universities. Three first-level sub-

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<sup>□</sup> LANTITE: The Literacy and Numeracy Test in Initial Teacher Education (LANTITE) assesses the personal literacy and numeracy of initial teacher education students. In Australia, all students enrolled in an initial teacher education course are expected to sit and meet the test standard prior to graduation. (ACER, <https://teacheredtest.acer.edu.au/> retrieved on Jan. 21, 2020)



themes were extracted: the challenges in teaching CIS, adaptive teaching measures, and how to internationalise teaching to cater for international students including CIS.

**5.2.3.1 Challenges Associated with Teaching CIS.** When asked whether it was challenging to teach CIS, six participants (i.e., A1, A4, A5, A6, A8, and A10) reported *'not at all'*, while the other four (i.e., A2, A3, A7, and A9) reported some challenges. According to Forster (A6RM), teaching CIS was not a challenge for him, *'because he had visited Asia quite a lot and understood some of the cultural and political issues where he thought other staff might struggle'*. Jasper (A10RM) remarked *'it is easier to teach CIS than some students from other countries.'* Doris (A4RF) found teaching CIS was *'rewarding'* and it *'enriched'* her teaching and she learnt a lot from the students. Helen (A8RF) reported that working with CIS was generally *'a pleasure'*, although a challenge for her was that the students seldom accessed the learning management system to check information, and she had to send it to their personal accounts, which involved a lot more work for her.

Challenges associated with teaching CIS related to their reticence in class, expectations of Australian lecturers, and most importantly, language barriers. Isabel (A9RF) regarded that it was a challenge for her to teach CIS, because, at times, she was at a loss as to how to facilitate a meaningful exchange with them and how to be helpful to them. She stated:

*'The Chinese students are often too quiet, sitting there without providing any responses. And when I ask them whether they have understood me, they respond with yes. But when it comes to testing, it is not directly reflected in the results'.*

This perception was supported by Bryan (A2RM), who remarked, *'you are always trying to engage them in turn in class, or even after class, but they seem to remain aloof never asking questions or challenging what is presented in lectures, which can make classes a little bit static'.*

Additionally, Isabel (A9RF) considered CIS' habitual expectations of their lecturers that they brought from China could lead to the bewilderment of some academics, particularly those with insufficient knowledge of Chinese learning. She stated, *'CIS could be very used to that pedagogy of being told exactly what to do but this is potentially challenging for some academics'*. George (A7RM) agreed that expectations of lecturers could be misunderstood as demanding but was due to cultural differences. As Forster (A6RM) reported, the Chinese education system is *'specific and instructional'*, and when educated in such a system, Chinese students are often found to *'expect a lot of information from their lecturers about what they should do'*. He mentioned a mentality that seemed prominent amongst the students from Confucian heritage cultures (CHC)

that involves *'tell me what to do and how to do, and then I will do it'*. He suggested, in teaching CIS, lecturers need to make expectations clear to them, and properly adjust their teaching approach, which could be a challenge.

In particular, the participants highlighted that the English barrier that seemed obvious among many CIS could be a challenge to effective teaching of this cohort. When it came to the general English language competency of most Chinese students, the academic interviewees reported a range of capabilities. Eliza (A5MF) recognised that, although some CIS were very capable, some obviously struggled, but the vast majority *'did well'*. Forster (A6RM) described the English competence of CIS as being *'complex'* depending on the individuals and where they came from. He reported that the young Chinese students, particularly those who had come straight from China did struggle with English, but generally CIS were *'more competent than other international students in English, and even than some domestic students'*, in particular *'their written standards were excellent'* except for that *'they were too shy to speak up'*. Albert (A1MM) and Bryan (A2RM) deemed CIS' overall English competency as *'a real mixture'*, with some whose English competency was sufficient to cope with their academic study in Australia, but others who had insufficient conversational English skills. According to Albert (A1MM), CIS who came through international partnerships were *'generally poor'* in their English competency when they entered the program. For Bryan (A2RM), *'even the ones [CIS] with good English still had a barrier in real communication. So, they often had to translate still during or after class'*. Similarly, George (A7RM) explained how some CIS struggled to get industry placement due to the difficulty in effective communication with the agencies or clients, commenting, *'although their written communications are quite good, their verbal communication has been a bit of the issue, particularly some of the younger students'*.

With ten years of experience teaching CIS, Albert (A1MM), pointed out a number of challenges including getting CIS to talk in class, getting to know about their culture, lecturers' having to modify their language, pronunciation, tones or speed, and the patience and extra time and energy required. All these could be challenging to some academics. He admitted, *'it is very difficult to get CIS talking in class, verbalising questions and challenging others'*, but he made it clear that *'it indeed depends on where the courses are being delivered, and the makeup of the cohort as well'*. He recalled his international teaching experience in China, saying that, *'to get Chinese students to ask questions in China is a bit easier'*, as *'once they're comfortable with the lecturer, which is a key part that they have to actually feel comfortable and confident, and that they feel respected in the process, they will ask questions'*. He highlighted how *'getting CIS to ask*

*questions was a matter of getting the first student to actually raise his/her hand and ask a question, and then others would follow their lead*'.

Such challenges appear to be well documented but not so the teaching measures academics adopt to accommodate CIS, as outlined in the next section.

**5.2.3.2 Adaptive Teaching Measures.** The interviewees reported a range of strategies they perceived as effective to cater for Chinese students which included calling out individual CIS by name in class, slowing the teaching pace in the initial stage, mixing them with ADS in learning activities, and proportioning interaction and instruction.

Eliza (A5MF) discussed various approaches she had adopted to accommodate CIS as follows: to call on individual CIS by name and ask them to answer questions; to get CIS into small groups and join in their discussions, and to individually encourage CIS to talk in front of the class; and to make expectations clear *'at the start of each unit that no one was allowed to be sitting quietly and should be actively contributing in class'*. She explained how mixing international and local students in small groups was mutually beneficial, as *'the worst thing is to let them sit there quietly and just not participate'*. She continued, *'after a little while the hesitancy on being a bit nervous about that, a lot of them then gained confidence [in speaking up]'*. Similarly, Jasper (A10RM) commented on the need to explicitly invite students to answer questions, using their names, rather than asking *'Does anyone know the answer?'* As pointed out by Jasper, *'teaching CIS is different to domestic classes where a teacher often just puts an open question out there and two or three students would volunteer to answer it. But to the Chinese students in the class, you have to call upon them'*.

Bryan (A2RM) outlined a series of approaches he took in teaching a mixed class, for example, to adopt a slower pace at the beginning of the semester, to articulate his words clearly, and to mix international students with domestic students in group-based tasks or assignments. Isabel (A9RF) reported in a mixed class, she tried to separate CIS in group discussions as she found that *'if they stayed amongst their friends, most likely they were not really exchanging in English, and not really experiencing the cultural side of things, which is important as part of Australian tertiary education'*. So *'even though it was risky, if you let them sit together, they are more likely not to participate'*, she added.

Forster (A6RM) described his pedagogy of incorporating interaction and instruction in his teaching of CIS. He explained that while he encouraged interaction, he also understood that international students wanted direct instruction, as they had experienced in the Chinese education systems. He commented that in the past, in Australian education, there had either been all instruction in a lecture format, or *'too much'* interaction in group work or discussions. In his perspective, there was a need to balance instruction and interaction in the teaching of diverse cohorts.

**5.2.3.3 Internationalised Teaching.** Three aspects were embraced in this sub-theme: the need to cater for international students, practice in internationalisation, and the perceived issues with an internationalised curriculum.

There was general acknowledgement of the need to adopt various teaching methods to accommodate international students such as CIS, despite associated challenges implementing them in mixed cohorts. Forster (A6RM) pointed out that with students from vastly diverse cultures, *'balancing all needs can be difficult'*. Albert (A1MM) explained that what he usually did with mixed student cohorts was more about identifying individual issues as they occurred rather than making a mass change specifically for a particular group of students. He encouraged the students to bring an international context to their assessment and identified the issues the students had in class or with their assessments and tried to help them out.

In terms of practical teaching, most interviewees reported the commonest way was to bring international elements, particularly those from China, into the classroom to arouse students' international awareness. Forster (A6RM) detailed his approach to *'unaustralianising international students'* by getting them to *'think about the context of the topics they were studying and reflect on the context in their home countries, connecting to their own experience'*. Isabel (A9RF) highlighted her use of *'resources that were more meaningful to Chinese students, for example, the latest news articles about China to contextualise the tasks, creating familiarity for them'*. Bryan (A2RM) reported how he *'integrated multicultural elements into teaching instead of focusing on a single culture to benefit both domestic and international students, with the intent to broaden their world visions'*. For Albert (A1MM), in practice, he became mindful of some of the challenges faced by both international and domestic students, and thus *'modified the overall curriculum, content and course delivery based on his personal experience and learning from teaching international cohorts'*.

In terms of assessing international students with Chinese students in particular, all the academic interviewees reported maintaining consistent criteria irrespective of who they were teaching, though all admitted that some allowance was made for grammatical difficulties that seemed common for internationals. Albert (A1MM) explained, *'we have to acknowledge the existence of some grammatical issues because English is a foreign language to them'*. Doris (A4RF) and Caroline (A3MF) agreed that consideration needed to be given but standards should not be lowered, rather feedback should be provided to assist student to make improvements. Caroline had a system whereby she allowed improvements to be made in the first instance, and then for the second assessment task, she asked them to go back to their feedback and implement it.

Meanwhile, a number of issues with the current internationalised curriculum in Australian universities were identified by participants. Forster (A6RM), a lecturer in the field of social work, admitted *'internationalised curriculum is something that we still have to do'*, suggesting that international content in the form of examples needs to be incorporated into the curriculum:

*'What we need to do is actually put those readings on our curriculum. ...because we tend to be lazy ..., and just use what we know, which is Australian academic writing in journal articles, etcetera. So, I think we have to make more effort'* (A6RM).

Similarly, Caroline (A3MF) admitted she taught only using the Australian or the Victorian curriculum while Bryan (A2RM), a lecturer in IT, also admitted that *'specific internationalised pedagogy was not adopted except where it was open to all different modes of learning for anybody, anywhere in the world, to study as an online student'*.

#### **5.2.4 Perceptions of Supports Provided by Australian Institutions**

The interviewed academics all acknowledged more could be done to facilitate CIS' living and studying in Australia, particularly when nine of them reported that support provided by Australian universities for international students was insufficient.

According to Albert (A1MM), a major consideration was that often support structures were not utilised effectively by international students, despite their availability. Forster (A6RM) explained that a project by two of his Chinese students revealed that CIS *'accessed support services much less than other international students, such as Indians, because the services seemed not to meet their specific needs'*.

Suggestions were made about how Australian institutions could endeavour to better support CIS by providing additional assistance in terms of language, living support, sociocultural and psychological support. Language support was commonly discussed, and while it was acknowledged that support in this area was generally offered in Australian universities, more could be done to accommodate CIS' *'linguistic needs such as conversational skills and translation services or understanding so that there was no confusion across languages'* (Doris, A4RF). George (A7RM) argued that language was still a *'hurdle for CIS in placement, but once assistance was provided, they could get through the barrier and achieve success'*.

It was suggested that support around learning needed to be supplemented by other services relating to accommodation and part-time work integrated with learning opportunities. Doris (A4RF) highlighted the need for more aids to help CIS transit into a new country, for instance, having familiarity of like-minded people, or people from a similar culture as well. Another suggestion was made by Forster (A6RM) for recruiting

special personnel who speak Mandarin to work in public services such as Student Connect. That would contribute to create a feeling of familiarity for CIS, so that they could confidently approach and utilise those services. As Helen (A8RF) commented, considering the fees that CIS were paying, *'it better to support them and have them continue throughout the degree'*. Forster (A6RM) identified the heavy pressure CIS experienced, and highlighted the significance of psychological support for them, remarking, *'CIS are traditionally reserved, and thus seldom resort to counselling or other services even in the face of problems'*. Therefore, *'special services targeted should be properly provided to them, particularly in terms of psychological assistance'*. As Bryan (A2RM) reported, in general, Australian institutions provide what is mandated in legislation, but *'they can always do better'*, he added.

Overall, there was a clear acknowledgment by academic interviewees that Australian universities were trying to support international student cohorts, such as CIS, but the reality was that much more could be accomplished with forethought and understanding.

### **5.3 Chapter Summary**

This chapter presented how the qualitative data obtained from interviews with 10 CIS and 10 academics were coded and analysed, resulting in a set of findings relating to the learning experiences of CIS in Australian universities. This chapter first outlined the thematic analysis of the interviews with the ten student participants. Eight main themes were identified relating to expectations of Australian universities, challenges encountered, learning characteristics, learning differences with ADS, teaching differences, modification of learning approaches, advantages of studying in Australia and suggestions for Australian universities. It was noted that in order to adapt to the new learning and teaching systems in Australian universities, CIS adopted learning approaches that were comparable to their Australian counterparts.

Then this chapter provided the analysis of the interviews with Australian academics, with three main themes emerging, which were academics' perceptions of CIS' learning structure, their teaching of CIS, and their perceptions of the support provided to CIS by Australian universities. It was noted academics' teaching of CIS was a process for them to perceive CIS' uniqueness in learning so as to adapt to their learning needs.

In the next chapter, the findings from the quantitative and qualitative analysis will be merged, and the associated discussion will be presented.

## **Chapter 6 Discussion**

This chapter will present the highlights of the findings and discussion related to Chinese international students' (CIS) learning approaches in Australian universities as perceived by themselves and their Australian student peers and lecturers. The major findings of the study will be framed in relation to each of the research questions with both quantitative and qualitative data being collated in a systematic manner. This approach, derived from the triangulated mixed methods design, will make it possible for different data sets to be merged and discussed in relation to the proposals that will be presented in the next chapter. The aim of this chapter is, therefore, to lay the groundwork for development of a framework for Co-constructed Model of Learning and Teaching (CMLT) in the Australian context that will be discussed in next chapter.

This chapter consists of two parts. To begin with, the primary findings from the two sets of data analysis will be presented, as a way of answering the research questions. The second part will build upon this by highlighting discussion in relation to the nature of CIS' learning approaches and the concomitant relationship with Chinese culture.

### **6.1 Overview of Primary Findings**

This study investigated the perceptions of Chinese international undergraduates and their Australian student counterparts and lecturers regarding the learning approaches used in Australian universities. Overall, the data analyses indicated that CIS were characterised by a unique learning structure that exhibited similarities but also a number of differences from ADS, in terms of classroom behaviors, use of strategies of understanding and memorising, critical thinking skills and engagement with assessment. It was noted that, in order to survive and thrive in Australian universities, CIS who participated in this study had attempted to incorporate a plethora of measures to overcome the challenges encountered, to alter and adapt their learning approaches, and to negotiate and cooperate with their Australian lecturers. The analysis also implied that CIS were similar to ADS in the use of deep learning strategies but were more likely to utilise surface learning strategies. While the findings supported the existence of a support system for international students such as CIS, this system was also found to be limited, requiring an overhaul to make it more targeted to cater for CIS' needs.

#### ***6.1.1 Perceptions of Students' Learning Structure and Learning Differences in Australian Universities***

To address the first research question regarding CIS' typified learning approaches as compared with their Australian peers, surveys (with CIS and ADS) and interviews

(with CIS and Australian academics) were conducted with the primary findings related to CIS' learning structure and the learning differences with ADS as summarised below.

**CIS' Learning Structure.** The current study revealed a typical characteristic of CIS' learning as perceived by CIS themselves and their Australian student counterparts and lecturers. As identified in this study, CIS were characterised by the following unique learning attributes:

- a) **Chinese personality:** welcoming character, reserved yet smart
- b) **Chinese learning ethic:** hardworking, dedicated, studious, focused in learning
- c) **Chinese learning Approach:** highly motivated particularly by achieving scores; frequently adopting memorising strategies
- d) **Chinese learning style:** individual learning, quiet in class and seemingly reluctant in group discussions
- e) **Classroom performance:** seldom questioning or answering unless required, neither arguing nor presenting in group discussions
- f) **Understanding and memorising:** adopting both strategies in study with memorising as a way to achieve comprehension
- g) **Critical thinking skills:** well-equipped, yet need direction in their initial adjustment to Australian HE
- h) **Completion of assignments:** punctual and high in standard but often with language problems

In general, CIS were perceived by their Australian student counterparts and lecturers as having a welcoming character, and as reserved yet hardworking. CIS were highly motivated and self-directed learners, more driven by their families or parents to achieve high scores. There was a perception that CIS were generally individual learners preferring to study alone. Although they were often observed as reticent learners in class, seldom questioning, arguing nor challenging others, they were perceived as deep thinkers who preferred 'one-on-one' discussion with lecturers after class. CIS tended to combine understanding and memorising together in their learning, though well-equipped with critical thinking skills yet not to the degree expected in their initial adjustment to Australian HE. It was also perceived that CIS were punctual in completing assignments that were generally of a high standard but often with language errors.

Interestingly, this learning structure was also confirmed by the CIS who perceived themselves as 'non-communicative learners' in classroom, yet rather communicative after class, and who like to question or discuss with lecturers in private. The CIS also reported that they were focused learners with relatively more time devoted to learning, who were, by no means, surface learners since they were able to incorporate memorising with understanding.



**Learning Differences between CIS and ADS.** Simultaneously, this investigation identified some typical attributes that were able to differentiate CIS from ADS regarding their learning approaches in Australian universities, as triangulated by the quantitative and qualitative analyses. It was noted, that CIS and ADS differed only slightly in relation to their use of deep approaches to learning, but differences were more evident in relation to use of surface approaches, with more frequent use by CIS as demonstrated in the t-test in Section 4.2.2.1. Shared perceptions of each other were also evident in relation to motivation for career path, reliance on rote learning, and critical learning, as elaborated in Chapter 4, Section 4.3.2, but differences were noted in relation to seven items as outlined in Table 6.1 based on Table 4.10.

Table 6.1

*Summary of Differences in Learning Characteristics Perceived by CIS and ADS (t-tests)*

Category	CIS	ADS	Effect size of disparity
1. Highly motivated in career path		More	Small ( $d=0.48$ )
2. Memory use in learning	More		Small ( $d=0.32$ )
3. Inquisitive learning	More		Small ( $d=0.24$ )
4. Interest-guided learning		More	Small ( $d=0.41$ )
5. Student-centred communicative learning		More	Small ( $d=0.46$ )
6. Activeness in questioning		More	Medium ( $d=0.75$ )
7. Engagement in discussion		More	Medium ( $d=0.70$ )
8. Confidence in challenging		More	Medium ( $d=0.60$ )

Note:  $d$  refers to Cohen's ( $d$ )

As illustrated in Table 6.1, there were a number of areas of difference that emerged from the analysis of the t-test data in Chapter 4, Section 4.3. Perceptions of each cohort in relation to aspects of learning associated with the other cohort indicated a shared understanding that CIS tended to use memory more in learning and were more likely to be inquisitive learners, but effect sizes in each instance were small (lower than 0.5). There were more instances of ADS being more study associated with the other five categories (3-7) in Table 6.1, and these all had higher effect sizes (even the small effect sizes were close to being medium) than for the previous two categories: memory use in learning and inquisitive learning. As such, there appeared to be an acknowledgment amongst the student cohorts that there were differences in how they learned. This was supported by the analysis of students' responses to the open-ended questions in both surveys as summarised in Table 6.2.

Table 6.2

*A Summary of the Disparities Perceived by CIS and ADS in Open-Ended Questions*

<b>CIS' learning (perceived by ADS)</b>	<b>ADS' learning (perceived by CIS)</b>
Focused learning with more time devoted to learning	Relaxed learning with flexible learning style yet higher learning efficiency, well-balanced learning
Individual learning	Interactive learning with more group learning or community learning
Reticent learning with minimal questioning in class, particularly in discussions	Active learning with a lot question-asking and answering in class or discussions
More memory-involved learning	Relatively more understanding based in learning
Passive learning	Critical learning with a lot challenging of lecturers or peers

As outlined in Table 6.2, both CIS and ADS participants described a typical picture of each other in terms of their learning approaches and contrasting features, for example, focused/individual versus relaxed/interactive learning, reticent/memory-involved versus active/understanding-involved learning, and passive versus critical learning. Further information was provided by Australian academics' in relation to their perceptions of the learning differences between the two cohorts, as discussed in Chapter 5, Section 5.2.2, and included in Table 6.3.

Table 6.3

*A Summary of Academics' Perceptions of Learning Characteristics Adopted by CIS and ADS*

<b>Category</b>	<b>CIS</b>	<b>ADS</b>
Classroom attributes	Shy, unconfident, quiet in questioning, not engaged in discussions	Upfront, outspoken, confident, comfortable in questioning, and engaged in discussions
Understanding strategy	No obvious differences	No different from CIS
Memorising strategy	More memory-based learning but often beyond rote learning	Less memory involved
Critical thinking skills	Well-equipped yet still below expectations	More capable in many cases with better practical critical thinking skills
Completing assignments	Always punctual yet less competent in practical assignments such as reflections, sometimes with language errors	More understanding with placements and more proficient in reflective assessments
Learning motives	More motivated with more time dedicated to study	Less motivated for study, more involved with part-time work

These differences, as summarised in Table 6.1, 6.2, and 6.3, support aspects of previous findings in relation to learning differences, for example, Clason (2014), Heng

(2018), Ma (2015), Ryan (2016), Wong et al., (2015), and Xu (2016, 2019), as discussed in Chapter 2.

### **6.1.2 CIS' Learning and Teaching in Australian Universities**

To address the second research question involving how CIS and their lecturers negotiated and adjusted their approaches to learning and teaching in Australian universities, interviews were conducted with CIS and their lecturers. Findings were outlined in Table 5.2 and Table 5.4 in Chapter 5, which are now discussed in more detail.

**6.1.2.1 From the Perspective of CIS.** CIS' experiences in Australian universities provided insights into how they negotiated and adjusted their learning approach to the Australian way of learning and teaching. This process was evidently demonstrated by the challenges they encountered, the teaching differences they perceived as compared to China, and the learning approaches they modified.

The CIS participants highlighted the plethora of challenges they encountered including language, psychological stress, team learning and course delivery modes in their transition into Australian learning and teaching systems. Of all the difficulties encountered, English language proficiency was unanimously perceived as the key issue in their learning or as the 'root of their challenges' in Australian universities. Other challenges were also prevalent including psychological stress associated with living and studying in a very different educational, social and cultural context. Educationally, the focus on group work and an active presence in classes was particularly challenging, as it was not something that they had encountered to a great extent in China. Finally, online learning and assessment provided another set of challenges, with the need for greater integration of critique and reflection, and rigorous plagiarism requirements in assignments, which, for second language learners, added another level of complexity.

The CIS participants outlined the range of coping measures they adopted to overcome the issues encountered, particularly the issues arising from their perceived '*inadequate*' English skills. For example, they adopted strategies including relearning, e-translating or even 'cram' classes to aid their understanding of course content, in recognition of the importance of improving their English competency, which they recognised as rudimentary to overcoming challenges associated with studying in Australian universities. They also described their efforts to balance their life and study, to help with stress, and their attempts to try to work more effectively in Australian classrooms, but with the acknowledgment that they still often resorted to working on their own as much as possible, even when undertaking group work, even if it meant doing most of the group's task on their own.

The CIS participants perceived the existence of teaching differences in Australian universities in contrast with their previous learning experience in China in terms of teaching style, teaching emphasis, assessment systems and teacher-student relationships. As they acknowledged, teaching differences are bred in different education systems, and thus, one disparity in teaching style between the two systems is that Australian is more interactive and student-centred while Chinese is more didactic and teacher-directed. They also emphasised other disparities in terms of teaching for voluntary learning versus forced learning, and process-centred versus product-centred learning between Australian and Chinese teaching patterns. In addition, the Chinese students thought highly of the Australian teaching emphasis on students' learning processes, the cultivation of students' thinking abilities such as critical or logical thinking, and the application of knowledge learnt, which were discrepant from Chinese traditional teaching, where heavier weight was placed on students' learning outcome (product), exam scores, and the theoretical instruction of knowledge. The differing teaching foci was seen as underpinning assessment differences with Australian evaluation more varied in format, placing more emphasis on formative assessment, and encouraging divergent viewpoints, while Chinese assessment was relatively rigid in format, with an emphasis on summative testing (e.g., exams) and encouraging relatively '*unified, objective*' answers involving facts or events. The CIS perceived the teacher-student relationship with their Australian lecturers as more distant and business-like, rather like a '*cooperative partnership*', in comparison to '*the respectful yet harmonious*' relationship they experienced with their former Chinese teachers.

In order to survive and thrive in the Australian education system, CIS explained how they modified their learning approach to adapt to the course content, teaching patterns and assignments in Australian universities. To more effectively learn course content, they attempted to adopt approaches deemed as typical in Australia, where the focus was on autonomy, particularly outside the classroom and active interaction within the classroom. CIS participants discussed having to become more Aussie-like in their shift from being '*teacher-reliant*' and '*passive*', to becoming more independent and active in their learning, although many acknowledged that this was a long journey and they were at different stages of success.

In order to maximise their achievements in Australian universities, the CIS adopted a range of measures including systematic study, '*the rubrics strategy*', practicing with past exams and utilising memorising strategies. A common adaptation was to study in a more systematic manner than they had previously required due to the emphasis on summative assessment at the end of a course in China. Although most admitted adopting memorisation and repetition strategies in their learning, this was seen as an aid

to understanding, not as a simple rote measure of learning to pass an assessment only to forget it straight after. Although, it was acknowledged that studying for exams was more likely to engender a focus on surface learning, a large body of knowledge that was more likely to be forgotten quite quickly.

Evident in the findings of this study was that the learning approach developed by CIS in Australia was a composite of their former experience in China mingled with what they perceived to be effective in the Australian context. Their learning was a process during which they perceived the differences and altered to adapt to the Australian context.

**6.1.2.2 From the Perspective of Academics.** As illustrated in Table 5.4, academics developed their understandings of how CIS learned based on the challenges associated with their teaching of this cohort, the adaptive measures they took to teach Chinese students and how they internationalised their teaching to cater for, not only CIS, but also domestic students and other international students.

A number of academic participants highlighted potential challenges associated with teaching international student cohorts, with some specifically related to CIS such as their reticence in class, the predisposed expectations of lecturers, and most importantly, their language competency issues. English competency, particularly in conversational skills, was perceived by academic participants as impacting on how they taught CIS. This issue was compounded by CIS' reticence in class which could be a frustration to lecturers, for it required a pedagogical change to suit all students including ADS and other international students. A further challenge arose in relation to expectations, as many CIS were accustomed to expect a higher degree of specific instructional direction from their Australian lecturers, which could be a potential challenge for those who may not have had much experience of teaching CIS.

Academic interviewees explained how they adopted a diversity of measures deemed as effective to cater for CIS that included individually calling on them in class using their names, grouping them with ADS and trying to incorporate, where applicable, more direct instruction along with interaction in their pedagogies. A number of academics discussed the value for both international and local students of working together in groups, as a way of internationalising the learning of the entire class. Similarly, balancing the pedagogy of interactive and instructional teaching in delivering to mixed cohorts was seen as worthwhile by academic participants, particularly as CIS could be more accustomed to instruction.

This research provided an insight into the implementation of internationalised teaching in Australian universities. As perceived by the academic participants, while teaching CIS in a mixed class, it was important to try to accommodate all types of

learning, without resorting to explicitly different teaching methods, as with students from vast diversified cultures in Australia, this was neither a feasible, nor meaningful, option. Nevertheless, in their teaching practice there was evidence of academic participants attempting to incorporate international elements into the curriculum, such as Chinese examples, in an attempt to broaden all students' international understandings. This was perceived as important, as the aim of Australian education was not simply to Australianise international students but rather to contextualise their learning and enable them to make links between the two different contexts. In terms of assessment, the academic participants highlighted the importance of maintaining standards across the board, despite a discrepancy in starting points for local and international students. However, there was also acknowledgement of a degree of leniency in terms of language limitations for CIS, although a number of academics pointed out that this was becoming an issue for local students as well.

Overall, internationalisation of the curriculum and pedagogy in Australian universities was definitely perceived by academic participants as minimally developed, which, in light of the large number of international students choosing to study in Australian universities (at least pre COVID-19), needs further examination and prioritisation.

### ***6.1.3 Findings regarding the Support System Provided to CIS***

This research highlighted the need for Australian universities to work on further accommodating international students, particularly Chinese students. It was evident from the data that mechanisms have been established by Australian institutions to provide support or services to all students including international students such as CIS. For example, qualified teaching staff, accessible learning resources, favourable environments and purposeful English language centres have been provided. However, as perceived by both CIS and ADS, Australian universities needed to provide further, more focused support for CIS, not only academically and linguistically, but also socially and culturally.

CIS participants suggested that greater assistance was required to help them integrate more effectively with ADS, and to facilitate their living and working, for example, through housing, part-time work and transport opportunities. Both ADS and CIS participants acknowledged that segregation among international and local students was obvious on Australian campuses, and so increased emphasis needed to be placed on face-to-face opportunities for mixed social activities.

Some form of language support appears to be common at most Australian universities but as pointed out by CIS participants, often it is haphazard and not ongoing

and not necessarily culturally inspired. International students are often seen as a homogenous group and the support provided may be more appropriate for some individuals and nationalities than others.

Congruent with the students' perceptions, the academic interviewees agreed that Australian institutions should endeavour to provide more appropriate services targeted at international students, but with a level of accommodation for cultural differences in requirements. Specific reference was made to language support, social networking opportunities, creation of a more welcoming environment and the appointment of key cultural personnel to assist different international student cohorts in settling in to the Australian environment.

## **6.2 Discussion of Findings**

This next section relates the research findings already presented to the literature underpinning the study, in relation to the nature of CIS' learning approach and the association with their social, cultural and contextual influences.

### ***6.2.1 Chinese International Students' Learning Approaches in Australian Universities***

Literature highlights the differentiation between deep and surface learning. According to the original taxonomy by Marton and Saljo (1976) and various subsequent nomenclatures defined by scholars such as Biggs (1988) and Weinstein and Mayer (1986), the concept of the surface approach is generally characterised by rote learning while the deep approach is equated with understanding (Cooper, 2004). Those learners who employ memorising as a primary learning strategy in their study with an intention to reproduce the content are commonly categorised as surface learners (Entwistle, 1997). Chinese students are observed adopting memorising strategies more than Australian domestic students, as was displayed in the current study. This finding was not only confirmed by the Australian academics interviewed and the ADS surveyed as well, but also the CIS themselves. However, apart from that, this study indicates unique learning attributes of Chinese students in Australia.

**6.2.1.1 Deep or Surface Learning: A Comparison with Australian Domestic Students.** As demonstrated in the independent-samples t-tests outlined in Chapter 4 Section 4.2.2.1, Chinese students were noted to adopt more surface learning strategies than ADS but were virtually the same in terms of a deep approach to learning. This finding contradicts previous research that identifies Chinese students as surface learners, especially in comparison with Australian students. For example, Watkins et al. (1991) found that Chinese students were predominantly perceived by their Australian lecturers

as rote learners characterised by a heavy reliance on memorising and lack of insight and understanding. This result is also different from Biggs' (1991,1994) studies, in which he identified Chinese students (Hong Kong sample) as displaying lower surface yet higher deep and achieving approaches to learning than Australian students. However, this finding resonates with the study of Brown et al. (2016), which discovered significant differences in the use of a surface, but not deep, approach to learning between Australian and Chinese students (once again a Hong Kong sample). Leung et al. (2008) also found that Chinese students had a higher inclination to adopt both surface and deep approaches to learning in comparison with their Australian counterparts, demonstrating greater balance of using both SA and DA in their learning process. Similarly, in line with this idea, Kember (1996) and Watkins (2000) contended in their studies that Chinese students were capable of combining memorising and understanding strategies to achieve desired outcomes.

This finding points to the issue of the dichotomisation of deep and surface learning in SAL theory. As discussed in Chapter 2, some of the definitions used in the SAL framing demonstrate the assumption that learners adopt one or the other approach to learning (Dinsmore & Alexander, 2012). For example, Weinstein and Mayer (1986) asserted that deep and surface processing were dichotomised, and learners were static in their approaches to tasks in general. However, the current research demonstrated that Chinese students, as compared with ADS, utilised both deep and surface approaches to learning. This accords with Dinsmore and Alexander's (2012) argument that learners may combine deep and surface learning in order to achieve the most in their study. Echoing this idea, Xie (2014) pointed out that students may adopt any learning approach rather than a single one at a time.

**6.2.1.2 CIS' Achieving Approaches: Uniqueness in Learning Approaches.** The current study also indicates another peculiarity that characterises CIS' learning approach in Australian universities, namely, a high level of achieving approach in their learning process.

As elaborated in Chapter 5, Section 5.1.2.6.2, the Chinese participants reported they adopted a plethora of 'organised' strategies including systematic study, the rubric strategy, practicing past exams, and using memory in order to obtain desired achievement. These strategies are typical of an 'achieving approach' as termed by Biggs (1987) and Entwistle and Ramsden (1983).

The achieving approach was first formulated in the earlier version of the SPQ by Biggs (1985) and in the ASI by Entwistle and Ramsden (1983), but later was realigned as the combination of either DA or SA construct in the R-SPQ-2F for its overlapping attribute (Biggs et al., 2001). According to Biggs (1993), the achieving approach was



built upon students' ego-enhancement arising from their desire to "visibly" achieve high grades, or top performance (p. 7). Case and Marshall (2009) argued that the achieving approach was identifiable where students aimed for top achievement, using whichever of the deep or surface approach was deemed necessary. According to Biggs (1993), the following strategies were evident within an achieving approach: adequate organisation of work time and place, effective coverage of the syllabus, use of cue seeking and systematic study skills, and planning ahead according to the importance of task.

While the achieving approach is no longer entailed in SAL theory as a predominant structure (Entwistle et al., 2002), and thus excluded from the R-SPQ-2F as a single construct (Biggs et al., 2001), the current research suggests that it still has applicability, as far as the CIS in this study are concerned. There was acknowledgment by the CIS participants of being product-centred, attaching great importance to learning products such as grades in exams or achievements, and who, for that end, tended to resort to an achieving approach. This was epitomised in the interview with Peiqi (S10MF), when asked whether the differences between ADS and CIS could be narrowed down to that of deep learning and surface learning, she responded, *'they [ADS] may definitely be deep learners, but I do not think I am a shallow learner. But I tell you that one of my motivations for learning is to get satisfactory grades, by which to prove my efforts are not in vain'*.

This response accords with cultural studies by Biggs and Watkins (1996), Volet et al. (1994), Tan (2011) and Xie (2014), who suggested that apart from the two constructs of surface and deep, a third one – an achieving construct, is still suitable to describe the approaches to study of students from Confucian Heritage Cultures. As argued by Tan (2011), students from the East, including Chinese, are still strategic, and in the East, learning is often viewed as a "means" to achieve an "end", and hence the "achieving" construct might still remain valid in studying learners from these countries (p. 126). This result is also in line with Biggs (1994), who argued that Chinese students exemplified more of an achieving approach compared with Western students.

**6.2.1.3 CIS' Memorisation.** Discourse on Chinese students' learning approach often revolves the nature of the function of memorisation in their learning process (Heng, 2018). The current study implies that Chinese students do resort to the mechanism of memorisation more often than their Australian peers, which seems consistent with much of the literature (e.g., Biggs, 1996; Clason, 2014; Heng, 2018; Li (2015); Wu, 2015). Indeed, Chinese students have been widely observed employing strategies which appear to be rote, and from a Western framework, such strategies are associated with a surface approach (Kember et al., 1999), which is why, in the West, CIS are often categorised as rote learners.

However, the current study highlighted that CIS tend to incorporate the memorising strategy with understanding. This finding was ascertained in the t-test on students' mutual perceptions of their learning approach as discussed in Part C of the surveys (also see Table 4.9), where no difference was found in five items including rote learning (Item 2) and critical thinking (Item 5) when CIS' responses to the survey when compared with ADS' responses. The academics interviewed in this study further verified that the two cohorts did not differentiate distinctly in the use of understanding, yet with CIS using more memorising.

While explaining the guiding principle of the 'surface approach' in SAL theory, Biggs (1993) pointed out that the surface approach was conceptually based on the intention that is "extrinsic to the real purpose of the task", whose strategy arises from "'satisficing', instead of 'satisfying' task demands by investing minimal time and effort consistent with appearing to meet requirements" (p. 6). Biggs remarks on the common assumption that the presence of memory per se means the adoption of a surface approach is incorrect, which, according to him, "depending on context, may be part of a deep or an achieving approach" (Biggs, 1993, p. 7). As such, Chinese students tend to believe that understanding comes through memorisation, and clearly this intention is "to deepen understanding, [and] a memorisation strategy in this case becomes part of a deep approach" (Biggs, 1993, p. 7).

The current study thus points to the peculiarity of memory use in CIS' learning approach. As argued by Entwistle and Entwistle (2003), there exists 'an interface' of memorising and understanding in the Chinese learning structure, which affords them the capability to combine the two strategies to deepen their learning. McMahon (2011) further highlighted that this has long been enclaved into Chinese culture, and deviates from the western conception of 'rote learning'. Cooper (2004), in his study of Chinese accounting students, suggested the Chinese tradition of memorisation was a way to consolidate understanding and achieve high levels of academic performance. Wong (2012) also argued that Chinese repetitive learning functions differently from the Western notion that memorisation can obstruct understanding, which actually leads to deep learning. This viewpoint concurs with the arguments by Tan (2011) and Cooper (2004), which unanimously argued that memorisation was a significant part of learning in the Confucian culture as a typical strategy to further understanding, and thus should not be deemed as rote learning.

As such, the current study confirms what is implicated in much of the literature that Chinese students rely more on the mechanism of memorisation than their Western counterparts (e.g., Biggs, 1996; Clason, 2014; Li, 2015; Tan, 2011; Wong et al., 2015; Wu, 2015; Xu, 2016). However, as pointed out by Conrad and Dunek (2012), frequently

Chinese students are found to utilise memorisation in their process of learning, but this does not mean they are surface learners.

**6.2.1.4 CIS' Reticence in Classroom.** The current study confirmed another typical characteristic of CIS that is highlighted in literature, specifically, Chinese students' quietness in Western universities. As evident in the findings of this study, the Chinese students tended to have a very low profile in class, were reluctant to speak up, were deferential to the authority of the teacher, and seemed to prefer a teacher-directed and teacher-dominated class. This finding is consistent with earlier research, for example, Heng (2018); Turner (2013), Wu (2015), Wong et al. (2015), and Xu (2019), as discussed in Chapter 2.

While it is paramount to understand Chinese students' learning attributes, generalisation of their learning without adequately examining the causes within context may lead to biased perceptions of Chinese students (Ryan, 2016). Thus, it is not surprising that Chinese students are often perceived as passive learners (Zhao & Bourne, 2011), who are disengaged in group discussion (Ruble & Zhang, 2013), and uncritical thinkers (Cortazzi & Jin, 1996). However, the current study identified that a range of factors contribute to Chinese students' quietness in the Australian classroom.

In relation to questioning in class, there appeared to be an acknowledgment that a lack of confidence in the use of the English language was combined with cultural mores. Ryan (2013) claimed that Chinese students are silent in class partially due to personal traits such as their shyness, confidence and modesty. Wu (2015) and Xu (2019) both argued that Chinese students' quietness does not indicate their disengagement in classroom discussion per se, but instead, a preference for other ways of discussion, for example, "one-to-one assistance and after class clarification" (McCrohon & Nyland, 2018, p. 23). Xu (2019) found most CIS remain quiet in class due to their unwillingness to interrupt the normal teaching pace. This most likely reflects both cultural and social factors, as confirmed by two student interviewees. Peiqi (S10MF) explained her silence in class was because, *'I did not want to affect other students by asking a question that the others already knew the answer to'*, while Jiaqi (S8MF) stated that *'asking questions in class can be embarrassing...and there existed a subtle feeling among Chinese students. I don't think they like to see people asking questions in class'*.

As discussed in Section 5.1.2, both Kun (S6RM) and Peiqi (S10MF) reported they would volunteer their responses in class when no one answered the teacher's question in order to avoid embarrassment for the teacher. Xu (2019), drawing from Wang (2006), explained this was associated with the Confucian practice that students should remain quiet in front of teachers while ensuring the teacher's status remained high. Studies by Ryan (2013), Turner (2013), Wu, (2015) and Xu (2019) also link Chinese students'

reticence with Confucian heritage culture. For example, Ryan (2013) maintains that CIS' relative silence is not a lack of connection with ideas, but a Confucian practice of a deeper, internal engagement with ideas. Xu (2019) explains that Chinese students were nurtured in China by teachers who prefer students to concentrate on listening, taking notes and trying to understand what they are taught. According to Murphy (1987), Chinese students' passiveness in class is an influence or a transfer of the doctrine of Confucianism, coupled with the Chinese tradition of seeking strictness of discipline and proper behaviors.

A number of the academics who were interviewed in this study (e.g., Albert A1MM, Helen A8RF and Jasper A10RM) pointed out that while it was challenging to get CIS to actively engage, it did depend in part on the context, particularly the teaching context. This was also raised in research by Clark and Gieve (2006), who identified another interpretation of Chinese international students' seeming passiveness in western classrooms, that is, the perceived teaching quality. They suggested if students perceived the learning environment as 'unworthy' of attention, it was very likely that they would withdraw from interactive cooperation rather than engage in it. Echoing this idea, Littlewood (2000) commented in his research on Asian students:

If Asian students do indeed adopt the passive classroom attitudes that are often claimed, this is more likely to be a consequence of the educational contexts that have been or are now provided for them, than of any inherent dispositions of the students themselves (pp. 33-34).

Apart from the aforementioned reasons, researchers such as Edwards et al. (2007), Gu et al. (2010) and Wong (2012) identified one more possibility for CIS' apparent silence in class, which was insufficient control of the English language. This point was strongly highlighted by Albert (A1MM) and Bryan (A2RM) in the academic interviews.

It is apparent then that CIS' apparent silence in Australia is essentially related to their personality, Chinese culture, their English language competency, together with their perceived teaching dynamics in class and the teaching quality of academics. As such, Chinese students' reticent behaviors do not mean they are disengaged in learning (Watkins, 2000). Furthermore, Briguglio and Smith (2012) critique the belief as "erroneous" that Chinese learners are "passive learners" because they seem unwilling to participate in classroom discussion (p. 30). Li, Chen and Lin (2010) also argue that although Chinese students might be noticed as having a "less active learning strategy" relative to other students, no evidence has found that this negatively influences their academic outcomes (p. 389).

### **6.2.2 CIS' Learning Approaches through the Lens of Chinese Deep Culture**

As argued by Case (2008) and Heng (2018), while it is important to understand the salient characteristics of Chinese students in Western universities, it is essential to understand the range of culturally or historically developed learning approaches. Incomplete understanding is likely to give rise to incomplete perceptions of Chinese students' experience in Australia (Abelmann & Kang, 2014), and also to the stereotype that they are "incompetent and deficient" (Heng, 2018, p. 22).

Literature frequently highlights the function of Confucianism on CIS' learning behaviours while neglecting the hidden assumptions from 'deep culture' that underlie their cultural dilemmas, as argued by Shaules (2007). According to Shaules (2007), deep culture is concerned with those basic elements of a culture that is hidden and functions out of one's awareness. Some basic assumptions such as linguistic relativity and cognitive processes are also included in deep culture, which has seldom been recognised. The deep assumptions behind the norms and values are rarely questioned due to the highly abstract nature of the construct which operates at a deep-intuitive level.

There is a need for exploration of this construct of Chinese deep culture in terms of the Chinese language system and Chinese Confucian doctrine of 'the Philosophy of Means', together with China's education system, to enable a more informed understanding of the unique characteristics represented in CIS' learning approaches with an aim to unlock the "paradox" of Chinese students' approaches to learning in Australian universities.

**6.2.2.1 Chinese Language and Chinese Approaches to Learning.** Language is intimately correlated with culture. Insights into the deep culture of the Chinese unearth the association of Chinese adoption of memorisation with their hidden language system. As agreed by Tan (2011) and Xu (2016), Chinese students' adoption of memorising strategy in learning is partly attributed to the structure of the Chinese language system and the practice of Chinese language learning. As argued by Zhang Dongsun (Jiang, 2002), a renowned contemporary Chinese philosopher, the structure of a language expresses the character and psychology of a nation, "the way of thinking" (p. 72). Mandarin Chinese, a Tibetan language system, is basically different from Germanic languages such as English (Tse, Marton, Ki, & Loh, 2007). Chinese written characters consist of ideographs that represent meanings (pictograms, symbols, or ideogram) as contrasted with English alphabets, which represent sounds (Tan, 2011; Tse et al., 2007). For the alphabetic English language, understanding phonemes enables most learners to form words as the systems and patterns are explicit (e.g., suffixes and prefixes, tenses) for learning the language (Tse et al., 2007). In comparison, each Chinese character

contains distinctive meaning. For instance, 人 (ren) means 'person' in Chinese while 八 (ba) means 'eight', and 儿 (er) means 'son'. In such a way, Chinese characters may look similar but differ in meanings and pronunciations as well. Accordingly, in order to learn the Chinese language, Chinese students have to invest great efforts practicing writing and memorising the pronunciations and characters (Kennedy, 2002; Tan, 2011). It is generally assumed in China that 2,500 Chinese characters need to be known in order to read a newspaper of average difficulty, with 4,000 to 5,000 characters required for functional daily activities for a well-educated person. Therefore, with years of repetition and memorising practice since their childhood, "memorisation has become a culturally and intuitively ingrained approach to learning" in Chinese learners (Tan, 2011, p. 125), and to CIS, memorisation has, in fact, become an acquisitive approach to learning (Xu, 2016), and been viewed as 'an end' rather than 'a means' to learning (Kennedy, 2002).

In fact, the concept of memorisation in the Chinese phrase '背诵' (beisong) is deeply embedded into the Chinese way of learning. Literally, this phrase can be split into two characters with the closest equivalent in English meaning 'piggyback'. However, separately the first character '背' (bei) contains the meaning of 'effortful load' with 'respect and care' when piggybacking. The second character '诵' (song) means 'reciting in a way such as song or poetry', which can be a 'fun' and 'natural' activity. Therefore, the Chinese phrase '背诵' (beisong) is made up of two characters contradictory in meaning, signifying that memorisation, though a laborious and effortful job, can involve enjoyment, like singing or reciting poetry. Anyone who has witnessed Chinese primary students memorising the Tang Poems or Classics<sup>□</sup>, clearly loud in chorus in a classroom, would agree that Chinese students' experience of memorising is not a tedious process but an effortful, yet fun, activity like "singing a song", as commented by Xu (2016, p. 29).

As pointed out by Tan (2011), Chinese students' paradoxical memorisation learning process is rather "alien to many Western scholars", and hence may arouse "bewilderment" among them (p. 140). The reason for such a perplexing reaction lies in the fact that much of the research on Chinese students' learning has been conducted from the Western perspective of learning (Leung et al., 2008), without adequate consideration of the culturally sensitive constructs of the Chinese way of learning, as agreed by Heng (2018).

**6.2.2.2 Chinese Philosophy of Means and Chinese Learning Behaviours.** As discussed in Chapter 2, the academic literature frequently employs a large culture view to ascribe the approaches Chinese students adopt to learning to the Confucian values.

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<sup>□</sup> Tang Poems or Classics are poems composed by poets in the Ancient Tang Dynasty in the year from 618 to 907 in Chinese history.

Indeed, the basic tenets of Confucianism have been pervasive in China for more than two millennia, and CIS are inevitably influenced by some of the deep cultural ideology inherited from Confucianism before their entry into Australian universities (Choi & Nieminen, 2013; Xu, 2016). Some of these heritages, of course, still persist for a certain period of their university life in Australia. As asserted by Tan (2011), the Confucian values of ‘the Philosophy of Means’, or ‘the Middle Way Philosophy (中庸, zhongyong)’ has been pervasively ingrained in the lives of many people with a Confucian background. The Chinese Philosophy of Means is a principle of dynamism advocating a “harmonious integration” (Tan, 2011, p. 183) of opposites rather than a reactive compromise between human beings and the universe. Chinese believe that everything in the cosmos (being social, economic or biological) comprises contesting propensities that can be balanced. This paradoxical belief is well represented by the Chinese Yinyang image (阴阳, Yinyang), a theory of unity regarding how contradicting things hold together (Wang, 2012). Yinyang entails the ideology of ongoing dynamics and embraces multifaceted interwoven relationships of difference, opposition and contradiction.

The influence of the means of philosophy on Chinese life can be traced back by the construct of Chinese language. For instance, the Chinese phrase ‘危机’(weiji)—‘crisis’, which comprises two contrasting Chinese characters, ‘危’(wei), which means ‘danger’, and ‘机’(ji), which means ‘opportunity’. Underlining the Chinese phrase ‘危机’, which means ‘crisis’, is the connotation of ‘having opportunity even in the face of danger’. Hence, ‘crisis’ is not conceived pessimistically but also with an optimistic attitude as well.

Similarly, the Chinese notion of memorisation contains opposing affinity that can be integrated. As found in Tan’s (2011) study, there is no distinct divide between the concepts of ‘rote memory’ and ‘memory with understanding’. In the Chinese mindset, both processes are not just ‘confronting dichotomies’ but also interrelated and mingled, and ultimately become a harmonised learning process. As such, the Confucian Philosophy of Means provides insights into CIS’ conceptualisation of the “intermediate approach to learning”, as argued by Leung et al. (2008), who found Chinese students in comparison with Australian students demonstrated greater balance of using both SA and DA in their approach to learning. Although Leung et al. (2008) did not attribute this finding to Chinese Philosophy of the Means, it actually acts as one of its representations (Tan, 2011). Similarly, Durkin (2007) also found Chinese students in Western universities adopted the “middle way” to harmonise the Eastern and Western learning approaches when challenged with the Socratic critical, argumentative learning.

**6.2.2.3 Chinese Education System and Chinese Learning Approaches.** The Chinese education system is a composite of Confucian social and family values and

educational policies (Ma, 2016). As discussed in the aforementioned sections, Confucianism has left heavy marks on CIS' learning approaches as embodied by their use of memorisation, reticence in class and reverence for instructors. In addition, CIS are considerably affected by China's educational system, particularly by the long in-practice examination system, which is another aspect of Chinese deep culture.

China's educational system evolved from Confucius' moral belief in the "equality of education for all regardless of personal background" (Li, 2010, p. 41), and that education could facilitate one's advancement in society. After a series of "root and branch" educational reforms in China, significant transformations have been achieved (Ryan, 2013, p. 45), which have resulted in substantial changes to China's educational policy and governance, curriculum and pedagogies (Ryan, 2019). Student-centred and autonomous inquiry learning were highlighted in the new education reforms in 2018, encouraging student qualities such as independence, creativity, problem-solving skills, collaborative learning, and lifelong and life-wide learning capacities. It cannot be denied that great achievements have been made in the development and perfection of China's education system. However, the full play of innovation takes time considering China's huge population and vast provincial and regional differences. Therefore, teacher-centred and text-bound teachings still prevail in many schools, especially in some Chinese high schools, as do the learning approaches such as cram learning, examination orientation, and rote learning. The reason for such a dilemma in China's education was mainly due to its examination system, Gaokao (高考), as pointed out by Chen (2014).

The National College Entrance Examination (NCEE)<sup>□</sup>, known as Gaokao (高考), is an extremely stressful and competitive exam for all the third year Chinese high school students, which controls university admission based on a student's aggregate scores achieved. Rounds of reform have been undertaken aiming for systematic improvement of Gaokao, yet for practical reasons, Gaokao remains the main criterion for determining eligibility for admission into Chinese universities. Due to the relative limited number of university places and huge number of annual candidates in China, Gaokao is extremely 'high-stakes' for future educational opportunities and future life-chances (Ryan, 2019), and is even viewed as a 'Single-Log Bridge' to a better future (LaFraniere, 2009). As Ma (2015) remarks, the high pressure of Gaokao has resulted in "didactic" and test-bound teachers and examination-oriented rote learners (p. 31). Every year, millions of students, pushed by their teachers and parents to maximise their scores, exert themselves for the two-day of exams, which are held annually on June 7 and 8.

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<sup>□</sup> 'College' in China is equivalent to 'university' in Australia.



The Gaokao system has been met with criticism from students, teachers and parents due to its intensely gruelling nature (Ryan, 2019), the imbalance of desired development of students and the enormous psychological pressures incurred on not only the students but also the families and Chinese society as a whole. Even so, still quite a number of Chinese scholars argue that there can hardly be a better way to screen eligible students than Gaokao (Ma, 2015), when considering that China has the largest population in the world with around 10 million students annually sitting the test. Chinese universities generally support the role of Gaokao' as a tertiary admissions mechanism (Yang, Farley, & Le, 2018). Albeit the reported limitations (Bai et al., 2014; Du et al., 2016; Xia, 2017) and at times "controversial" nature of this mechanism (Zuo & Zhuang, 2018), China's Gaokao is increasingly gaining acceptance by various institutions including those in the US, the UK and Australia. The results have become relevant to Western universities as evidence of Chinese international students' academic abilities (Yang et al., 2018). Currently, 92 per cent of Australian universities accept the Gaokao scores as a basis for direct admission to degree programs or pathway programs (Yang et al., 2018). After all, this testing system has helped China cultivate highly knowledgeable, skilful and professional talents. Of course, each coin has two sides. The fierce competition of Gaokao has bred the practice of test-driven education in China, especially in high schooling, which has inevitably impacted significantly on CIS' learning approaches abroad.

Diverse cultures and different systems have bred varied learners. As suggested by Heng (2018), differing sociocultural milieus possess diverse values, attitudes towards learning and thus different learning behaviours. Ryan and Louie (2007) point out that the difference between CIS and their Australian counterparts in their approaches to learning is complicated. Bred in a different culture, educated and cultivated in a differing education system, CIS' learning approaches are conspicuously distinctive from those of ADS, particularly in their entry period, which potentially presents challenges for their adaptation to life in Australian tertiary institutions (Ma, 2015). Heng (2018) argues that judging international students' learning behaviours merely based on their difference reflects narrow-mindedness, for "different" does not mean "deficient" (p. 22). An approach to learning is "a composite with multiple facets" (Gu, 2009, p. 40), which includes exogenous factors such as sociohistorical, cultural, and academic contexts, as well as endogenous factors, for example, students' previous experience, aspirations and motivation.

Therefore, cautions are needed when generalisations are made about Chinese students' approaches to learning in Australian universities (Wu, 2015). In order to better understand how Chinese students adopt and re-shape their learning practices in

Australian universities, it is necessary to have a clearer understanding of how their learning experiences have been shaped by the Chinese cultural and educational system, and most importantly to get to know how their learning is re-constructed by the Australian environment in which they are situated.

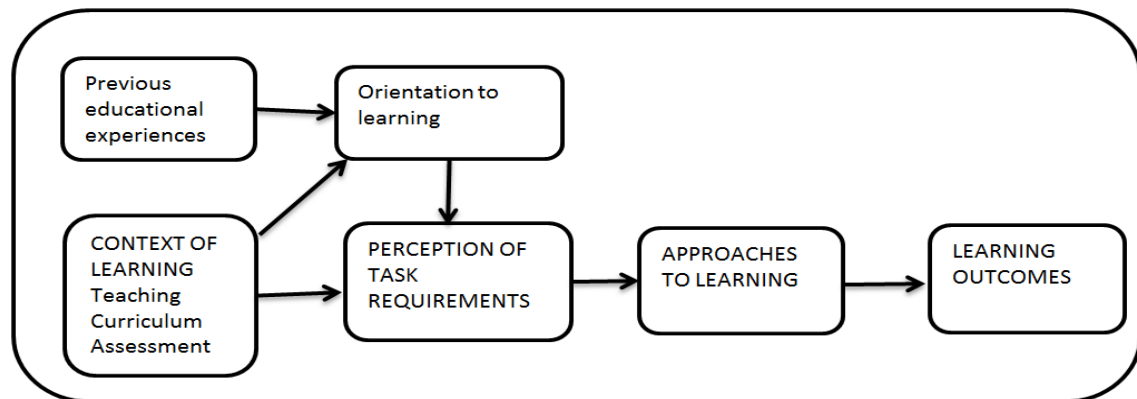
While numerous studies have evidenced the impact of Confucianism on Chinese students' learning behaviours in Western universities, for example, heavy reliance on memorisation, reverence for supervisors and reticence in group discussion (Wong, 2015), this section, from the angle of deep culture, explored the hidden association between Chinese culture and CIS' learning. Culture is a complex concept, and therefore it is important to try and unlock some of the deep cultural elements that impact on Chinese students' approaches to learning in Australian universities.

### ***6.2.3 Perceptions of CIS' Learning Approaches in Australian Universities***

This study provides an insight into an understanding of CIS' perceptions regarding their learning and teaching in Australian universities. Given CIS' experience in Australian universities as discussed in Chapters 4 and 5, this study has demonstrated how CIS perceived their learning by surmounting a range of challenges encountered, altering and adjusting their previous learning to fit in with the new style in Australian universities. Biggs (1993) highlights the importance of students' perceptions in the determination of their learning, arguing that students' learning is ultimately determined by what they "perceive, interpret, and intend to do" (p. 73). This idea is clearly explained by Ramsden's (2003) educational context learning model, which highlights students' perceptions of context as deciding their adoption of particular approaches to learning. Ramsden (2003) characterises the context as "relational" to student learning (p. 82), with the indication that utilisation of deep or surface approaches to learning arise out of the relationship between students, teaching context and their perceptions of the learning context. Built on Biggs' 3P model, Ramsden (2003) theorises the relationship between students' orientation, their perceptions of the educational context, their approaches to learning, and their learning outcomes as outlined in Figure 6.1.

Figure 6.1

*Ramsden's Educational Context Learning Model*



Note. Reprinted from "*Learning to Teach in Higher Education*" by P. Ramsden, 2003, p. 82, Routledge Falmer. Copyright 2003 by Paul Ramsden.

In Figure 6.1, the right-handed linkage between approaches to learning and learning outcomes constitutes what is foundational in Ramsden's theory, which is congruent with Marton and Saljo (1976) and Biggs' (1985,1991) 3P theory. That is, varying approaches to learning results in variant learning outcomes. The left-handed side of the diagram, which shows Ramsden's priority focal points (Case & Marshall, 2009), represents the key elements considered important in influencing students' choice of approaches to learning. The main focus of this model is students' perceptions, which mediate between teaching context and approaches to learning. According to Ramsden (2003), the levels of approach and students' orientation towards studying are relevant to the perceived learning environment. Student backgrounds, say, prior experience and cultural beliefs, together with the teaching context, mould their learning orientation, which, in turn, influences the way students perceive their learning experience. Ramsden's (2003) theory clearly underlines how student factors, coupled with teaching context, determine perceptions of learning, and thus adoption of specific approaches to learning.

Perceptions are referred to as the views that are generally deemed as representative of how people see things (Plunkett, 2005). According to the philosopher William James (1842-1910), there are three stages for one to make personal meaning from an experience: sensation, perception and conception. Firstly, when a sensation comes to contact with stimuli or facts, it provides an opportunity for recognition of them to be perceived. This recognition, based on previous knowledge about the stimuli or facts, is the second stage of perception. It is only after the third stage, conception, that knowledge is processed to understand the world as it is. According to Entwistle (1987) and Entwistle et al. (2002), students' perceptions greatly affect their interpretation of the learning context and the choices they make in their approaches to learning. To maximise

CIS' learning experience, it is important to understand how Chinese students perceive and construct their learning in Australian tertiary education.

**6.2.3.1 CIS' Perceptions of Learning in Australian Universities: An Adaptive Process.** This study implies that CIS' perceptions began with the challenges they encountered, and a series of coping measures taken to surmount the challenges including changing themselves to adapt to the new environment. Aligned with much literature on international students' learning, e.g., Wong (2012), Ma (2015) and Heng (2018), the Chinese students in the current study came to Australia bringing with them what they were learned in their previous existence, for instance, different language, cultural values, learning habits and conceptions of learning. It was natural for challenges to present themselves, particularly in relation to language, learning styles and delivery modes, as described in Chapters 4 and 5. Nevertheless, they responded to this new context by altering their approaches to ones deemed more likely to foster deep learning such as becoming more independent and autonomous. As was evident from the way the CIS proceeded that their learning in Australian institutions was an adaptive process during which they perceived the situation and altered to adjust to the Australian way of learning and teaching. This adaptive process was influenced by a number of factors.

To begin with, modification emanated from the coping measures taken to deal with the challenges associated with their perceptions of encountering a new and different social, cultural and educational context. It was these perceived differences that set the CIS to reflect on their previous learning in China and ponder on those most appropriate to their learning in Australian higher education, thereby adopting a series of coping measures. CIS participants thus underwent a progressive adaption evolving from the survival stage, with a relatively lower level of learning occurring during their initial adjustment, to a thriving stage with a higher level of learning. The lower level of learning approaches, as discussed in Section 5.1.2.2, included the strategies of relearning by investing extended hours in study, translation of course content, and cram sessions. The higher level of learning embraced various learning approaches such as autonomous learning, voluntary learning, self-exploring learning and learning by doing, as illustrated in Section 5.1.2.6.1.

Furthermore, the CIS' adaptive process was influenced by their perceptions of the differences in learning context with ADS. As observed by the CIS, disparities existed in their learning approaches with their Australian peers, for example, the distinctive ways of dealing with exams or assignments outlined in Section 5.1.2.4, and the different classroom behaviours illustrated in Section 4.4.1. The student interviewees, instead of sticking to the stereotypical image of 'Chinese learners' as discussed in Chapter 2, tried out various approaches to learning that were prevalent in Australia, for example,

interactive learning and autonomous learning, with some successfully becoming more Australian-like. For example, Zheng (S7RF) and Peiqi (S10MF), gradually learnt to be confident enough to speak up in class, answer questions and discuss with other students. It, therefore, appeared that the learning approach of CIS began to be molded by the learning context provided by the Australian universities.

Third, perceptions of the differences in teaching context between Australia and China also had an impact. As already outlined, Australian teaching differed in many ways from their previous learning experiences in China in terms of teaching patterns, emphases, and assessment systems. Also, voluntary learning and humanistic teaching that was advocated in Australian teaching were contradictory to the enforced learning that demanded discipline from teachers and even parents in China. Prompted by such perceptions, it became important for CIS to adapt to more independent and active learning, as elaborated in Section 5.1.2.6. This was also evident in the efforts of CIS to overcome language limitations, through seeking help from university services. As they realised one of the difficulties in academic writing might be the result of from their long-ingrained Chinese thinking pattern, they even considered learning to think like an Australian, as reported by Peiqi (A10MF). After a period of adjustment, most of the CIS gradually learnt how to handle the assignments in Australia.

As such, CIS' perceptions of their learning approach are an adaptive process, requiring consistent ascertainment of the context, and construction of their learning by changing to adapt accordingly. CIS' learning approaches in Australia are essentially a contextualised learning based on and constructed by their perceptions of the learning context in which they are placed in Australian institutions. This adaptive perspective provides a lens to view Chinese learners as continuing beings, whose past learning experiences and present influences are seriously considered in the ongoing development of their learning.

This finding is consistent with what Li (2015) identified in her study, that the length of CIS' (Taiwanese sample) stay in Australia makes them more receptive and adaptive to an individualist form of learning. It also concords with what Xu (2016) found in her investigation of Chinese business students in an Australian university. According to Xu (2016), Chinese international students' learning is greatly moulded by the institutional context, and therefore involves a process of "adopting and adapting practices" (p. 165). By adopting, Chinese students use whatever strategies are built into their previous practice repertoire, and by adapting, they "reconfigure, modify or discontinue their commonly-used practices as they move from one context to another" (Xu, 2016, p. 166). When adapting to the new practices in the new context, these students are inclined to adopt the default learning approaches and social practices that they acquired in their

previous learning (Xu, 2016). This adopting and adapting learning process was well exemplified by Tongya (S9MM), who explained that his learning approach in Australia was, in fact, a realisation of '*what he acquired in China and what he adapted to within the Australian education system*'.

**6.2.3.2 CIS' Perceptions of Learning and Teaching in Australian Universities: A Co-Constructed Process.** While it is clear that CIS' learning approaches are shaped and constructed by academics' instructional practices all the time, it can also be seen that academics' instructional practices are reshaped and reconstructed by students' learning. The academics interviewed in the current study acknowledged that teaching CIS was obviously different from instructing domestic cohorts, requiring deployment of a variety of measures based on their perceptions of CIS' learning approach in Australia. For example, to assist with language issues, academics discussed deliberately modulated their teaching, attempting to avoid colloquial expressions and articulating more clearly. As previously discussed, similar modifications were made to entice CIS to ask and answer questions and engage in group work, with internationalisation practices at the heart of some of these modifications. Academic participants appeared to be sympathetic to the need to avoid Australianising international students and the importance of adopting multi-cultural pedagogies.

Therefore, CIS' learning and teaching in Australia is a contextualised, co-constructed process for both CIS and their lecturers to jointly perceive the learning and teaching context, and actively co-construct their learning and teaching by mutual negotiation and adaptation. As pointed out by Entwistle and Waterson (1988), any attempt to modify students' approaches to learning are not likely to be successful unless the environment in which the learning occurs is changed accordingly. Only in this way, can the recommended ways of learning be fostered effectively with students.

#### **6.2.4 Factors Influencing CIS' Perceptions of Learning Approaches in Australian Universities**

**Personal factors.** Literature identifies that students' perceptions of learning approach are influenced by a vast multitude of factors. Scholars, such as Biggs (1993, 1994) and Biggs et al. (2001), argue that students' learning is individually predisposed, with individual factors such as characteristics, aspirations for achievement and learning aptitudes all affecting their perceptions of learning (Biggs et al., 2001). As academic in this study, Isabel (A9RF) highlighted in her interview, motivation was important and played a part in CIS' perceptions of learning approach. The findings from the current study certainly demonstrate that while some CIS were thriving in the Australian

education system, others were only surviving, showing that their perceptions of learning approach are individually determined.

Some scholars (e.g., Dochy et al., 2002; Honkimaki et al., 2004; Li, 2015) highlight the substantial influence of students' previous educational experience on their perceptions of learning. As was found in the current study, CIS' learning approaches in Australia were essentially a hybrid of their former experience in China mingled with Australian elements. For example, CIS' memorisation in their study was what was brought with them from their traditional learning in China, yet had been incorporated into their Australian learning mainly as an approach to strengthen their understanding. Understanding fosters deep learning, and thus strategies to assist in understanding are widely applied by students in Western institutions such as Australian universities, and were adopted by CIS to use in combination with the strategy of memorising. As commended by Biggs (1994) and Leung et al. (2008), Chinese students are good at balancing both deep and surface approaches in their learning.

**Cultural Influence.** Cultural values are also important in determining students' perceptions of learning approaches (e.g., Biggs, 1985, Biggs et al., 2001; Duff, 2000; Felder & Brent, 2005). Heng (2018) argued that students' perceptions were unavoidably influenced by the culture in which they were raised. Li (2015) also found that Asian students, with CIS included, still maintain traces of learning styles associated with their cultural norms in their home country. As identified in the current study, CIS' reluctance in class was partially due to their cultural perceptions of so called 'appropriate behaviors'. When interviewed about reticence in class, Xinqing (S3RF) explained that Chinese students '*are culturally taught to be respectful to teachers, not speaking out unless called up, nor challenging teachers in class*'. This accords with what was discussed previously in the Section 6.2.2 above, that Confucianism has heavily moulded Chinese international students' learning approaches as embodied by reticence in classroom and reverence for instructors.

China's educational system, which is another aspect of Chinese deep culture, promotes an orientation towards products or outcomes in the form of grades, while processes are seen as important in many Western settings (Ryan & Louie, 2007). The traditional Chinese education system has left a deep mark on CIS' perceptions of learning, which makes them accustomed to a highly-structured learning environment, where the effective transmission of factual information is seen as good teaching (Jin & Cortazzi, 2011). The examination-oriented Chinese assessment system emphasises memorisation and standardised answers, while, according to Paulusz (2004), Australian teaching generally aims at encouraging students to construct their learning from their own experience rather than simply reproducing the knowledge of others.

Scholars such as Chou et al. (2013), Heng (2018), Wang (2015), and Xu (2019) argue that CIS' perceptions are 'culturally influenced' and that ethno-cultural diversity is influential to students' perceptions of learning in their adaption to the host country's learning and teaching (Andrade, 2006). Thus, the struggle of some CIS is not necessarily due to a lack of academic competence but due to very different beliefs, values, and expectations about teaching and learning.

While it is clear that individual factors such as personality, motivation, prior learning experience, and cultural values impact on CIS' perceptions of learning approaches, it is also evident that language competency has a large impact, as highlighted in Chapter 5.

**Contextual Impact.** Despite the disparities in the sociocultural and educational backgrounds of the participants which resulted in various perceptions and adaptations to the Australian education, this study demonstrates that perceptions are greatly impacted by the context in which they are situated. According to Wong (2012), students' experience of the environment is of greater influence on their perceptions than any other factors. As Ramsden (2003) argues, the key determinant of learning approach is students' perception of the educational context in which they are placed rather than the context itself. Thus, the teaching contexts, for example, teaching methods, curriculum design, and assessment system are contributing factors of students' choice of deep or surface approaches to learning (Entwistle & Ramsden, 1983).

In the analysis of data collected in the current study, the influence of learning context on CIS' perceptions was evident. For instance, despite the frustration and pressure associated with living and studying in a very different context, when student interviewees were asked which kind of teaching approach they preferred, most chose the Australian over the Chinese approach. Tongya (S9MM) detailed, *'in my perspective, [Australian teaching] is more encouraging of critical thinking, which is essential in almost every profession, and which seems to be a weakness in our traditional teaching'*. This positivity in CIS' perceptions was also evident in responses relating to their meeting their expectations about their university experience.

Stress and the natural reaction to this were also perceived by CIS participants as partly responsible for their reliance on some surface strategies such as memorisation, which conforms to what Biggs (1988) terms as "situational pressures" (p. 199). Situations such as time pressures and heavy assessment can arouse students' worries and anxieties, and thus drive them to handle the imminent task by means of reproductive strategies (Biggs, 1998). The opposite response occurs when situations are non-stressful, and this was evident in responses of both academics and CIS in interviews, where comfortable relationships and safe and supportive environments tended to elicit deeper responses. Peiqi (S10MF) stated that class engagement often depended on *'the*



*nature of the course, the teacher or the classmates*'. She reported she would speak up if she found the teachers approachable, or the classmates friendly. Similarly, Helen (A8RF), stressed that CIS' active participation in group discussion was more likely in relaxed environments *'so that they [CIS] feel comfortable asking questions and exchanging information'*. In these instances, CIS' perceptions of learning are "situationally sensitive" (Jones, 2002, p. 179), and "relational" to the learning context, for example, the attributes of teachers, makeup of cohorts, or teaching patterns, that the CIS perceived in specific situations (Ramsden, 2003, p. 82).

As argued by Wong (2012), students' perceptions of their learning approaches are contextualised. Instructional factors, for example, teaching methods, teaching focus, and assessment formats are more important than other factors in influencing students' perceptions and accordingly their learning approaches. According to Biggs et al. (2001) and Xie (2014), good instruction and appropriate assessment formats are more likely to arouse positive perceptions from students, and encourage the use of a deep learning approach, whereas unclear teaching goals and heavy workload are likely to enlist negative perceptions from students, and thus prompt surface learning. Jones (2002) distinguishes two categories of learning environments: traditional and non-traditional, arguing that the traditional learning environment, with lecture formats and exam-based assessments, is more likely to be perceived by students as unfavourable and thus be handled by surface learning. On the other hand, non-traditional learning environments, incorporating interactive learning activities such as group work and problem-based learning, are more likely to be deemed as favourable by students and thus encourage deep learning. This supports the contention that students' perceptions of learning are contextually constructed.

As summarised from the discussion, CIS' perceptions of learning approaches in Australia are first individually predisposed by students' personal factors such as personality, motivation, previous learning experience in China, and English language skills, which are influenced by individual experiences and expectations. In addition, CIS' perceptions are 'socioculturally construed' (Chou et al., 2013; Wang, 2015) by their traditional behavioural rules or their Confucian heritages (Wong et al., 2015; Xu, 2019 ) that provide a framework within which they create expectations and attitudes with regard to their learning in Australia, which are often characterised by collectivism and compliance of teachers (Heng, 2018). Finally, and most significantly, CIS' perceptions of learning approach are contextually constructed by the Australian environments provided to them (Wong, 2012), in accordance with the sociocultural viewpoint that learning is individually determined, socially supported and culturally situated and mediated (Ryan, 2011).

### **6.3 Chapter Summary**

This chapter provided a summary of the primary findings from the analysis of the data from both the surveys with CIS and ADS and interviews conducted with CIS and academics. The research questions were discussed in relation to the findings and linked to the bodies of literature that informed the study. A number of preconceived assumptions within the literature were challenged on the basis of the findings, particularly relating to stereotypes about Chinese learners. The discussion also highlighted the mutually adaptive process that most CIS go through, in conjunction with their lecturers in their educational journey within Australian HE, whereby they are shaped and constructed not only by the context provided, but also by the negotiation and adaption from each other. Finally, this chapter identified factors influencing CIS' perceptions of learning approaches in Australian universities. It was asserted that different perceptions led to varied learning approaches, and CIS' perceptions of their learning approaches is complex, and predisposed by individual differences, defined by their sociocultural backgrounds, and most importantly constructed by the learning context in which they are provided in the Australian tertiary educational context.

In the next chapter, the propositions and relevant implications from the study will be discussed.

## Chapter 7 Propositions and Implications

Building on the previous chapter where answers to the research questions were summarised and discussions derived from the findings were elaborated, this chapter will present an overall consideration of the propositions and implications of this research. The 3P model of classroom teaching (Biggs et al, 2001) will be utilised to feature the nature of CIS' learning and teaching in Australian universities, and to generate the proposed model: the Co-constructed Model of Learning and Teaching for CIS in Australian Universities, which, for expediency, will hereafter be referred to by the acronym CMLT. In each of the key themes in this proposed framework, the experiences of students' learning and academics' teaching have been collated and will be explained in light of the major propositions of the 3P model.

This chapter includes two parts, commencing with a proposition of the CMLT with the underpinning theoretical perspective, rationale and design of this framework. In addition, the factors that emerged from this study will be discussed in relation to the 3P model, providing an operational structure of the CMLT. In the second part, future implications associated with use of this model will be examined in relation to CIS, academics and institutions.

### 7.1 Co-constructed Model of Learning and Teaching (CMLT) for CIS in Australian Universities

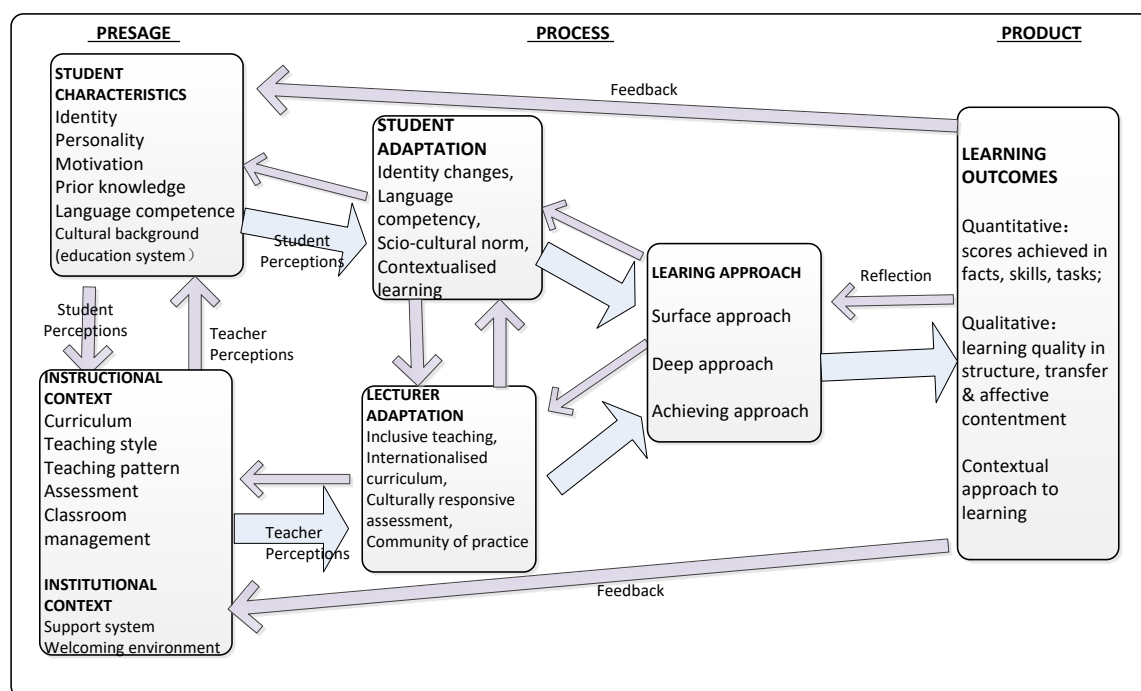
As stated in Chapter 1, an aim of this study was to determine a viable framework or set of guidelines to assist Chinese students and academics teaching both Chinese and domestic students to gain the most from their educational experiences. As expatiated in Section 6.2.3.2, CIS' learning and teaching in Australian universities is a co-constructed process. This process allows both students (CIS) and their lecturers to jointly perceive the context and to actively co-construct their learning and teaching by negotiation and adaption to each other. As a consequence, the CMLT is diagrammatised in Figure 7.1. This framework is underpinned by Biggs et al.'s (2001) student classroom learning model, integrated with the constructivist and socioculturalist perspectives of learning, to describe how CIS' learning and teaching are constructed by the joint perceptions of the context between themselves and their Australian lecturers in Australian institutions.

As conceptualised in Figure 7.1, CIS' learning and teaching comprises three stages. **The presage stage**, consisting of CIS' characteristics, instructional and institutional contexts, invokes both students and their lecturers to perceive each other regarding the nature of learning and teaching contexts in Australian universities. These perceptions give rise to mutual adaption from CIS and their lecturers. It is these adaptations that

directly determine the approaches students adopt in their learning, as shown in the process stage, and thus resulting in CIS' subsequent learning outcomes in the product stage, which, in turn, reversely impact on the perceptions of both CIS and their lecturers.

Figure 7.1

*Framework of Co-Constructed Model of Learning and Teaching for CIS in Australian Universities*



*Note. Adapted from "The Revised Two-factor Study Process Questionnaire: R-SPQ-2F" by J. Biggs, D. Kember and D. Leung, 2001, p. 136, British Journal of Educational Psychology, 71, 133-149. Copyright 2001 by the British Psychological Society.*

Specifically, **the presage stage** has three components: CIS factor, their lecturer and institution factors. CIS' characteristics such as identity as an international student, personality, learning motivation, previous knowledge, English language competency, and Chinese cultural backgrounds including their previous education, all play a part in their learning in Australian universities. Lecturers' factors refer to the instructional context created by academics in teaching CIS that are mainly manifested by curriculum, teaching style, teaching pattern, assessment procedures and classroom management. The institutional factor refers to the environment provided by Australian universities to allow internationalised learning and teaching to occur.

**The process stage** is composed of two coordinated sub-processes with one involving adaptations from CIS and their lecturers, and the other involving CIS' adopting an approach to their learning as a result of their adaptations. On one hand, CIS have to establish their Identity as international students, build language competence and adjust

their social-cultural expectations to fit requirements, and learn contextually in the Australian education system. On the other hand, Australian lecturers need to implement inclusive teaching by internationalised curricula, culturally responsive pedagogies and culturally tailored assessments. They need to create an authentic community of practice that includes all students including international and domestic students. The adaptations in this process can directly impact the approaches CIS adopt for their learning in Australia by choosing a deep, surface or achieving approach.

**The product stage** in this co-constructed model refers to CIS' learning outcomes that are evaluated quantitatively (e.g., how much is learned in terms of facts or skills as assessed by scores achieved, or tasks accomplished), qualitatively (how well it is learned, or the quality of learning in terms of learning structure, knowledge transfer and affective contentment) (Biggs, 1988, 1991, 1993), and contextual approaches to learning assessed by the mean scores derived from the R-SPQ-2F as an evaluation of teaching quality (Biggs et al., 2001). Feedback from CIS' learning outcomes has important effects on their future perceptions of learning, which invokes further adaptations and adoption of approaches to learning. Meanwhile, it is expected that CIS' learning outcomes also have a reflective effect on lecturers' future instructional decisions, and universities' future activities or policy making for the improvement of internationalisation.

The main thrust of this co-constructed model is to move forward, from presage stage via adaptation stage (of both students and their lecturers), to student learning process and finally to product, as displayed by the heavy arrows in Figure 7.1. As the inverse arrows demonstrate, each such element influences the other, so that students' approaches to learning will fit with the particular teaching context, for instance, the teaching methods applied and course being instructed, and to the success or otherwise of the outcome. Considering the dynamic nature of the factors involved in this CMLT mode, namely students, instructional and institutional at the presage stage, their perceptions, adaptations and learning approaches at the process stage, as well as the learning outcomes and the feedback generated at the product stage, this model is not mechanically and linearly static.

### **7.1.1 Theoretical Lenses Underpinning the Framework**

Empirically, this co-constructed model evolved from the quantitative and qualitative analysis of CIS' perceptions of their learning and the teaching they experienced in Australian universities in this study. As demonstrated in Chapter 6, Section 6.2.3, CIS' learning was a process whereby they perceived the situation in which they were positioned and altered their learning approaches accordingly in order to adapt to the Australian style of learning and teaching. As illustrated in the discussion, the learning

and teaching was a mutually adaptive process that involved negotiation and adaptation from both CIS and their lecturers. While CIS' perceptions of their learning were shaped and constructed by the instructional practices, it was also recognised that academics' instructional practices were concomitantly reshaped and reconstructed by their perceptions of this student cohort. That is, CIS' perceptions of learning and teaching in Australia were a contextualised co-constructed process, in which both students (CIS) and their lecturers jointly perceived the specific contexts that they were situated in from each other, and actively co-constructed their learning and teaching by mutual negotiation and adaption.

Theoretically, this co-constructed model is built upon Biggs et al.'s (2001) 3P model, coupled with constructivist and sociocultural views of learning. The generic sequence and constituents have been heavily researched by scholars including Marton and Saljo (1976), Biggs (1985, 1988, 1991, 1993), Biggs et al. (2001), and Ramsden (2003), and also have been empirically validated by the present study.

First of all, Biggs et al.'s (2001) Presage-Process-Product (3P) Model of learning has provided a fundamental framework for this proposed co-constructed model. Biggs (1978, 1985) conceptualises student classroom learning as a three-stage learning model (also see Figure 2.3), namely, presage, process and product, to illustrate the interconnectedness between student characteristics, teaching contexts, learning processes, and learning outcomes. According to Biggs (1985, 1988), the elements in the presage stage that comprise students' attributes and contextual features interrelate to determine the process stage - the ongoing approach students adopt to a particular task, which in turn, finalises their learning outcome - the product stage. Student learning, as explicated by Biggs (1985, p. 185), involves students' metacognition, or "meta-learning", that particularly concerns students' perceptions of their own cognitive resources, motivations, and task demands. Meta-learning, as defined by Biggs (1985, p. 192), refers to students' "awareness", or "perceptions" of motives and control over their strategy selection and deployment in their learning process. In Biggs' (1993) perspective, student learning involves mutual perceptions from both students and teachers. While teachers' perceptions of student factors, such as their motives or abilities, determine their teaching decisions (e.g., curriculum, teaching pedagogy, assessment), students' perceptions of the teaching context impact their motives and predispositions, and their immediate decisions for choosing specific approaches to their learning (e.g., deep or surface approach). Biggs (1985) maintains that students' capability of meta-learning determines how they perceive the learning context and structure their learning process, which, in turn, decides their orientation to learning. According to Biggs (1985), the process in the 3P Model entails two meanings, with the metacognitive meaning involving students'

perception of learning and the resultant decision on how, as a general strategy, to tackle the task in context, and the tactical meaning concerning students' cognitive process, whether higher or lower levels of learning are selected to optimise their learning. That is, learning process is "a composite of motivational state and strategy deployment that is consistent over situations" (Biggs, 1985, p. 210), with students utilising strategies in accordance with their motives, adopting deep or surface approaches to learning. Hence, the 3P Model is also called "Motive-Strategy Congruence Model" by Biggs (1985, p. 192).

The ideology of meta-learning suggests that students' learning not only involves mediation and adaption from students but also from their lecturers (Biggs, 1985). It implies that lecturers endeavour to match instructional objectives, teaching processes, and evaluation procedures to that of students' perceptions of learning, and try to intervene or change students' learning approaches where it is seen to be maladaptive in order to maximise their learning experience. Conceptualised in this study, CIS' learning approach involved the deployment of strategies to handle the learning task based on their personal characteristics and the perceptions of their specific learning context. The deployment of strategies is associated with their adaption to the instructional and institutional context in Australian tertiary education.

According to Biggs (1991), the focus of the 3P model is not on the framework of courses or assessment itself, but rather on how ongoing learning is constructed from this framework. Therefore, it is the process stage that is at the heart of the 3P Model, which actually determines whether or not the learning-related activity produces the desired outcomes. The 3P construct is a "descriptive framework, which helps order the components of a particular system in a coherent way" (Biggs, 1993, p. 15), under which, student learning is deemed to take place in a particular teaching context that directly affects both the nature of the learning, and its outcomes. Biggs (1993) states:

Given an individual's goals, self-perceptions as to ability, the mode of teaching and assessment, the outcome, and the students' attributions for that outcome, so the students will after exposure to a particular teaching/learning environment, find a certain approach to be viable and personally comfortable in day-to-day coping with that environment, and thus be predisposed to use deep or surface strategies for particular tasks in that context (p. 10).

Second, apart from the 3P model, constructivist viewpoints of learning have provided theoretical underpinnings for this co-constructed model. A constructivist perspective views learning as individually constructed, with learning constructed by accommodating experiences (Duffy & Cunningham, 1996). Constructivists also believe that learning is contextually determined, through specific interaction between learners

and the context. Jonassen (1991) argues that the construction of knowledge depends on what learners already know, which depends on their previous experiences and “how they have organised those experiences into knowledge structures, and the beliefs they use to interpret objects and events that they encounter in the world” (p. 11). In other words, constructivists believe that learning is moulded and constructed by the context in which individuals’ previous knowledge and attitudes play a key role. Accordingly, the instructors’ role is to cater for student learning at different developmental stages by providing related experiences to support students’ learning by doing.

Third, Vygotsky's sociocultural perspective of learning has set another theoretical base for this suggested model. As discussed in Chapter 3, Section 3.2, sociocultural theory, also referred to as social constructivist theory (Vygotsky, 1978), emphasises the influence of social, historical, and cultural milieu on student learning. Focusing on the function of social interaction and cultural context in learning, socioculturalism stresses that learning occurs by adaptation in social interaction and appropriation through social participation. That is, learning is a dynamic process constructed through a process of adaption as individuals participate in social practice. As such, learning is a process of social involvement, which occurs by “negotiation of meanings” within particular “communities of practice”, in which learners construct their identities (Wenger, 2000, p. 229). According to Moore (2003), learning is “situated, active and interactive” (p. 11), and “embedded in and constructed by social, cultural and historical processes” (Renshaw, 1998, p. 85). That is, learning is socially and culturally situated and mediated.

The sociocultural theory of learning has profound implications for the construction of CIS’ learning and teaching in Australian universities. Learning is thus a progressive adaptation with CIS predisposed by what they inherited from previous experience and actively constructed through interaction with the context, namely, their lecturers, pedagogy, curriculum and assessment. CIS’ learning is also an adaptation for the lecturers to perceive the context, i.e., the students’ motivations and strategies utilised, to change their instructional practices to adapt to the students. The social-cultural views justify the mutual perceptions of student factors and teaching context in the co-constructed model, and also the mutual adaption of this culturally negotiated co-constructed model between students and their lecturers, which explains the reversal arrows between the personal factors of CIS and their institutional and instructional context factors at the presage stage in the co-constructed model in Figure 7.1.

### ***7.1.2 Factors Included in the Co-constructed Model***

**Individual Factors.** As elaborated in this study, CIS’ individual differences greatly influenced their perceptions of learning approach in Australia. A multitude of



'personological factors' that can predispose CIS' adoption of deep or surface learning in Western universities (Biggs, 1985) can be identified in the academic literature, for example, CIS' self-esteem and locus of control (e. g., Biggs, 1985; Watkins, 2001), learning aptitude (e.g., von Stumm & Furnham, 2012), conception of learning (e. g., Entwistle, 2002; Phan, 2012), and orientation to learning (e.g., Clason, 2014; Wong et al., 2015).

However, this study pinpointed that CIS' perceptions of learning approach were individually predisposed, and particularly influenced by their learning characteristics. As explained in Section 6.2.4, CIS' personal factors such as personality, motivations for studying, prior learning experience in China, coupled with English language skills, were all influential to their perceptions of learning in Australian higher education. In addition, CIS' perceptions are 'socioculturally construed' (Chou et al., 2013; Stead & Elliott, 2013), and influenced by their traditional behavioural rules or Confucian heritages with regard to expectations and attitudes towards their learning in Australia (Chou et al., 2013). Furthermore, the Chinese education system has been found to influence students to be more product-centred and memorisation-inclined, preferring teacher-directed instructional learning. CIS' language competency was also found to be more influential than other personal factors on their learning experience in Australia.

Accordingly, integrating what was found in this study with the literature in this regard, this study proposes that students' individual factors in the presage stage rationally entails the following elements of immediate relevance to the aim of this study: CIS' identity as internationals, their personality, motivation, previous learning experience, cultural values including education system, and language competency.

**Instructional and Institutional Context.** Literature reveals that a variety of instructional factors affect students' choice of learning approaches (Xie, 2014). For example, good instruction and appropriate assessment are more likely to encourage students' use of deep learning approach (e.g., Biggs et al., 2001; Xie, 2014), whereas heavy workload and unclear teaching goals are likely to motivate surface learning (e.g., Dolmans et al., 2016; Wong, 2012). Other factors, such as clear teaching objectives (Biggs, 1999), and proper teaching methods (Dolmans et al., 2016), contribute to the cultivation of students' deep learning approach. It is also evident that teaching efficacy goes well beyond the influence of the teacher to include the whole teaching-learning environment, particularly assessment procedures (Entwistle & McCune, 2004).

As was specifically revealed in this study and well expatiated in the discussion in Section 6.2.3.1, instructional factors such as curriculum, teaching pedagogy, assessment and classroom climate were particularly relevant to CIS' learning and teaching in Australian universities, and greatly impacted on their perceptions of learning, and thus on

their adoption of deep or surface learning approaches. As was also explained in the discussion in Section 6.2.3.2, academics' practices including teaching style (pattern), teaching focus and assessment formats were influential contributing factors for CIS' perceptions of their learning approaches in Australian universities. Accordingly, those elements were considered to be appropriate inclusions in the teaching context in the presage stage in this co-constructed model.

Additionally, this study highlighted the importance of institutional practices on CIS' perceptions of their learning approaches in Australian universities. As revealed in Chapter 4, Sections 4.4.1 and 4.4.2 support mechanisms implemented by Australian universities played a key part in CIS' perceptions of learning in Australia. Although current support structures were acknowledged, limitations and possible adaptations were identified as important in terms of creating a welcoming environment to support students' learning context.

**Mutual Adaptation.** To expand and enhance Chinese students' learning experience in Australian higher education, mutual adaptations were suggested in the co-constructed model (Tan, 2011). Given the internationalisation objectives, as set by many universities to cultivate 'global citizens', and by international students to gain 'global citizenship', mutual adaptations from both Australian academics and Chinese students were elicited in the internationalised teaching of Chinese students, as demonstrated in the co-constructed model. In other words, an internationalised classroom involves mutual negotiation and adaptation from both parties, that is, lecturers and their students. As Deakins (2009) states:

[International] education will only be valid ... when something changes in the culture of both [the students and the teacher] so that a common culture is created that is different from the original cultures of both teachers and students (p. 211).

As a consequence, there appears to be an expectation that Chinese students in Australia work to overcome challenges associated with identity change and English language confidence, and to adopt adaptive learning approaches to socioculturally adjust to the Australian learning system, which could make a difference to their academic success and thereafter their career trajectories. Similarly, Australian academics are expected to implement inclusive teaching, providing internationalised curriculum, culturally responsive assessment, and involving both international and domestic students into a community of practice in order to accommodate the learning approaches of, not only culturally diverse student cohorts such as CIS, but also local students.

**Student Adaptation.** Chinese students' language skills now and then have been documented as a potential concern for their academic performance in Western

universities. For example, Briguglio and Smith (2012), Heng (2018) and Wu (2015) have unanimously argued that English skills are the number one academic challenge for most Chinese students studying overseas, and this was supported in the current study. In order to adapt to Australian learning and teaching, Chinese students, first and foremost, have to enhance their English proficiency particularly in written and conversational skills. Second, as indicated in this study, CIS' learning experience requires them to acculturate to Australian sociocultural norms, particularly in academia, familiarising themselves with the expectations for active, interactive learning and critical thinking in Australian tertiary education. Moreover, to maximise their learning experience in Australia, it is necessary for CIS to learn to study contextually based on instructional demands and institutional environments, as outlined in Section 6.2.3.

**Teacher Adaptation.** The CMLT model advocated a reciprocal adaptation between the lecturers who taught and their international (e.g., CIS) and domestic students. As Tan (2011) points out, to implement culturally negotiated co-construction of learning and teaching, there is a need for two-way learning and mutual adaptation. Students from diverse ethnic backgrounds require unique support to study in Australia (Wong et al., 2015), but compromise by both faculties and international students is essential to ensure their smooth transition. Cross-cultural teaching is conducted on the basic premise that both students and their lecturers equally value the conception of cultural diversity to achieve successful integration and communal benefits from international education (Kingston & Forland, 2008).

In response to the growing numbers of international students, particularly from Mainland China, substantial research has been conducted on the accommodation of these international cohorts. Wu (2015) highlights the importance of intercultural pedagogy in the internationalised curriculum, which sieves the teaching and learning process and practices through intercultural perspectives. Ryan (2011, 2015, 2016) advocates a 'transcultural approach', or 'cosmopolitically sensitive education' (Ryan & Louie, 2007, p. 416), to teach international students from China. Transcultural education involves the creation of a culture-inclusive teaching and learning classroom climate, and also culture-responsive curricula (Heng, 2018). Clark and Gieve (2006) propose a co-constructed teaching approach with instructional materials and forms of assessment jointly structured by students and their lecturers. Lave and Wenger (1999) emphasise the importance of the social and cultural milieu of teaching and learning contexts and the 'communities of practice' that exist in teaching and learning environments through the co-construction of knowledge by teachers and learners.

In view of the aforementioned discussion, this study proposes Australian lecturers adopt internationalised curriculum, culturally responsive pedagogy, moderately shifted

assessment modes and the creation of a 'community of practice' to accommodate all students including international and domestic students, particularly CIS in Australian universities as schematised in Figure 7.1.

Ideally, in this proposed model, all international students are expected to appropriately adapt based on their perceptions of the teaching context, and thus engage effective learning approaches to tackle the task, as displayed in Figure 7.1. However, there are various possible adaptations between students and teachers to support learning. For example, a student who has typically perceived the challenges arising from the teaching context and coordinated their learning to adjust to the requirements of, say, language skills, may engage with learning deeply, and in such a case, may also adopt an achieving approach to strengthen their deep learning to achieve the learning outcomes. On the other hand, another student who has failed to ascertain the challenges may continue with previous strategies which may have been more surface or achievement oriented. In the same way, if a lecturer has perceived students' learning accurately, and planned contingently in terms of curriculum, pedagogy and assessment, they are likely to be a propeller for students' deep learning, rather than a catalyst to students' surface learning.

**Process Stage.** As discussed in Section 6.2.1.2, the achieving approach as a third category to the deep/surface constructs appears to be applicable for CIS in Australian universities. This supports findings by Biggs (1991), Biggs and Watkins (1996) and Tan, (2011), that students from Confucian Heritage Cultures are strategic and learning is often regarded as 'a means to an end', and thus the achieving construct is relevant in the current study and thereby included in the co-constructed model.

**Product Stage.** As specified by Biggs (1993), the product of student learning in the 3P Model encompasses students' quantitative outcome such as grades in test or exams, qualitative performance in learning quality or personal development, and students' affective involvement in their experience such as the contentment with whatever level of performance is attained. Additionally, Biggs et al. (2001) maintain that the contextual approach is also an indicator of students' learning outcome at the product stage of the 3P model. As measured by the mean scores obtained in the R-SPQ-2F, the contextual approach can be used to describe the disparities of teaching contexts and students' general learning. Biggs et al. (2001) claim that the context is indicative of the teaching quality of a certain cohort, with mean score disparities implicating whether or not the teaching context is constructively aligned to promote deep learning. Context is also suggestive of students' learning with disparities implicating whether learning is predominantly deep (when the 3P system is working properly) or predominantly surface learning (when the system is not working properly). As such, the present model specifies

the elements of the product stage as quantitative and qualitative outcomes and contextual learning.

As such, the included factors in the CMLT were specifically detailed with elements deducted primarily from the findings of this research as well as the previous literature. However, it should be noted that CIS' learning and teaching is a complex process with various elements involved, and thus the factors listed in this model represented the main findings in order to provide an overall picture. Other factors, such as CIS' conceptions of learning, lecturers' personality, teaching aims and classroom climate, were not listed due to the limited space in Figure 7.1, but it did not mean that they were unimportant.

### ***7.1.3. Highlights of the Co-constructed Model***

This model highlights the intermediation of adaptation between the presage and process stage as well as mediation of learning approach between the process and product stage, as demonstrated by the flow of arrows in the CMLT model. Adaptation, by no means, originates solely from individuals' perceptions of the context in which learning and teaching take place. For learners, their perceptions of the instructional and institutional context (i.e., curriculum, teaching styles, teaching patterns, assessment, and the environment provided by Australian universities) that interplay with their individual characteristics determine their adaptation in their learning process. For example, in order to adapt to the Australian way of learning, it is important to establish identity as international students, build English language competence, acculturate to Australian sociocultural norms, and learn contextually in the Australian system. For lecturers, their perceptions of the learners' context (i.e., their identity, personality, learning motivation, previous knowledge, English language competency, and cultural backgrounds including their previous education) prompt them to change to adapt to students' learning. For example, they could choose to internationalise their curriculum, adopt inclusive teaching practices, build culturally responsive pedagogy, apply culturally tailored assessment, and establish communities of practice with all learning cohorts included. The adaptations from both learners and lecturers are combined to determine the students' adoption of learning approach (i.e., deep, surface or even achieving approach). While students' learning approach determines their learning outcome manifested in quantitative, qualitative or affective manners, or contextual approach to learning, as illustrated in Figure 7.1., students' outcomes counter-determines their learning approach by providing feedback to either prompt or hinder the use of a particular approach to learning, which, in turns, invokes further adaptations from both the students and lecturers, and also from institutions by policy-making. In such a way, adaption is a changing and evolutionary process.

#### **7.1.4 Utility of the Co-constructed Model**

The CMLT is formulated basically on Biggs' 3P Model of learning, theoretically integrated with a constructivist, sociocultural lens, and empirically built upon the nature of CIS' learning and teaching in Australian higher institutions as discovered in this study. It is expected this model could set up a viable framework or set of guidelines to assist international students, particularly Chinese students, and academics who teach international students (such as CIS) and institutions hosting international students (such as CIS) to gain the most from their international educational experiences. The present model does not prescribe or generate how a single course or assessment procedure should be enacted. However, it is sufficient to draw attention to some of the ways in which this model may assist. It is anticipated that increased awareness on the part of both international students and lecturers who teach them will assist in making the learning and teaching experience more successful. An understanding of the conceptualisation and operationalisation of learning approaches in Australian universities will enable negotiation and adjustment of learning characteristics with appropriate instructional practices to maximise the internationalised learning and teaching experience.

The CMLT model aims to expatiate the perceptions of the CIS and their lecturers regarding approaches to learning in Australian universities, as well as effective strategies they chose to adapt and adjust their learning and teaching. It could be utilised, first of all, for international students, such as CIS, to make sense of their learning approach in order to better adapt to learning and teaching in Australian universities. Second, this model aims to assist academics teaching both international and domestic students by highlighting students' learning characteristics to enable adaptation and foster deep learning. Third, this model can be utilised by institutions hosting international students such as Australian universities to provide a deeper understanding of how to create more welcoming and supportive environments to enhance the appeal to international students, such as CIS, which is important in countering post pandemic financial concerns in Australian higher education.

#### **7.2 Implications**

As illustrated in Figure 7.1, the CMLT highlights the function of adaptation, from students, lecturers and institutions, in students' adoption of particular learning approach. The model developed in this study may abound in multiple implications, but the most significant would include studies of CIS' adaptation in their study in the Australian higher education system. The most important implications also include studies of the

instructional and institutional contexts under which CIS' learning and teaching are to be enhanced in Australian higher education.

According to Biggs (1993), student learning occurs in an interconnected open ecosystem, in which each component interacts with all the other components, and any change may "generate fresh predictions" resulting in "reverting to the status quo" (Biggs, 1993, p. 76). As such, based on the proposed co-constructed model and integrated with what was implicated in the analysis of CIS' learning and teaching in Australian universities, this research elaborates the implications relevant to CIS' learning and teaching from the following three perspectives: the CIS themselves, Australian academics teaching both CIS and ADS and institutions hosting international students.

### ***7.2.1 Implications for Chinese International Undergraduates***

To optimise CIS' learning experience in Australia, it is important for them to actively construct learning by adapting themselves to Australian way of learning rather than passively waiting for the transfer of knowledge (Wong, 2012). As implied in the data analysis, it is imperative for CIS to:

- 1) Enhance the voice of international students
- 2) Build English language confidence
- 3) Acculturate to adapt to the Australian learning system, and
- 4) Learn contextually to contribute to the international perspective of Australian education.

**Enhancing the Voice of International students.** This study implicated that CIS' learning in Australia is an adaptive process, during which it is imperative for them to seek their academic voice in Australian higher education. As indicated in the current study, CIS were frequently found to be voiceless in class, particularly in relation to questioning and answering, group discussions and presentations. While CIS' voiceless behaviors could be attributable to personal traits such as shyness and modesty, and cultural mores associated with showing reverence to teachers, remaining silent while teachers are speaking, and never challenging them, issues associated with their identity struggle and identity formation could also be the primary reasons, as found in the current study, in addition to other reasons such as lack of confidence in English competency. This study highlighted the necessity for CIS to adapt to enhance their academic voice so as to establish their new identity in Australian universities.

Voice, as defined by Prior (2001), is the way individuals articulate their stances towards subject matter, representing or identifying themselves in communication (Narayan, 2012). Voices, in some ways, are representative of one's identity, with 'louder voices' signifying higher identity. To enhance CIS' academic voice is, in fact, a way to

establish their identity in Australian universities. As proposed by Ai (2017), international students such as CIS need to confront various challenges, of which the most complex is the necessity to enhance their voices by constructing their academic identity in the host institution. Identity is generally defined as individuals' understanding of who they are and of who other people are, and, reciprocally, of what is other people's understanding of themselves and others (Jenkins, 2004). Giddens (1991) defines identity as a kind of social control that performs a protective function, giving individuals confidence and contributing through reflection to the formation of a sense of security against their daily life risks. Antonova and Gurarii (2020) argue that an identity serves as a guideline in a self-determination process, helping individuals to cope with uncertainty in terms of student mobility. In Ai's (2017) view, identity varies with the change of social and cultural context, though one's ethnic identity may be intentionally kept.

Transnational education is, indeed, a process of new identity construction, whereby the dominant social and cultural discourses gradually become a part of one's consciousness or inner self (Ai, 2017). Kostogriz (2006) uses the concept of 'space' to construct international students' identity. For Kostogriz, space change gives rise to stress and discomfort, but it is crucial to construct a new identity so as to live a decent life. Kostogriz (2005) proposes international students to occupy 'the third space', where they enable the shared cultures and knowledge to be learnt from each other in order to enhance their academic voices and form their new identity, rather than assume the learning is all one-way behavior in favour of the host culture. As Crozet and Liddicoat (2000) argue, "the 'third place' notion refers to a comfortable unbounded and dynamic space which intercultural communicators create as they interact with each other and in their attempt to bridge the gap between cultural differences" (p. 1). It is the in-between or hybrid space which merges the first space (e.g., the sojourners' own culture and language) and the second space (e.g., the host culture and language). An intercultural third space is a common area and bridging point for international and domestic students to seek for "a new area of negotiation of meaning and representation" (Bhabha, 1990, p. 211). Kostogriz (2005) argues that the 'third space' is an empowering space, where international students such as CIS can learn to negotiate cultural meanings and establish their identity.

While studying abroad, CIS' identity construction is embedded in the process of their transcultural education, where they are confronted with two different social and cultural systems: the Chinese and Australian one. Therefore, how to cross those social-cultural as well as spatial differences to construct their academic identity is challenging.

While studying in Australian universities, CIS are exposed to both Eastern and Western cultures. On the one hand, CIS are practitioners of Chinese deep culture, and



their lived experiences are representatives of the values, behavioural norms and standards of the Chinese social and cultural systems. On the other hand, they have to adjust to formal and informal behavioral practices of the local academic and campus traditions by reproducing in their daily life and study. That is, CIS are in an “outsider within” position (Ingram & Abrahams, 2015, p. 153), being ‘insiders’ of the East and ‘outsiders’ of the West, which has created a ‘third place’ for them. CIS could learn to understand, distinguish between, and negotiate an inclusive space of eastern and western, where they can hybridise the knowledge and practices of linguistic and cultural features of Chinese and Australian systems. In this shared space, they could learn to amplify their voices by change from mere ‘listeners’ to a wide range of voices from others (mainly ADS) in Australian classroom to active ‘speakers’ with those voices.

The current study demonstrated that CIS could manage to amplify their voices by manipulating the ‘third space’ well. For example, Peiqi’s (S10MF) and Zheng’s (S7RF) learning experiences evidenced a dynamic tension in their process of accommodating and transpositioning the Australian learning system, but by the end, they both achieved their voices in Australian classrooms, behaving similarly to typical ADS, proactively questioning and answering questions, and presenting or reporting in a native-like way. It is common for CIS to join the local ethnic community, particularly when they first arrive, which, after all, allows them to preserve their language and culture, traditions and customs, assuring them a sense of belonging and security. However, while integrating with their home country peers, CIS need to step out from their ‘comfort zone’ into ‘the third space’, mixing particularly with their ADS peers, which is beneficial to voice amplification and identity formation, let alone other merits such as practicing and improving English language competency and acquiring a better understanding of the Australian culture and particularly the associated academic culture.

**Building English Language Confidence.** English language proficiency has always been highlighted as a key factor that impacts on CIS’ learning experiences in Western universities. Many studies have discussed the influence of the limited English language competence and the related issue of unfamiliarity with the cultural norms of the host country on intercultural adjustment. For example, Li, Chen and Lin, (2010) argue that language proficiency is predictive of international students’ academic achievement. According to Ye (2018), stronger English language competency tends to result in superior academic performance while inadequate English competency negatively impacts international students’ adaptation to their new environment, e.g., mixing with host students.

The current study identified English skills, particularly verbal skills, as a key issue contributing to challenges encountered by CIS in Australian universities. Both Clason

(2014) and Wu (2015) agree that lacking confidence in speaking English can render CIS reluctant to participate in class discussions or ask questions in class. It can also impact on their interactions with local students, which was highlighted by both student and academic interviewees in the current study and exemplified in Kun's (S6RM) statement that, '*a common problem for Chinese students is that their spoken English is not good enough to communicate with local students freely*'.

Other issues related to language competency were raised by academic interviewees. Eliza (A5MF) saw it as a reason for CIS' limitations with critical thinking skills, as she explained '*once they [CIS] got that confidence [in language], they honed their skills in critical thinking, and were able to make terrific contributions*'. Albert (A1MM) also pointed out that some CIS' reliance on memorisation in their learning was '*out of their deficient English skills*', as they might fear being unable to express themselves clearly in exams, and thus resort to memorising certain phrases or paragraphs verbatim and regurgitate it during exams.

A lack of English language proficiency amongst Chinese overseas students is well documented in the literature. For example, Briguglio and Smith (2012), Wong (2012), and Wong et al. (2015) argue that Chinese students' lack of proficiency in English hinders their active participation in class, leading to their lack of confidence in approaching ADS, and resulting in their inability to benefit from the "Australian experience" (Briguglio & Smith, 2012, p. 17). Heng (2018) states that CIS' lack of confidence in English speaking often causes issues including classroom anxiety, difficulty in understanding course content, and the breakdown with peer communication resulting from difficulty in verbal expression. With inadequate English conversational skills, some Chinese students are afraid of being laughed at or losing face in front of the class, and hence only seek individual conversations with academics after class.

When discussing CIS' English competence, Albert (A1MM) raised an important point, about the difference between general context English and academic English, which can be challenging even for English speakers. It was Albert's contention that competency was specifically linked to confidence, thus '*if CIS' English is improved, their confidence would be greatly enhanced*'. As such, there is a need for Chinese students to boost their confidence by enhancing their language competency, enabling them to surmount challenges confronted in their study in Australia. As realised by several student participants in this study, CIS need to step out of their comfort zone, more confidently and proactively participating in learning activities, which essentially impacts on their academic success and social adjustment. Li et al. (2017) argue that in order to acclimatise into the host university, CIS need to seek opportunities to integrate with

domestic students, practicing and honing their conversational skills above and beyond the formal aspects of learning a foreign language.

**Acculturating to Adapt to the Australian Learning System.** Another parallel implication for CIS concerns their adaptation to the Australian learning system, particularly in terms of learning style and academic conventions. Consistent with previous studies on CIS (e.g., Watkins 2000; Heng, 2018; Ye, 2018), the current study demonstrated that CIS were expected to be autonomous, independent, participative and be able to read critically to form arguments and to structure essays and reports. Researchers such as Biggs (1996) and Watkins and Biggs (2001) found that taking charge of their own learning and classroom participation poses particular challenges for CIS, who generally experience a difficult transition to the autonomous and student-centred learning style extensively regarded as essential for success in a Western academic culture. Furthermore, unfamiliarity with academic conventions and expectations also presents challenges for CIS, as argued by researchers such as Campbell and Li (2008), Wong et al. (2015) and Heng (2018).

Chinese students grow up in a collectivist culture (Simpson et al., 2010), learning to not confront or challenge others, not to interrupt when others are speaking unless invited, particularly in relation to those superior in social rank such as teachers. This is obviously contrary to the Australian individualistic culture (Heng, 2018), where students are encouraged and expected to voice their opinions and challenge authority (Wong, 2012). However, it becomes even more confusing for CIS with regard to the practice of referencing and plagiarism, as the strict conventions appear to be contradictory to the individual freedom of thought that is promoted in discussions.

Literature highlights international students' intercultural adaptation in the adjustment to the host learning system, which, by nature, is a stress-adaptation-growth dynamic (Kim, 2001). That is, when international students enter a new education system, they experience stress such as anxiety and frustration, going through the process of enculturation and acculturation, and then achieving personal growth or self-transformation. When arriving in a foreign land, it is natural to experience 'academic shock', which is, something like 'culture shock', a state of bewilderment and distress experienced by individuals who are suddenly exposed to a new, or foreign academic environment. This is partly due to their ignorance of the related norms, expectations, and requirements in the new academic context. As demonstrated in the current study, during the process of CIS' intercultural adjustment to the new learning and teaching system in Australia, they experienced different degrees of academic shock, which could be witnessed by their adaption to the language use, academic expectations, and even the friendship communication network patterns. As acknowledged by some CIS participants,

the 'communication failure' between themselves and ADS often resulted from 'language shock', a frustration resulting from their inability to engage in verbal communication with ADS, leading them to avoid such situations.

As suggested by Albert (A1MM), while acculturation into the new system can bring about some potential negative outcomes such as psychological stress and cultural fatigue, it provides benefits for culture learning, self-development and personal growth. This study also demonstrated that, despite various acculturative challenges and struggles, most CIS had managed to survive the demands of the new learning system, and to adapt and thrive in Australia. CIS' journey to change to adapt could be well represented by Peiqi's (S10MM) personal growth. In the interview, she reported how she had changed from a shy girl who was afraid of public speaking and thus reluctant in answering questions unless requested by the lecturer, to someone who frequently sought the chance to speak out in class or group discussions. Another student participant, Zheng (S7RF), commented on her acculturation in Australia:

*At first, my learning was more inclined to the Chinese way...just attending classes and completing homework. However, after contact with more local students, my learning style was gradually coming closer to theirs. I learnt to search for what I was interested in, and take the initiative to offer answers in class and post questions like ADS do (S7RF).*

Zheng also reported how her zeal for answering questions in class had led to one of her Australian lecturers reminding her Australian to allow other quiet students an opportunity to answer. As suggested by Ye (2018), while studying abroad presents challenges, it also provides international students with opportunities to experience different cultures and engage with cross-cultural negotiation, develop critical cultural awareness and gain intercultural competence through learning in the 'third place'. As outlined in the findings related to CIS' perceived advantages of studying in Australia in Section 5.1.2.7, intercultural learning had the potential to bring about profound change, transforming understandings of teaching and learning, and promoting academic and personal growth, self-knowledge, awareness of other values and worldview.

**Learning Contextually to Contribute to the International Perspective of Australian Education.** It was evident in the current study that CIS actively endeavoured to acclimatise as discussed in Section 5.1.2.6. However, it was identified that during their acculturation, they could take the initiative to learn contextually so as to contribute more to the international perspective of Australian higher education. As suggested by Ye (2018), CIS could pursue a more proactive use of their 'agency' in their sojourning stay in a foreign country. Wang and Greenwood (2015) also point out that Chinese overseas students are a potentially valuable resource for the internationalisation of teaching and

learning whose contribution and initiative can affect the process and achievement of cosmopolitan education in Australia. That is, Chinese students can become what Marginson (2014) termed as 'active agents' in the Australian environment.

The current study also draws attention to the issue of the broader social cohesion between CIS and domestic students in Australian universities. There was mention of 'segregation' by both ADS and CIS, who found in practice that it was hard to integrate. Chinese students whose English language skills were insufficient often lack confidence in communicating with ADS, which, was sometimes perceived as unwillingness. Chinese students were often observed to congregate together in class or in libraries or laboratories, which was seen by ADS as a distancing measure. Beelen and Jones (2015) argue that cosmopolitan education, or internationalised education, offers students, both international and domestic, the opportunity to interact, and it is this kind of interaction that facilitates their understanding of and preparation for what it means to be a global citizen. Hence, academic interviewee Albert (A1MM) suggested the best approach for Chinese students was to work with students from other countries so as to contribute an international context to their study, but also to learn from the Australian students and help develop language skills.

In Kettle's (2005) perspective, international students have the autonomy or agency to learn actively in a new academic context. Ryan (2011, 2015) proposes international students be contributors to the development of good practice in the internationalisation of higher education. As such, there is a need for Chinese students to step out of their own cultural net to take the initiative to socialise and even make friends with students of other nationalities, particularly domestic students, which is not only beneficial to their practice of English, but also the contribution and cultivation of global citizenship in Australian tertiary education.

### ***7.2.2 Implications for Academics***

The current study demonstrates that academics can play a more active role in facilitating the experience of CIS' studying in Australian universities. As indicated by the CMLT in Figure 7.1, to further support CIS' learning, Australian academics could focus on the following four aspects:

- 1). Understanding CIS' learning and accommodating appropriately
- 2). Implementing inclusive teaching
- 3). Establishing a rapport with CIS, and
- 4). Properly organising group learning.

**Understanding CIS' Learning and Accommodating Appropriately.** CIS' learning approaches in Australia are underpinned by a complex interplay of schooling, societal,

and cultural expectations (Heng, 2018). Chinese students' learning is grounded in cultural norms and previous learning experiences in China, together with their transition from high school into university, or from China into Australia, such that their entry into a new academic context in Australia presents challenges to pre-existing learning systems. These challenges can be addressed by the adoption of a new approach to harmonise the contradictions between CIS' learning characteristics and academic demands. It is important that academics understand this complexity, which in some cases may require a level of 'unteaching' in relation to what active participation and interactive teaching means, as advised by academic interviewee Albert (A1MM).

Chinese students are deeply influenced by Chinese culture and the Chinese education system. As such they are unfamiliar with the academic practices prevalent in the Australian system, such as being actively participative in class discussions and willing to contest other points of view, even if it means challenging their peers or lecturers. To help CIS acculturate, it may require what one of the academic interviewees (Albert, A1MM) suggested - that, *'we almost need to unteach them by explaining that certain things are acceptable in Australian education, like free expression in discussion but then you are more limited in what you can write because it all has to be fully sourced'*. This was also supported by another academic, Isabel (A9RF), who deemed it essential for lecturers to guide CIS who were brought up in a different teaching system underpinned by *'specification and instruction'*. Isabel perceived that Chinese students were generally less spontaneous and more likely to conform to their teachers' instruction with a preference for didactic style and teacher-centred teaching. Therefore, it is important that academics engage in a form of *'re-education'* with international students in their initial phase by clarifying the teaching objectives, pedagogies and expected learning approaches, and then guide them to be more self-directed in their study.

It is equally important for academics to differentiate their teaching but not just to cater for the international students in their classes but also for the diverse learning needs and preferences of all students including their domestic and other international students. It is not unusual for domestic students to also have challenges adjusting to university learning, including the more open forums for discussion and academic language conventions, so accommodations by academics need to be contextual but also specific.

Academic interviewee Albert (A1MM) used the term *'unteach'*, stating the proviso that, *'to unteach CIS' does not mean dissimilating CIS' own cultures, nor does it mean 'Australianising' them or assimilating by imparting Australian cultural norms, as argued by Foster (A6RM)*. Instead, it means raising CIS' awareness of the different educational protocols and supporting them to adapt their learning to the Australian context. As such, for academics teaching CIS, part of their professional development should include

understanding different educational contexts, such as the Chinese one, to enable differentiation to be culturally responsive and contextually appropriate. It may, however, be more advisable to take an institutional rather than individualist approach to accommodating international students, such as through implementing inclusive teaching.

**Implementing Inclusive Teaching.** As discussed in Section 1.2.2, with an accelerated presence of international students from Asia, particularly from China, on Australian campuses, it is important that Australian institutions implement inclusive teaching. As Chinese students comprised the majority of the international student population (37.3% in 2019) in Australian tertiary education, effectively accommodating this specific cohort is imperative. It needs to be acknowledged that post COVID-19, this situation may change significantly, but at the time of writing, this was the current context.

Some literature draws on a “different but equal” multiculturalist discourse on the uniqueness of Chinese learning approaches, either by encouraging mutual accommodation in intercultural education (Clark & Gieve, 2006, p. 56). For instance, adopting Jin and Cortazzi’s “cultural synergy” proposal (2011, p. 235), or the critical pedagogical approaches that embrace difference and diversity, such as Heng’s (2018) “hybridised cross-cultural education” (p. 24), and critical awareness of hegemonic positions. Biggs (2003) argues that rather than attempting to assimilate ‘different’ students into the host culture, or having lecturers accommodate perceived student differences, an inclusive teaching model that focuses on the commonalities between students is needed. As recognised by Volet and Renshaw (1996), while international students undoubtedly have special needs regarding the provision for language and other supports, it is unnecessary to further differentiate them in curriculum.

In alignment with Biggs (2003), the current study shows that most of the academics interviewed deemed it challenging and perhaps unfeasible to adopt various teaching methods to accommodate mixed groupings of international and domestic students. Some issues with the present internationalised teaching in Australian universities were identified by the academic participants as presented in Section 5.2.3.3. For example, the most widely used curriculum at present is still predominantly Australian-based instead of internationally based. However, such curricula, as pointed out by Ryan (2011, 2015), tend to be characterised by demanding a one-way adaptation from the international students (or fixing them) with the onus of learning placed on the students, which can disempower and even alienate international students. Ryan (2011) advocates multidirectional curriculum to be implemented in inclusive teaching, which calls for co-construction and mutual negotiation and adaption from not only students but also their lecturers. As argued by Webb (2005), in internationalised teaching, or inclusive teaching,

the content should not arise merely out of a single culture but engage with global plurality in terms of sources of knowledge.

As implicated in the CMLT, recognition is needed of international students' agency in the construction of their learning in Australia. However, it should be noted that all students, including domestic students and other international students are contributors of active agency to inclusive teaching. That is, inclusive curriculum should be co-constructed by all students with domestic and international students included. As Bodycott, Mark, and Ramburuth (2013) point out, all students are resources of and contributors to intercultural learning, and thus internationalised teaching should focus on multicultural learning objectives that are based on the knowledge and experiences of all students to develop intercultural understandings, attitudes and communications skills (Leask & Carroll, 2011).

Ryan (2015) suggests that inclusive teaching involves a variety of aspects including the creation of a culturally inclusive teaching and learning climate at classroom level, in curriculum design and pedagogical practice. Clark and Gieve (2006) also suggest assessment procedures should be considered in inclusive teaching.

To implement inclusive teaching, it is necessary to establish a small cultural environment, as suggested by Clark and Gieve (2006), where all parties fully understand, respect and comprise the diverse cultures, and co-construct appropriate approaches to learning through internationalised curriculum and pedagogies. Ryan (2011, 2015) advocates a transcultural approach to co-construct the new knowledge and seek collaboration between students and academics. In this way, a new small culture can be formed by combining elements of different cultures through interactions with one another. Wenger's (2000) "communities of practice" (p. 229) in teaching and learning could be established in classrooms, where all students including international students become an integral part of the learning environment and "a source for mutual adaptation and learning for staff and all students" (Ryan, 2011, p. 639). As Teekens (2003) proposed, to create a co-constructed classroom, lecturers need to ensure that concepts of 'ours' and 'others' are eliminated from the classroom context, highlighting the cultural input of all students and utilising multicultural background as a source of mutual learning.

Internationalisation of curriculum (IoC) is at the heart of inclusive teaching in Australian higher education. According to Wachter (2003), IoC should go beyond student mobility with an emphasis on creating the culturally diversified teaching and learning contexts. Ryan (2011, 2015) explains that internationalised curriculum does not mean a curriculum that has to be adapted to the needs of international students, but, instead, is culturally responsive to the commonalities and diversities of the student cohorts. That is, IoC should be structured around the academic and cultural needs and expectations of all



students (Bodycott, Mark, & Ramburuth, 2013). For this to happen, it is essential to develop academics' understanding of and skills needed to create and include different academic and intercultural tasks and experiences.

Since no single pedagogy can accommodate the needs of all students, Edwards and An (2006) call for the provision of a responsive pedagogy and practices to meet the needs of CIS and help them benefit most from their overseas study. For this to occur, lecturers need to skilfully combine a variety of pedagogies to form a cohesive pedagogy (Sun, 2013). Both Ryan (2011) and Wu (2015) argue that intercultural learning does not occur spontaneously simply by students with different cultural backgrounds coexisting in the same classroom. Instead, truly inclusive education should extend and enhance the diversity and dynamics of all students, with international and domestic included.

The current study indicated that students from Mainland China required guidance in adjusting to the Socratic teaching method utilised in Australian classrooms which included a more interactive pedagogy. As such, an incorporation of Socratic and didactic pedagogies is suggested, with instruction integrated into interaction in teaching CIS, as suggested by academic interviewee Forster (A6RM). In addition, Australian academics can skilfully incorporate cultural perspectives into pedagogies by organising paired and mixed cultural and linguistic group discussions (Heng, 2018), implementing less structured discussions to help all students to develop mutual understanding and cooperation and boosting intercultural communication skills.

Further, assessment is an essential component of inclusive teaching. Congruent with Clark and Gieve (2006), the current study found that CIS were more confident with their written expression than with oral presentations, albeit with challenges in terms of language and referencing. This supports a need for modification of both oral and written assessment formats that are more inclusive of CIS within the Australian teaching system. As suggested by Clark and Gieve (2006), written assignments could be moderately tailored to allow CIS opportunities to develop their academic voice, however, this would need to be supplemented by more targeted academic support for language and referencing, as was found in the current study.

In sum, Inclusive teaching is complex and requires a high level of adjustment particularly from academics. Such adjustments are beginning to take shape in Australian universities but still have room for development.

**Establishing a Rapport with CIS.** The experiences of the CIS in the current study suggested a perceived lack of support from academic staff and a relatively distant relationship with their lecturers within Australian universities. Li's (2015) study found that Asian students had a "traditional, teacher-centred" relationship with their Australian teachers in classroom, which contrasts with their Australian counterparts who had an

“informal, student-centred” relationship with lecturers (p. 282). Wong’s (2012) study also suggested that CIS perceived the relationship with their Australian lecturers as more remote than the ones they had with their Chinese teachers, even despite the high level of reverence held for ‘superiors’. A major difference appeared to be the level of availability of Australian teachers outside classtime, which was noted by the CIS in the current study. Peiqi (S10MF) related a story about a request for a lecturer’s help with a draft of some work, with the response from the lecturer that they were not able to provide such help, or else they would need to provide it to everyone. This was seen as very different from the level of assistance provided by Chinese teachers who seemed to be more readily available to assist (Chan, 1999).

Turner (2006) points out that Chinese students tend to have very high expectations of their teachers, who are deemed to be dedicated and responsible, looking after students “akin to a parent” (Watkins, 2000, p. 167). This work ethic of Chinese lecturers could result in students working hard to achieve good grades as a reciprocal gratitude towards their teachers. Consequently, CIS might feel neglected and ignored by their Australian educators, as acknowledged by Wong (2012). Clark and Gieve (2006) confirm that CIS’ perceptions of their teachers lacking in “warmth and mutual respect and responsibility” are to be blamed for the breakdown of a “mutually accepting social context”, and hence low levels of this kind of interaction is expected in Western participative styles of teaching (p. 62). As such, to avoid such a breakdown with international students such as CIS, Li et al. (2010) suggest that academics increase lecturer-student communication time in less formal environments, which is conducive to improve the relationship with students and boost students’ confidence to carry on with their studies.

Meanwhile, the current research highlighted the importance of lecturers building up rapport with CIS. A case in point was demonstrated by Jiaqi’s story (S8MF), about building up the courage to report to her lecturer about the unequal effort put in by members of her group on a group assessment task, which was never acted upon. As such, it is worth pinpointing the importance of understanding between lecturer-student relationships. On the one hand, students are encouraged to report problems regarding their learning or teaching to the lecturers, and ideally should have the confidence that, lecturers are able to fairly and properly handle their issues. On the other hand, the lecturers should scaffold students’ learning by helping solve their problems effectively.

When discussing the challenges associated with teaching of CIS, Albert (A1MM) highlighted the importance of employing ‘*relational tactics*’ to establish a rapport with CIS particularly in the initial stage of teaching. He recalled his previous experience of teaching in China, commenting, ‘*it is paramount to build up a rapport. If you can do that*

*successfully in the first a few days, you will see a dramatic change in how the students are behaving and also the outcomes within the classes'* (Albert, A1MM). This idea was echoed by Caroline (A3MF), who reported it took her a long time to build a relationship with CIS which she attributed to two reasons, *'one obviously is the language and another is a level of respect, maybe of an understanding of the level of authority'*.

**Properly Organising Group Learning.** As highlighted in the current study, team or group learning presented specific challenges for CIS, as discussed in Section 5.1.2.2. Group learning is common in Australia. The aim is usually for students to build their ability to collaborate with peers, which is an important skill in most professions. Chinese students, coming from a *'highly collective society'*, are *'used to the notion of groups and working groups'* and are *'more motivated and keen to work in groups than students from other countries'*, according to academic interviewee Forster(A6RM). However, team learning, as one of the traditional learning techniques practiced in China, differs from the concept as applied in Australian universities. As Wu (2015) identifies, team learning in the Chinese context is frequently implemented with the academically strong team members doing most or even all of the work, whereas, in Australia, each student is required to do their part to contribute. Consequently, Chinese students are frequently at pains to learn to work as a team in Australia.

The current study identified two main issues with group learning, one in relation to the mix and the other to assessment. CIS participants noted a range of strategies were used by lecturers to compose groups including deliberate, voluntary or random grouping. Deliberate grouping was decided by the lecturer, often based on the teaching objectives, for instance, mixing active with inactive students, the talkative with quiet ones. Nevertheless, this study found that group membership was at times challenging for both CIS and lecturers. CIS wanted to be part of mixed groupings but often felt less confident than with cultural peers. The academics also reported challenges associated with mixing the cohorts, acknowledging hesitations on the part of both the domestic and Chinese students working together. Thus, while lecturers saw large benefits for the CIS in working with domestic students, they also at times felt they were being protective by allowing them to work with the peer group in which they felt most comfortable, not realising that this was restricting their ability to practise their English and learn more about the Australian learning context.

The other challenge for CIS was group assessment which required an equal contribution from all team members. The reality is that this is challenging for all tertiary students, but CIS in the current study found it particularly hard to reconcile how some students could simply not contribute and then accept the grade. Interestingly, they spoke of this happening with other international students, including other Chinese students,

more than in relation to domestic students. Nonetheless the practice of awarding a single grade to a group without having some way of ensuring fairly equal participation appeared to be particularly problematic at a cultural level. As alerted by Ramsden (2003), inappropriate assessment procedures could unintentionally demotivate students' positive attitudes towards learning and encourage surface approaches. Some lecturers incorporated other assessments, for example, a combination of group mark and an individual mark, and sometimes an element of self-assessment and peer assessment along with lecturer assessment, but this study identified that more emphasis should be given to the latter. That is, more weight should be given to students' self-assessment and peer assessment in grading group work, which, otherwise, is likely to discourage students' motivations particularly those who were most hardworking.

Wong (2012) also argues that assessment practices are influential to students' learning quality, and need to incorporate the students' standpoint (Struyven et al., 2005). Team work makes special requirements on students, who have to critically reflect on their own culturally constructed learning habits, and hence lecturers' guidance is very important (Wong, 2015). As academic interviewees (A1MM, A3MF and A6RM) suggested, the trick was for lecturers to carefully and sequentially scaffold group work in the first year until students learn how to collaborate. It is important that preparatory seminars or workshops designed to address relevant concerns are conducted as a part of the scaffolding mechanism at the very beginning. At such seminars or workshops, the beliefs commonly shared and practical skills required should be presented and demonstrated so as to equip students to adequately engage with team learning. This scaffold is particularly essential for those beginners who might not be ready to take on peer-oriented learning. If this is not sufficiently conducted, group learning can be time-consuming, tedious, and irrelevant to many students (Wong et al., 2015). In addition, if possible, an agreement could be signed by students on the assessment sheet specifying involvement. Although this technique might be seen as too directive, as indicated in this study, it was workable particularly for those students who were unprepared for peer learning, for it could make them accountable.

As suggested by Wu (2015), when assessing the effectiveness of CIS' learning, academics need to take into account the influence of CIS' learning milieu, and frequently check whether the measures taken have evaluated their previous learning, and if and how the current education has impacted and is impacting their perceptions and learning approaches.

### 7.2.3 Implications for Australian Institutions

As stated in Chapter 1, attracting international students has been prioritised in Australian institutions (Wang & Greenwood, 2015), particularly in light of the dramatic decline in international student numbers during the COVID-19 global pandemic, due to the international travel bans. As Martin (2020) proposes, “now is the time [for Australian universities] to take decisive action to shape perceptions of the international student experience in Australia to support market recovery post-crisis” (p. 3). The CIS’ insider perceptions of their learning experiences, as exposed in the current study, informs Australian educational institutions with a deeper understanding of how to create a more welcoming and supportive university environment for commencing international students.

As discussed in Section 4.2.2.4, the survey indicated that Australian universities appeared to have successfully lived up to the majority of CIS’ expectations with 72.45% reporting their expectations had been met. This finding appears to be aligned with reports by the Australian government that most international students rate a high level of satisfaction with Australian education (Australia Education International, 2015). However, there were suggestions made by both students (i.e., CIS and ADS) and academics about improvements that could facilitate CIS’ learning and teaching in Australian universities (see Sections 4.4.1, 4.4.2, and 5.2.4). According to academic interviewee Albert (A1MM):

*In terms of Chinese students’ learning in Australia, the common discourse often focuses on what Chinese students need to do for their learning, or what they need to do for us [academics]. But as an institution and as an educator, some of the big questions are around what we need to do to improve our own ability to work with international students, to understand international students themselves, or how they have learned in the past, so that we can improve our own teaching.*

Foster (A6RM) agreed that ‘one of the issues for Australian institutions is to understand the challenges that international students face and work out how to help them overcome those challenges’.

With Australian universities more reliant on the income provided by international students than ever before, an adequate support system is paramount to attract international students particularly from the largest providers like China (Arkoudis et al., 2019). The current study revealed certain limitations within the current support systems provided for university students in the two universities (see Sections 4.4.1 and 5.2.4), with CIS reporting that they often did not use them as they were not necessarily specific enough to meet their needs. Even academic interviewees acknowledged the need for more targeted support including the employment of personnel with cultural and linguistic knowledge to support particular international student cohorts. This was seen as

important for academic support and counselling. Academic interviewees highlighted the financial gain from CIS to Australian universities justifying the appointment of staff who understand Chinese culture and who speak Chinese working in support services, or even establishing special organisations or associations to act as liaisons to help them when necessary. According to academic interviewee Isabel (A9RF):

*As I see it, in most Australian universities, there is not a particular association that looks after CIS. Nor is there a specific person serving as 'a point of contact' for them to go to if they are, for example, psychologically troubled and do not want to talk in English to Westerners.*

As demonstrated in Table 4.14, a gap exists between the support provided by Australian universities and that required by CIS. This study identified that Australian universities could aim to establish a targeted support structure to better facilitate international students particularly CIS' learning. Specifically, Australian universities could work on the following aspects:

- 1). Establishing targeted support systems for CIS
- 2). Reducing segregation between CIS and ADS
- 3). Alleviating CIS' psychological stress, and
- 4). Providing other forms of support for CIS.

**Establishing Targeted Support Systems for CIS.** To maximise CIS' learning in Australia, support needs to be specifically targeted to the academic and linguistic needs of this group, as indicated in the current study. Heng (2018) argues that, to enhance the instructional quality of CIS, the first step is to acknowledge and appreciate the complexity of Chinese students' learning experiences, which may minimise the entrenchment of a deficit discourse, leading to an improvement of academics' perceptions of provisions for them, and relations with Chinese students. First, institutional quality improvement begins with staff's professional development. Universities have a responsibility to ensure that cultural diversity and intercultural training are embedded within the curricula, the pedagogies, and the services for all members of the university community. As a result, professional development support and training should be made available by institutions to all teaching staff to renew, refresh and strengthen not only their cross-cultural awareness and intercultural competency, but also their instructional skills, particularly relating to the management of potentially sensitive discussions in the inclusive classroom (Martin, 2020).

Second, universities should assist lecturers in developing and/or providing courses or programs targeted at multicultural knowledge to equip all students with intercultural communication skills. As suggested by the CIS participants, '*piecemeal, incohesive*' courses should be avoided. Even within the at times extensive orientation programs

provided for international students, the focus was seen as too broad, with few specifically nuanced opportunities or experiences. Both CIS and academics mentioned that orientation programs occurred too haphazardly within the transition process, 'lumping' all international students together, despite different cultural challenges arising for different groups. For instance, CIS perceived that they needed specific explanations from the outset about academic expectations in Australian universities, which would make more sense if provided by more experienced Chinese students, whose lived experiences could serve as exemplars.

Third, guidance on learning styles for CIS would be helpful, particularly in their initial adjustment. According to Zepke et al. (2006), universities have the ability to influence students' learning by creating a setting that encourages the adoption of an active learning approach by international students. Campbell and Li (2008) argue that it is crucial that universities and academics shoulder the responsibility of providing international students with sufficient knowledge of academic discourses, and help them transcend the culturally-framed borders and subjectivities. Accordingly, it is advised that universities or educators incorporate study skills into their teaching, both during orientation and throughout the academic year, navigating Chinese students in what they are expected to learn and the appropriate learning approaches adopted in Australian universities. Such support is considered to be significant in assisting Chinese students in developing meta-learning skills, which would assist them to become self-managing learners (Biggs, 2003).

Finally, the peer support structure including peer mentoring and on-line peer-tutoring, as implemented by the two universities under discussion, were acknowledged by CIS as valuable forms of assistance. Heng (2018) claimed these formed a workable system to assist Chinese students, due to being less formal and thus less threatening to their generic reserved characters. However, as identified in the current study, these peer support mechanisms could be made more culturally relevant through integrating an understanding of different cultures. Peer mentors obviously undertake training in academic support, but it is unlikely that this covers cultural diversity. CIS reported peer mentors as friendly and supportive, but not necessarily able to understand the more complex academic problems encountered by international students, and specifically Chinese ones. Heng (2018) suggests buddy systems can be advantageous to both parties as international students have a cultural bridge into the local community while local students benefit from the improved intercultural communication and understanding. It is important that training includes a cultural component as well as an academic one.

Additionally, as found in the current study, the language barrier was perceived as a major hindrance to most CIS' learning in Australia. Unanimously, the Chinese students in

this study acknowledged their weakness in conversational skills, particularly speaking and academic writing skills, as was also noted by the academic and ADS participants. This finding correlates with other research by, for example, Blackmore et al. (2017), Briguglio and Smith (2012), Wong (2012), Wong et al. (2015), and Wu (2015), who witnessed similar scenarios for Chinese international undergraduates. Australian universities generally provide language support such as pre-course language training (Heng, 2018; Li et al., 2010), EAP courses (Heng, 2018, Wong et al., 2015), and additional resources such as learning support facilities, however, these may not be targeted enough for CIS' specific needs. Students from Mainland China learn English as a foreign language, which is different from other international students such as those from India, who comprise the second largest international cohort in Australia (DET, 2019). Compared with their peers from other countries, CIS are relatively lower in English proficiency particularly in speaking skills (Li et al., 2010). Academic interviewee Helen (A8RF) claimed that CIS required more specific support in some areas of the English language but doubted that this was provided in many universities. This need resonates with previous critique that some education providers of international students are focusing on instrumentalism or neoliberalism with a reluctance to set aside a proportion of the income gains from students' fees to improve their learning and teaching quality (Marginson, 2002). As a result, it is recommended that Australian universities should provide more nuanced language support to international cohorts like CIS to meet their specific needs.

**Reducing Segregation between CIS and ADS.** Martin (2020) contends that safeguarding Australia's reputation as a top choice for international study cannot rely merely on fostering high quality education. Rather, international students' wellbeing also matters. As stated by Baird (2010), "Australia's international education reputation depends on how well we [institutions] provide for the wellbeing of international students and their whole experience of studying and living in Australia" (p. vii). Wellbeing is defined by Martin (2020) as a multidimensional sphere that includes the provision of physical, mental, social (e.g., inclusion, a sense of agency in interactions with others) and emotional wellbeing (e.g., positive feelings dominating negative ones) to international students. Supporting wellbeing is also contained in Martin's definition referring to "optimising the provision of information, services and resources to international students" to assist them overcome challenges they encounter in Australia in terms of "safety, accommodation, employment, healthcare and social inclusion" (Martin, 2020. p. 5).

Chinese international undergraduates, as the largest international cohort in Australia since 2012, comprised 37.3% of the international population in 2019 in Australian HE



(DESE, 2019). Debate continues over whether enrolments of CIS have reached a critical mass, thereby forging links with other CHC students from similar cultural and linguistic backgrounds, and hampering social integration with other student communities (Parsons, 2010). In the current study, it was evident that there was not a lot of interaction between CIS and other students, with CIS reporting living a life rather isolated from the domestic community. In interviews, most CIS (i.e., S3RF, 4RF 5RM, 6RM, 7RF, 10MF) reported a feeling of isolation and lack of belonging to the local community, which was particularly severe to those coming through partnership programs. For example, Yinglin (S4RF) and Datong (S5RM) felt that the compulsory courses they were required to complete were seldom chosen by domestic students, which severely reduced communication opportunities with ADS. It was possibly a locality situation also as more students at the regional university, highlighted this as an issue. It was concerning that statements were made by interviewees such as, *'there appears to be an invisible wall between us...sometimes even if I was willing to talk to them, there was always a sense of distance'* (Zheng, S7RF), and *'it was too difficult to make friends [with ADS], for there exists some estrangement that seems insurmountable'* (Jiaqi, S8MF). This segregation between CIS and ADS was also recognised by academics such as Albert (A1MM), Bryan (A2RM) and Isabel (A9RF), who, in their interviews, reported that Chinese students were often distant from their domestic companions, observable by seating arrangements or the set-up of assignments in the absence of intervention by teaching staff. This finding reverberates with what Martin (2020) identifies as social exclusion by domestic students, acknowledging that the overwhelming majority of CIS (85 to 90%) in the current study found it difficult to break into local friendship circles, often felt socially excluded by Australian peers, and failed to realise their hopes of social inclusion as a major disappointment of their time in Australia.

Literature indicates student diversity as a useful source of international learning, and thus the communication between domestic and international students facilitates the understanding of the true meaning of a globalised world (Beelen & Jones, 2015). The current study draws attention to the broader social fragmentation that exists in Australian universities between domestic and Chinese international students in particular. Briguglio and Smith (2012) find that the 'divide' between international and native students is a common issue in all Australian universities. Gomes and Tran (2017) identify the social separation and lack of integration as perennial issues for international students that continue to challenge universities. As pointed out by Arkoudis et al. (2019), this fragmentation may exclude both CIS and their Australian peers from fully experiencing the so-called cosmopolitan education provided, and thus the tenet of cosmopolitan education in Australian HE will be considerably impaired. Therefore, if institutions

consistently struggle to support the interactions and even friendships between international and domestic students, their ability to promise a cosmopolitan education is called into question (Arkoudis et al., 2019). Furthermore, if the 'distance' between the two cohorts persists, universities' competence to achieve a neoliberal rationale characterised by revenue earning will suffer. Arkoudis et al. (2019) and Ammigan and Langton (2018) argue that international students' sense of local connection with the opportunity to make local friends, is an important determinant influencing their propensity to recommend a study destination to newcomers. As such, if the social segmentation between CIS and ADS continues to prevail, Australian universities are vulnerable from both neoliberal and cosmopolitan perspectives.

Martin (2020) suggests a "student-centric approach with a holistic focus on wellbeing and social inclusion" needs to be established to ensure that Australia remains an attractive study destination by Chinese students (p. 3). As such, there is a need for institutions to navigate multicultural communications on Australian campuses. Institutions need to play a far greater role in patching up the fragmentation between CIS and ADS cohorts. First and foremost, if the ideology of globalisation is going to have a deeper practical sense for graduates and shape future citizenship, there is an urgent need to provide targeted courses or programs that aim to equip both international and domestic students with the cultural literacy in cross-cultural communication, as discussed previously. The co-constructed learning and teaching, as embodied in Figure 7.1, calls for trilateral adaptations and interactions, not only from CIS and lecturers (including faculty staff), but also from the host-country students. According to Clason (2014), some domestic students may display "xenophobic behaviors", thereby discouraging Chinese students from engaging in learning activities (p. 135). As such, universities should not only equip domestic students with the values and skills available to interact with their international peers, but also acquaint CIS with insights into the host cultures so that they can have greater confidence in interacting with their domestic companions (Arkoudis et al., 2019).

Simultaneously, in-service training programs should be conducted for academics and faculty staff to make them aware of the challenges confronting CIS and to enable them to nurture better integration between the two cohorts by experimenting with teaching and learning strategies that are most effective.

Fostering intercultural activities that transcend cultural divides, be it academic or non-academic, is a helpful mechanism to decrease intergroup bias (Dovidio et al., 2010), and bridge the gap between international and domestic students (Glass & Westmont, 2014). Martin (2020) suggests that Australian universities should divert a proportion of the revenue derived from CIS' tuition fees to establish more structured cross-cultural

exchange clubs and activities for students from China. As outlined in Section 4.4.2, a number of measures were proposed by the ADS participants that could assist CIS to integrate into the Australian community. Examples included, '*inclusive plans*' to mix CIS and domestic students within class, '*acculturation plans*' to mentor CIS to understand and transit into the Australian way of learning, and the '*buddy system*' to help individual CIS by partnering them with an ADS. Additionally, the ADS proposed that more social activities be structured by Australian universities to get CIS to intermingle and increase their sociality or confidence in interacting with domestic students. Martin (2020) stresses the strong correlation between organised social activities and the likelihood of international students' recommendation of their university for newcomers, and in the long run, to the neoliberal goals of institutions.

International students' mobility brings cultural enrichment as well as complexity. Intercultural competence has become critically important in contemporary education sectors due to the increasing portion of international students. Ryan (2011) maintains that Australian institutions cannot take it for granted that international students will continue to come unless they work to guarantee that these students receive high quality teaching and learning experiences that are of relevance to their future prospective career trajectories. Simultaneously, universities have to ensure that this international source of transcultural learning can work to benefit both the home students and those teaching them (Ryan, 2011). When situated in a global era that is typified by international mobility and cross-cultural interaction, students, either international or domestic, need to take advantage of internationalisation and intercultural or transcultural learning. Furthermore, universities need to work to provide the contexts and conditions conducive to full use of these opportunities for learning and transformation.

**Alleviating CIS' Psychological Stress.** The current study provides an insight into institutional work on Chinese international undergraduates to alleviate their psychological stress. Li et al. (2017), citing Kung (2007), describe international students' transition into the host academic culture as a stressful process like "dancing on the edge of two different worlds while carefully balancing their interactions within each world" (p. 12). CIS participants in the current study acknowledged the stressful nature of transitioning into a new and very different educational and cultural experience, with the majority of interviewees reporting a level of psychological stress ranging from fairly minor to quite severe. One of the academic interviewees pointed out that, '*Chinese students tend to be reserved in their culture, very reluctant to admit that they are stressed or struggling, and thus they are more at risk of being psychologically stressed*' (Forster, A6RM). As a result, the type of support offered within Australian institutions may not meet the needs of CIS, as it is reliant on individual acknowledgement of the need for support.

According to Martin (2020), CIS are not “well served by current provisions for protecting mental health” due to the differences in health-related institutions such as OSHC (Overseas Students Health Cover), processes and cultures between Australia and China, and thus they “may not know where to turn in a mental health crisis” (p. 33). As identified by the Royal Commission into Victoria’s Mental Health System, international students’ mental health is “an area of concern” (State of Victoria, 2019). This finding also concurs with Han et al. (2013) and Orygen (2017), that CIS are vulnerable to mental health problems due to the “multiple stressors at a vulnerable time of life” (Martin, 2020, p. 36); challenges encountered in conjunction with the unfamiliarity of the academic context; lack of local and practical skills to manage their daily life; and their generic reserved character of reluctance in asking for help from others, particularly in avoiding seeking professional assistance for mental health problems (Li et al., 2017). As Jones and Kim (2013) argue, international students are confronted with a number of acculturation stressors including linguistic, academic, interpersonal, intrapersonal, and financial challenges. As noted by Li et al. (2017), loneliness, solitude, homesickness, depression, and a profound sense of loss, inferiority, and uncertainty all add to the psychological stress of international students.

As such, there is a need for Australian universities to provide culturally appropriate mental health support services to CIS, as advocated by student interviewee Jiaqi (S8MF):

*If there is a liaison in every school or department [to specially help CIS], it does help. At least, we have a place to voice our needs, and also those who want to help us could have the hint how to offer their help.*

Academic interviewee Isabel (A9RF) recommended personnel or an association that could serve as a ‘*point of contact*’ to connect CIS with support services. Martin (2020) suggests that Australian universities, or education providers, should support the development of “Chinese international student hubs” as a channel for the provision of relevant services (p. 23), and particularly “increase resourcing to allow the provision of Mandarin-speaking counsellors at universities” (p. 39).

As suggested by Ma (2015) and Li et al. (2010), the creation of a welcoming campus environment is important in the alleviation of international students’ psychological stress. For example, incorporating sociocultural events such as Chinese Mid-autumn or Chinese Spring Festival activities could help create a home atmosphere to relieve CIS’ homesickness and strengthen their association with other Chinese students.

University counselling services could consider providing a service that is more concentrated and geared to CIS’ psychological needs. As suggested in the current study, counsellors could play a more active role in reaching out to CIS, especially newcomers,

letting them know where to seek help and trying to reduce the stigma associated with seeking psychological help. Li et al. (2017) suggest that while assisting CIS in processing their emotions properly, university counsellors may consider implementing assertive training, which is another important aspect of acculturating into the Australian context. Additionally, to make the services more relevant, university counselling services may partner with other organisations or associations such as international offices forming a mentorship program that pairs more established CIS with newcomers, or assigns Chinese professionals to provide more psychological intimacy.

**Providing Other Forms of Support for CIS.** The current study highlighted a number of areas where additional support could be of assistance to CIS, including support relating to accommodation, employment opportunities and finances. As suggested by Hsieh (2020), universities, particularly those in Australia, can improve their policies by being more culturally inclusive of Chinese-speaking international students through taking into account the complexity of how these students' identities work. Aligned with the literature regarding CIS' learning experiences (e.g., Arkoudis et al., 2019; Robertson, 2011), the present study points to the consensus that Australian universities can do more to support CIS from a neoliberal point of view. According to Arkoudis et al. (2019), international students including CIS are sometimes seen as "economic agents" (p. 800) who could continuously bring revenue to the host countries such as Australia while the services provided to them were often not matched. Yet neoliberal assumptions that the international students of a "rich Asian middle class" would solve the cuts to public funding for universities are "misleading" (Arkoudis et al., 2019, p. 809), and can result in a lack of provision.

Arkoudis et al. (2019) warn that the process of internationalisation and the roles universities play in this process cannot be simply directed by neoliberalist ideology. Otherwise, international students such as CIS are more likely be viewed as no more than 'cash cows' in the world-wide free market (p. 811). This could result in heightened alienation and segregation between international and domestic students, and is likely to result in empty talk about global citizens and cosmopolitan citizenship (Arkoudis et al., 2019). Therefore, Australian higher institutions need to balance neoliberal instrumentalism and cosmopolitan education with measures that focus on the nurturing of cooperation among students, or else, the practice of international student mobility will be at risk. As warned by Martin (2020), in light of COVID-19 and the relationship with China, Australian universities are at a 'crossroad', and thus "investing appropriate resources in maintaining and improving [in particular Chinese] international students' experience will protect and enhance Australia's reputation as a safe, welcoming and recommendable place to study" (p. 4). Martin (2020) also suggests that, to maintain and

expand international enrolments, Australian universities should move beyond the consumer protection approach to international students, and view them as part of “national youth population and residents within local community” with associated rights (p. 41). Arkoudis et al. (2019) argue that, when international students feel supported towards their wellbeing, such as in terms of housing and finances, they may feel more comfortable and willing to engage in deeper and more meaningful interactions and enhance their experience and sense of belonging, which, in the long run, benefits both the cosmopolitan and neoliberal rationales in Australia.

### **7.3 Chapter Summary**

This chapter commenced with a proposal of the Co-constructed Model of Learning and Teaching (CMLT) for CIS’ in Australian universities, including the underpinning theoretical frameworks that informed the development of the model. In addition, the themes and sub-themes emerging from this study that were explicated by the 3P model were presented as a way of providing an operational structure for the co-constructed framework. In the second part of the chapter, the implications derived from this study, as well as for the future prospects of the CMLT, were presented from the perspective of CIS, academics and institutions respectively. The next chapter will provide a conclusion to the current study, acknowledging the limitations and possible future directions while also offering an overview of the contributions it will make to current understandings of Chinese students’ learning experiences in Australian universities.

## **Chapter 8 Conclusion**

The previous chapter proposed the Co-constructed Model of Learning and Teaching (CMLT) for CIS in Australian universities and the implications of this study for CIS, Australian academics and Australian universities. This chapter will draw the study to a conclusion, through acknowledging limitations, presenting ideas for future directions and highlighting the significance of the findings in terms of providing a more nuanced understanding of the experience of Chinese undergraduate students who come to Australia to study.

### **8.1 Important Conclusions**

This study investigated first, how Chinese international students (CIS) perceived their approaches to learning, as compared with Australian domestic students (ADS), in Australian universities, and second, how academics in Australian universities perceived the learning and teaching experience of CIS in Australian higher education. Based on the findings of the current study, eight important conclusions have been drawn as follows.

To begin with, although a number of discrepancies were evident between the learning structures of CIS and ADS, they did not support the limitations often associated with the notion of 'Chinese learners' in previous literature (e.g., Beckett, 2012; Biggs, 1996; Clark & Gieve, 2006). Rather than relying heavily on surface approaches, CIS demonstrated use of a combination of surface, deep and achievement approaches, suggesting that their approach is more well-rounded than current literature suggests.

Second, a discipline effect was noted in the current study, indicating that some disciplines appear to attract a higher level of surface strategy use than others, although this was not evident with deep strategies.

Third, expectations play a role in the learning approach of the CIS who perceived their expectations of Australian universities were met, yet demonstrated different patterns to those with unmet expectations.

Fourth, CIS' learning approaches in Australia were often more complex than what was observable. The influence of Chinese deep culture was pervasive and impacted on many areas of learning that is often not apparent to those who do not fully understand this complex construct.

Fifth, CIS' learning experience in Australia was an adaptive process that required consistent interpretation of the learning contexts, and responsive adaptation and re/construction of personal learning to enable connection and success within the new context of Australian higher education.

Sixth, the CIS experience in Australia was a contextualised, co-constructed adaptive process for both CIS and their Australian lecturers to jointly perceive the learning and teaching context, and actively co-construct their learning and teaching through negotiation between and adaptation to each other. While CIS' learning approaches were shaped and constructed by academics' instructional practices, academics' instructional practices were reshaped and reconstructed by students' learning.

Seventh, the empirical data from the current study in conjunction with the 3P framework developed by Biggs et al. (2001) provided the context for proposed Co-constructed Model of Learning and Teaching (CMLT) for CIS' in Australian universities. This model particularly highlights that, it was the mutual perceptions of CIS and their lecturers at the presage stage that prompted the bilateral adaptations between them. The adaptations resulted in mutual adoption of specific learning and teaching approaches in the process stage, which led to concomitant learning outcomes in the product stage. The learning outcomes had a reflective effect on CIS' learning and instructional and institutional practices.

Eighth, this study abounded in multiple implications. For Chinese international undergraduates, to optimise their learning experiences in Australia, they first had to boost their learning confidence by improving their English proficiency, and second, contribute more to Australian cosmopolitan education by proactively integrating into local cultures, particularly with domestic students. These actions could make a difference in their academic success and future career trajectories. For Australian academics, to amplify CIS' learning experiences and gain the most from the international education experience, developing an understanding of CIS' learning structure and providing strategies to assist them in acclimating into Australian tertiary education is essential. This could be assisted by a focus on IoC strategies which assist all students to become more globally aware. For Australian universities, a special support system uniquely targeted at CIS should be established providing assistance in terms of academic, linguistic, socio-cultural and psychological supports in addition to other supports such as accommodation and finance.

In sum, CIS' learning approaches are featured by "complexity", which involves not only CIS' efforts, but also the endeavours of lecturers teaching them and the institutions hosting them, and hence the "the possibility and impossibility" of CIS' are intertwined with "particular practice, settings and arrangements" (Xu, 2016, p. 1).

## **8.2 Contributions**

This thesis makes a range of important theoretical and empirical contributions to research on Chinese international undergraduates studying in a Western context.



The study contributes to the literature, first, by enriching understandings around SAL theory which was originally developed by Marton and Saljo (1976), and then extended by Entwistle (1983) and Biggs (1987). By examining the nature of deep and surface learning practiced by CIS, this study confirms that the mechanism of memorising, which originally was assumed into the category of 'surface learning', can be subsumed into either 'deep or surface learning' depending on its relationship with understanding. This study holds that, Chinese students' approaches to learning are socially and culturally conditioned, and if memorising is associated with understanding, it is a 'deep learning'; otherwise, it becomes part of 'surface learning'.

Second, the issues and implications associated with CIS were explored in terms of their learning and teaching in the Australian context. This research, by examining how CIS acculturated and adapted their approaches to learning to the Australian higher education system, enriches the literature by providing insights into the nature of learning and teaching of CIS in Australian universities. This study provided a voice to current Chinese students but also sought the opinions of domestic students and lecturers to provide comparative points of view.

Furthermore, while this research sheds light on how CIS approach their learning in Australian HE, it is anticipated that the findings would be more broadly applicable to Western HE in general. Such an understanding is imperative for institutions that hope to embrace and support international students such as CIS who come from very different educational and social contexts.

Additionally, this study contributes to one of the major goals of Australian universities. That is, how to effectively internationalise teaching in order to appropriately accommodate both international students, particularly from Mainland China (and possibly Asian students in a broader context) in Australian Universities and domestic students as well. This study scrutinised the internationalised teaching implemented in Australian HE with foci on the internationalisation of curriculum, and examined the ways that Chinese students and their lecturers mutually negotiated and adjusted in the Australian internationalised education context. The development of the co-constructed model (CMLT) in this study could serve as a framework, or a set of guidelines to assist international students and academics, particularly CIS to gain the most from their educational experience in Australian universities, and thus be embedded into the internationalised teaching and learning literature, particularly regarding Chinese undergraduates in Western universities.

Finally, this study has the potential to increase the appeal of Australian universities to international enrolments, particularly those from Mainland China, the largest international population provider in the international market. This competitive edge is

highly desirable given the strains on Australian institutions vying for international students. It is imperative for Australian institutions to develop counter measures to recover from the “post-crisis” of COVID-19 (Marton, 2020, p. 3). While the issue regarding the accommodation of CIS was not unique to Australia, the current research, by explicating how host institutions might boost their appeal factors for international students, particularly CIS, after the global pandemic, contributes to the academic literature. Although the study was conducted in Australia, the issues reported by CIS are similar to those reported in other countries, including, for example, in China where there are about 500,000 international students (MOE, 2019) who experience similar if not greater issues of segregation and ‘distance’ from local students. Enhancing the experience for international students relies on making the learning and teaching relevant and meaningful. This study adds to the literature by providing insights for consideration by other transnational education providers including the USA, UK and Canada (UNESCO, 2014) and China.

### **8.3 Limitations and Future Directions**

As with any study of this kind, there were a number of limitations that need to be acknowledged. First, this study is cross-sectional in that it only provided a single snapshot in time of perceptions of CIS and their Australian student peers and lecturers. As is well documented, perceptions vary with time and situations, and hence students’ and academics’ perceptions are not static. As such, a longitudinal study may provide opportunities to measure the dynamics of perceived approaches to learning used by CIS in Australian universities over time. Accordingly, longitudinal studies could be conducted to determine whether and how changing scenarios impact on perceptions.

Second, and possibly the main limitation, relates to the limited number of universities involved in the study – only one metropolitan and one regional university, both in the state of Victoria, agreed to participate and thus representation is definitely bounded. Thus, any future study should involve a more representative sample of Australian institutions.

Third, despite only two institutions being involved, the survey sample size was sufficient for statistical analyses (with 156 CIS and 212 ADS in the surveys). However, higher numbers could have improved the accuracy of the t-tests and MANOVA. Still, the unbalanced sample size between CIS and ADS, particularly in relation to different disciplines, limited the findings in relation to specific disciplinary differences in students’ learning approaches, as discussed in Section 4.2.2.5. For example, in the Bachelor of Health and Health Sciences (HHS) there was only 1 CIS compared with 35 ADS

participants, limiting any further interpretation of the specific disciplinary influence on learning approaches.

Another limitation was the absence of analysis of participant diversity due to limited and uneven participant numbers. Participants' backgrounds and experiences were not used as a basis for analysis of data, yet there were differences that may have been impactful, such as CIS' birth locale and prior experience of Australian education. Due to uneven and small numbers, this type of diversity was not analysed but with larger numbers, would be an important factor for future consideration. Furthermore, analysis of the differences in the perceptions regarding CIS' learning among the academic participants from the two targeted universities (RegionalUni and MetroUni) may have highlighted differences related to locale. However, this was not an aim of the study, which intended rather to explore academics' generic perceptions regarding CIS' learning approaches in Australia. The imbalance in the number of academic participants from the two universities (7 to 3), made it difficult to draw any valid conclusions that could be based on regional/urban divisions, and this was felt to be beyond the scope of the thesis. However, this is definitely recommended as an area that could be investigated in further research on this topic.

Fourth, while reflexivity had been adopted in the data collection and analysis process, the position of the researcher as a Chinese with a cultural understanding of the learning backgrounds of the primary research participants (the CIS), may have resulted in a degree of unconscious bias in the interpretation of results. However, as previously explained, every effort was made to reduce this possibility, particularly through an ongoing process of peer review within the supervisory team.

Fifth, it should be noted that many of the findings from this study would be more broadly applicable to cohorts beyond the CIS sample, such as ADS and other international students. For example, the close intimacy between the deep and surface approach and expectations being met by universities, the frustrations encountered, and the suggestions made by CIS on course cohesion, contact hours between student-lecturer, can also be applied in accommodating ADS and other international students. These aspects deserve further consideration in future studies.

Another limitation related to the inability to examine the subscales within the R-SPQ-2F for the two samples (CIS and ADS). As such, the four subscales of deep motive (DM), deep strategy (DS), surface motive (SM), and surface strategy (SS) were not explored due to the factor analysis identifying issues with the validity of the subscales for the current data sets. Inclusion of the four subscales is likely to enhance the explanatory power of the analytical procedures (i.e., t-tests and MANOVA) between CIS and ADS regarding their learning differences, the influence of CIS' expectations, their gender

difference, and the differences between students in different universities and various disciplines. However, while validating the R-SPQ-2F with the CIS and ADS samples, the exploratory factor analyses validated that the two samples had uncoordinated items included in the four subscales (see Appendix H & I) despite matching in the two general dimensions of the deep approach (DA) and surface approach (SA). Therefore, only the broad terms of DA and SA were identified and compared in successive analyses of student learning approaches.

Furthermore, the validity and reliability of the sub-dimensionality of the R-SPQ-2F in this research could be further conducted by confirmatory analysis for CIS and ADS if a second round of participants were enlisted, which would be an interesting avenue to explore and pursue in future studies.

Finally, in the discussion of the proposed co-constructed model, this study focused on the factors related to the nature of CIS' perceptions and the determining influence on their learning approaches in Australian universities with little attention given to the resultant learning performance. That is, the present study did not examine how CIS' different learning approaches lead to different learning outcomes as this was not a focus of the research. Future research could delve into the interconnectedness of CIS' learning approaches with their subsequent learning outcomes.

#### **8.4 A Final Word**

In summation, it is not surprising that a substantive body of research already exists on the experience of Chinese students in Australian universities, as this cohort have become particularly important not only to the Australian higher education sector, but other similar Western sectors as well. And for this very reason, and in light of the inevitable changes that the COVID-19 pandemic will bring to the international student market, having the voice of the students prioritised and also supplemented with the voices of those who learn with and teach them, as in this study, can only be seen as a worthwhile contribution. As the findings of this study suggest, there is room for experimentation and improvement in how Australian universities provide for international cohorts such as Chinese students. It is hoped that this study provides an impetus for further research with a longitudinal design and a larger more balanced sample size, however the holistic picture created from the current study is a solid starting point for understanding the Chinese experience in Australian higher education.

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## Appendices

### Appendix A Survey for Chinese International Undergraduates (Bilingual Version)

Thank you for taking the time to complete this survey.

您好！感谢您参与此问卷调查！

This survey is an essential constituent of the project titled **Approaches to learning: Perceptions of Chinese international undergraduates and their lecturers in Australian Universities**, which is currently being conducted as part of a PhD thesis by Boli Li from the School of Education at Federation University Australia under the supervision of Associate Professors Margaret Plunkett and Jenene Burke. This research seeks to investigate how Chinese international undergraduates approach their learning in Australian universities.

此问卷为课题《中国留澳本科生学习方法之调查》的一个重要组成部分，此研究系澳大利亚联邦大学教育学院的李伯利的博士论文的一部分，其导师是 Margaret Plunkett 副教授和 Jenene Burke 副教授。此问卷旨在调查中国在澳留学生的学习方法。

Your participation is voluntary and anonymous. However, upon completion of the survey, an opportunity to win one of ten gift cards (Coles Group & Myer) will be available if you provide your email address for this purpose only.

您的参与是自愿、匿名的，然而在您完成问卷时，如若您愿意留下邮件地址，您将有机会获得一张 Coles Group & Myer 礼品券，总共十张。

This survey is conducted for academic purposes. The information you provide in the survey will help inform our understandings about the learning and teaching of undergraduates in Australian universities, particularly in relation to the learning and teaching of Chinese international students.

本调查仅为研究所用。您提供的信息将有助于了解澳洲高校关于本科生的教育与学习情况，尤其是关于中国留学生学习与教学情况。

All information will be kept confidentially. Please complete it according to your real thoughts.

所有信息将严格保密！请根据您的真实想法作答！

#### Part A Background information

1. Your age range: 您的年龄段

Below 18 (not including) years 18 岁以下(不包括)

Over 18 years (including) 18 岁以上(含)

2. Your gender: 您的性别

Female 女性

Male 男性

Other 其他

3. Where are you from? 您来自哪里？

Mainland China 中国大陆 (please specify which province or city of China you are from  
请注明来源省份或城市) \_\_\_\_\_

Hong Kong 香港

Macao 澳门

Other 其他 (please specify where you are from 请注明您来自哪里) \_\_\_\_\_

4. What is your first language? 您的第一语言?

Mandarin 普通话 Other 其他 (please specify 请注明) \_\_\_\_\_

5. What is/are your chief reason(s) for studying in an Australian university? (you can choose more than one option) 您来澳洲学习的主要原因是什么? (可以多选)

Promising job prospects 工作前景 High quality of teaching 优质教学

Friends' recommendation 朋友推荐 Parents' expectation 父母安排

Other 其他 (please specify 请注明) \_\_\_\_\_

6. Which university do you currently attend in Australia? 您现在就读的澳洲大学名称?

7. Have you attended any other universities in Australia prior to the current one?

If so, which University/ies? 您以前就读过其他澳洲大学吗? 如果是的话, 以前的大学名称是什么?

8. What degree are you currently pursuing in Australia? 您现在正在攻读的学位是什么?

Bachelor of Arts 文学学士 Bachelor of Commerce 商务学学士

Bachelor of Science 科学学士 Bachelor of Nursing 护理学士

Bachelor of Education 教育学士 Bachelor of Business 商科学士

Bachelor of IT 信息技术学士 Bachelor of Management 管理学士

Other 其他 (Please specify 请注明) \_\_\_\_\_

9. In which year did you first enrol in your current course of study? (Select one option) 您现在就读课程的入学年份?

2019 2018

2017 2016

Other \_\_\_\_\_

10. Did you complete an English language program in Australia before or at the beginning of your course? 当前课程之前, 您是否在澳洲参加过英语课程培训?

Yes 是 No 否

If YES, when? And what was the name of the course?

如果是的话, 何时参加的? 课程名称又是什么?

11. What is your situation for studying in an Australian university? 您来澳洲学习的主要途径是什么?

Full fee international students 自费留学生 Exchange program student 交流项目生

Scholarship student 奖学金生 University joint program student 校际合作项目生

Self-application 个人申请 Other 其他 (please specify 请注明) \_\_\_\_\_

## Part B Your learning approaches in Australian universities 澳洲大学的学习方法调查

For each question, please tick (✓) the one which best applies to you. 请勾选最符合您学习状况的选项

Never true of me 我从不这样	Sometimes true of me 我有时这样	True of me half the time 我一半时间这样	Frequently true of me 我经常这样	Always true of me 我总是这样

1. I find that studying gives me a feeling of deep personal satisfaction

我发现学习时常带给我一种深深的满足感。

2. I find that I have to do extra work on a topic so that I can form my own conclusions before I am satisfied.

我发现要在一个学习内容上花费很多功夫才能得出自己的结论，最终让自己感到满意。

3. My aim is to pass the course while doing as little work as possible.

我的学习目标是尽可能少费功夫却能通过课程考试。

4. I only study seriously what is given out in class or in the course outlines.

我只认真学习课堂或课程指定的内容。

5. I feel that virtually any topic can be highly interesting once I get into it.

我觉得只要我肯投入，几乎任何话题都会变得很有趣。

6. I find most new topics interesting and often spend extra time trying to obtain more information about them.

我发现大多数新内容都有趣，所以常常另外花时间学习，以求学得更多东西。

7. I do not find my course very interesting so I keep my work to a minimum.

我并不认为我的课程有趣，所以我尽可能少花力气来学习课堂内容。

8. I learn some things by rote, going over and over them until I know them by heart even if I do not understand them.

我是靠死记的方式来学习，一遍又一遍地背诵，直到我能牢记为止，即使我对所学的东西并不理解也是如此。

9. I find that studying academic topics can at times be as exciting, for example, as a good novel, movie or video game.

我发现研究学术性问题有时就如同一本小说或一部电影一般，让人感到兴奋。

10. I test myself on important topics until I understand them completely.

在重要学习内容上，我会反复检验，直到完全搞懂为止。

11. I find I can get by in most assessments by memorising key sections rather than trying to understand them.

我发现即使不理解所学内容，但通过记忆关键章节，大多考试也能过关。

12. I generally restrict my study to what is specifically set as I think it is unnecessary to do anything extra.

我认为没有必要花时间精力来学习额外的内容，因此我通常会只学习指定的内容。

13. I work hard at my studies because I find the material interesting.

我认为我所学的东西有趣，所以我就努力学习。

14. I spend a lot of my free time finding out more about interesting topics which have been discussed in different classes.

在不同课堂上讨论过的课题，只要是有趣的，我都会花很多空余时间去进一步学习。

15. I find it is not helpful to study topics in depth. It confuses me and wastes time, when all you need is a general knowledge about the topics.

当仅需对某内容有肤浅的了解即可时，我认为深入研究的话，对我来说不但没有帮助，反而会使我混淆且浪费时间。

16. I believe that lecturers should not expect students to spend significant amounts of time studying material everyone knows won't be examined.

我认为老师不应指望学生花大量时间来学习那些与考试无关的内容。

17. I come to most classes with questions in mind that I want the answers for.

我时常是带着问题去上课，以求课堂上得以解决。

18. I make a point of looking at most of the suggested readings that go with the lectures.

大部分与课堂有关的阅读资料我都会认真去读。

19. I see no point in learning material which is not likely to be in the examination.

我认为学习与考试无关的内容没有意义。

20. I find the best way to pass examinations is to try to remember answers to likely questions. 我认为考试过关最好的办法是记住可能会考的题目的答案。

### Part C Your perceptions about the approaches to learning adopted by your Australian domestic peers 您对澳洲本地学生学习方法的认识

Please tick (✓) the one you think best fits your perceptions about Australian domestic students (ADS). 请勾选您对澳洲本地学生学习方法表述的赞同度。

<b>Your perceptions about Australian students</b> 您对澳洲本地学生学习方法的了解	<b>Strongly disagree</b> 非常反对	<b>Disagree</b> 反对	<b>Agree</b> 赞成	<b>Strongly Agree</b> 非常赞成
1. ADS are highly motivated in learning towards their career paths. 澳洲学生有强烈的学习职业规划动力。				
2. ADS rarely rely on rote learning (i.e., memorising without understanding). 澳洲学生很少使用死记硬背的学习方法。				
3. ADS moderately use the strategy of memorising where applicable in their learning. 澳洲学生在学习中适当地使用记忆策略。				
4. ADS are inquisitive learners who seek deep understanding. 澳洲学生是探究式的学习者，学习时追求深层理解。				
5. ADS are critical learners who are not willing to accept whatever they have been told. 澳洲学生思辨能力强，不愿意被动接受教授内容。				
6. ADS are self-directed in choosing their paths and levels of participation in learning activities according to their interests. 澳洲学生的学习是自我引导式的，他们自主选择学习路径及参与学习活动。				
7. ADS' learning is strongly based on their interests.				

澳洲学生的学习很大程度上是基于他们的兴趣。				
8. ADS prefer student-centred, communicative teaching. 澳洲学生喜欢以学生为中心的交互式教学模式。				
9. ADS are active in asking and offering answers in the classroom. 澳洲学生课堂活跃，提问及回答问题都很积极。				
10. ADS are active in group discussion. 澳洲学生小组讨论积极活跃。				
11. ADS are confident enough to challenge their lecturers. 澳洲学生自信，敢于对教师质疑。				

**Part D Your Perceptions about your own learning in Australian universities 您的澳洲大学学习认识**

**Please answer the following questions in words 请用文字回答下面几道题**

- Does the university you are currently studying at meet your expectations?  
您现在就读的大学在是否达到您的期望?  
Yes 是 (please explain 请解释) \_\_\_\_\_  
No 否 (please explain 请解释) \_\_\_\_\_
- What sorts of supports have been provided to you by the university you currently studying at?  
您现在就读的大学给您提供过何种帮助吗？请详细说明。
- What sort of things would you think Australian universities should offer more to facilitate international students' working and living in Australia?  
您认为您澳洲大学还应该多做点什么以便留学生在澳更好地学习、生活？
- Have you noticed any differences in the way that you learn in your university course compared with your Australian domestic peers? Please describe the differences.  
您是否注意到在大学课程学习中，您和您的澳洲本土同学的学习方法有什么不同？请描述。
- Please describe the characteristics you associate with Australian domestic students' way of learning. 请您描述一下澳洲本土学生的学习特点。
- Do you have some recommendations for newcomers from China?  
对于即将从中国来到澳洲学习中国学生，您有什么建议吗？
- (Optional question) As a potential participant who has already completed this survey, you are further invited to participate in a **follow-up interview** regarding Chinese international students' learning and teaching in Australian universities by leaving either your email address, or directly contact the researchers.  
(非必选题) 您是否愿意继续参加有关中国留学生在澳高校学习的**后续**访谈。如果愿意，请留下您的邮件地址，或请直接与本课题研究者联系。  
Do you wish to participate in further interview? 您愿意继续参加采访吗？  
Yes 愿意 (please leave either your email address 请留下您的邮件地址) \_\_\_\_\_  
No 不愿意



8. (Optional question) This question is only for those who wish to enter into the raffle to WIN the opportunity of one of 10 Cole & Myers gift cards.

(非必选题) 该问题仅限于那些愿意参加 Coles & Myers 礼品券抽奖活动的调查者。

Do you wish to enter into the raffle? 您愿意参与抽奖活动吗?

Yes 愿意 (please leave either your email address 请留下您的邮件地址) \_\_\_\_\_

No 不愿意

This is the end of this survey. 问卷结束!

Thank you for your contribution, and wish you a prosperous life.

感谢您的参与! 祝您生活美满!

## Appendix B Survey for Australian Domestic Students

Thank you for taking the time to complete this survey.

This survey is an essential constituent of the project titled **Approaches to learning: Perceptions of Chinese international undergraduates and their lecturers in Australian Universities**, which is currently being conducted as part of a PhD thesis by Boli Li from the School of Education at Federation University Australia under the supervision of Associate Professors Margaret Plunkett and Jenene Burke. This survey seeks to investigate what typifies Australian domestic undergraduates' approaches to learning, to serve as a baseline for a comparison to be made with Chinese international students in Australian universities.

Your participation is voluntary and anonymous. However, upon completion of this survey, an opportunity to win one of ten gift cards (Coles Group & Myer) will be available if you provide your email address for this purpose only.

This survey is conducted for academic purposes. The information you provide will help inform our understandings about the learning and teaching of undergraduates in Australian universities. All information will be kept confidentially. Please complete it according to your real thoughts.

### Part A Background information

1. Your age range:  
Below 18 years                      Over 18 years
2. Your gender:  
Female                      Male                      Other
3. Your nationality:  
Australian                      Other (please specify) \_\_\_\_\_
4. What is your first language?  
English                      Other (please specify) \_\_\_\_\_
5. Which university do you currently attend in Australia?
6. What degree are you currently studying in Australia?  
Bachelor of Arts                      Bachelor of Commerce  
Bachelor of Science                      Bachelor of Nursing  
Bachelor of Education                      Bachelor of Business  
Bachelor of IT                      Bachelor of Management  
Other (Please specify) \_\_\_\_\_
7. In which year did you first enrol in your current course of study?  
2019                      2018  
2017                      2016  
Other (please specify) \_\_\_\_\_
8. Have you ever been to China?  
Yes                      No  
If yes, for what purpose?  
School trip                      Holiday  
Study                      Other (please specify) \_\_\_\_\_

9. Are there any Chinese international students in your current classes?

Yes

No

10. Have you had any experience with Chinese International students throughout your education?

Yes

No

## **Part B Your learning approaches in Australian universities**

**For each question, choose the one which best applies to you from the following:**

<b>Never</b> true of me	<b>Sometimes</b> true of me	True of me <b>half the time</b>	<b>Frequently</b> true of me	<b>Always</b> true of me

1. I find that studying gives me a feeling of deep personal satisfaction.
2. I find that I have to do extra work on a topic so that I can form my own conclusions before I am satisfied.
3. My aim is to pass the course while doing as little work as possible.
4. I only study seriously what is given out in class or in the course outlines.
5. I feel that virtually any topic can be highly interesting once I get into it.
6. I find most new topics interesting and often spend extra time trying to obtain more information about them.
7. I do not find my course very interesting so I keep my work to the minimum.
8. I learn some things by rote, going over and over them until I know them by heart even if I do not understand them.
9. I find that studying academic topics can at times be as exciting, for example, as a good novel, movie or video game.
10. I test myself on important topics until I understand them completely.
11. I find I can get by in most assessments by memorising key sections rather than trying to understand them.
12. I generally restrict my study to what is specifically set as I think it is unnecessary to do anything extra.
13. I work hard at my studies because I find the material interesting.
14. I spend a lot of my free time finding out more about interesting topics that have been discussed in different classes.
15. I find it is not helpful to study topics in depth. It confuses me and wastes time, when all you need is a passing acquaintance with topics.
16. I believe that lecturers should not expect students to spend significant amounts of time studying material everyone knows will not be examined.
17. I come to most classes with questions in mind that I want answers for.
18. I make a point of looking at most of the suggested readings that go with the lectures.
19. I see no point in learning material that is not likely to be in the examination.
20. I find the best way to pass examinations is to try to remember answers to likely questions.

## **Part C Your perceptions about the approaches to learning adopted by your Chinese International peers**

Please tick (✓) the one you think best fits your perceptions about Chinese international students (CIS).

Your perceptions about Chinese students	Strongly disagree	Disagree	Agree	Strongly agree
1. CIS are highly motivated in learning towards their career paths.				
2. CIS rarely rely on rote learning (i.e., memorising without understanding).				
3. CIS moderately use the strategy of memorising where applicable in their learning.				
4. CIS are inquisitive learners who seek deep understanding.				
5. CIS are critical learners who are not willing to accept whatever they have been told.				
6. CIS are self-directed in choosing their paths and levels of participation in learning activities according to their interests.				
7. CIS' learning is strongly based on their interests.				
8. CIS prefer student-centred, communicative learning.				
9. CIS are active in asking and offering answers in the classroom.				
10. CIS are active in group discussion.				
11. CIS are confident enough to challenge their lecturers.				

**Part D Your Perceptions about CIS' learning and supports in Australian universities**  
Please answer the following questions in words.

1. Please describe the characteristics you associate with Chinese international students' way of learning.

2. Please describe the general differences in the ways you learn in your university course with that of your Chinese peers.

3. Do you think Australian universities have provided enough supports for Chinese international students' learning in Australia? Please state your reasons.

4. Are there more strategies that you think would be useful to help Chinese international students to study in Australian universities? Please explain your answers.

5. This question is only for those who wish to enter into the raffle to WIN the opportunity of one of 10 Coles & Myers Gift Cards.

Do you wish to enter into the raffle?

Yes (please leave either your email address) \_\_\_\_\_

No

This is the end of this survey.

Thank you for your contribution, and I wish you a prosperous life.

## **Appendix C Interview Outline for Chinese International Undergraduates in Australian Universities (Bilingual Version)**

Thank you very much for your participation in this interview.

非常感谢您参加此次访谈！

I am Boli Li from a research team at Federation University Australia. Currently we are conducting the project titled **Approaches to learning: Perceptions of Chinese international undergraduates and their lecturers in Australian Universities**. This interview is an essential part of the research, which seeks to collect data regarding Chinese international students' learning approaches in Australian universities.

我是来自联邦大学的李伯利。目前正在进行一项题为《中国留澳本科生学习方法之调查》的博士论文。此访谈是该研究的一个重要组成部分，目的是收集有关中国留学生在澳大学的学习方法数据。

The information you provide in the interview will help inform our understandings about the learning and teaching of undergraduates in Australian universities, particularly in relation to the learning and teaching of Chinese international students.

您提供的访谈信息将有助于了解中国留学生在澳大学学习与教学情况。

Your participation is voluntary. This interview is being conducted for academic purpose. This interview is solely conducted on those participants who have granted their consent for the data used in the project. This interview would be recorded. If you do mind, please let me know. All the information provided would be kept strictly confidential and dealt with anonymously in the project.

您的参与是自愿。本访谈仅为研究所用。如若同意数据采集，请在同意表上确认。本访谈过程全程录音，如果您介意，请告知！您提供的信息将匿名处理，严格保密！

### **Main Questions:**

1. How do you like your current Australian university? Does it meet your expectations (e.g., academically and socially)? 您如何看待您就读的澳洲大学？在学术及社交上是否与您的预期一样？

2. Could you please describe your learning experience in your Australian university/ies? 您能描述一下您在澳洲大学的学习经历吗？

3. Have you encountered any particular challenges in your learning in Australia? If so, what have they been?

在澳大利亚学习时，您是否遇到过什么困难？如果是的话，具体是什么？

4. Have you developed strategies that have been effective in overcoming those challenges? If so, what have they been?

您是否采取了什么有效的策略来克服这些困难？如果是的话，具体是什么？

5. What differences have you noticed in the way that lecturers teach in Australian universities compared with your previous learning experience in China?

您是否发现澳大利亚教师教法与您先前的中国教师的教法有什么差异？

6. Have you had to modify your approaches to learning in order to adjust to the Australian way of teaching? If so, how have you done this in terms of the following,

- ✧ Course content;
- ✧ Teaching approaches;
- ✧ Quizzes or assessments?

为适应澳式教学，您是否在学习上不得不做出调整？如果是的话，您在以下几方面是如何调整的？

- ✧ 课程内容上；
- ✧ 教学方法上；
- ✧ 课程作业及测试方法等？

7. Do you think the way you associate with your current Australian lecturers is similar to that you have had with your previous Chinese teachers? Please explain.

您认为您和澳洲老师的交往模式是否和以前的中国老师一样？请解释。

8. In order to achieve high scores in your study, what strategies have you used in your learning? Please list them. 为了获得高分，您采取了哪些学习策略？请列举。

9. Do you often use the strategy of memorising in your study in Australia? If yes, in what occasion/s do you use it?

在澳大利亚学习时，您是否使用记忆策略？如果是的话，在什么场合使用？

10. Do you frequently ask and answer questions in class in Australia? Why?

在澳课堂上，您是否经常提问，或经常回答问题？请说明原因。

11. How do you generally participate in group discussions in class in Australia?

您是如何参与澳洲课堂小组讨论的？

12 As compared with university students in homeland China, do you think you have more edges over them? Please explain.

与中国国内大学生相比，您认为澳洲留学有优势吗？请解释。

13. What are you going to do when you finish your university degree here in Australia?

大学毕业后，您有何打算？

Thank you again for your contribution. 再次感谢您参加此次访谈！

## **Appendix D Interview Outline for Australian Academics**

Thank you very much for your participation in this interview.

I am Boli Li a PhD candidate from Federation University Australia. I am conducting the project titled **Approaches to learning: Perceptions of Chinese international undergraduates and their lecturers in Australian Universities**. This interview is an essential part of the research. It seeks to collect data regarding Chinese international students' learning approaches in Australian universities.

This interview is being conducted for academic purpose. The information you provide in the interview will help inform the understandings about the learning and teaching of undergraduates in Australian universities, particularly in relation to the learning and teaching of Chinese international students.

This interview is solely conducted on those participants who have granted their consents for the data used in the project. This interview would be recorded. If you do mind, please let me know. Of course, all the information provided would be kept strictly confidential and dealt with anonymously in the project.

### **General Information**

1. What is your first language?
2. Have you ever been to China? If so, in what capacity? (e.g., as a student, lecturer, tourist etcetera)
3. How long have you been teaching courses that include Chinese international students?
4. What course/s do you teach that involve Chinese international students?
5. How many Chinese international students do you currently teach?

### **Your Perceptions about Chinese Students' Learning Structures**

6. What have you noticed about the approaches to learning adopted by Chinese students? In particular what have you noticed their learning approaches in terms of:
  - ✧ the strategy of memorising;
  - ✧ the strategy of understanding;
  - ✧ their motives for study?
7. What differences have you noticed between Chinese international students and Australian domestic students in terms of:
  - ✧ asking questions and offering answers;
  - ✧ participating in group discussions;
  - ✧ critical thinking ability;
  - ✧ completing assessment tasks?
8. Do you think the general English language competency of most Chinese students is sufficient to cope with the demands of academic learning in Australian universities? Please explain.

9. Are there specific requirements that you feel need to be met by Chinese international students prior to or during their study in Australian universities? Please explain.

**Your Reflection on Teaching of Chinese International Students**

10. Have you found any particular challenges associated with teaching students from China?

11. Have you ever taken any measures you think may be effective to cater for this student cohort?

12. In what ways do you currently internationalise your teaching to cater for Chinese international students in terms of

- ✧ teaching practices
- ✧ curriculum
- ✧ pedagogy
- ✧ assessment

13. Do you feel that you need to adopt different teaching strategies for Chinese students? If so, what would you suggest?

14. Do you think Australian institutions have provided enough support for Chinese international students? Please explain your answer.

15. Is there anything further you would like to add regarding the teaching of Chinese international students in Australian universities?

**Thank you again for your contribution.**



## Appendix E Plain Language Information Statement: Chinese student Interviews (Bilingual Version)

Thank you for taking the time to read this statement.

感谢占用您宝贵的时间阅读此声明！

This statement is to provide you with information relating to the nature and requirements of the study, so that you can make an informed decision about whether or not you wish to participate. Should you have any questions about the study, please contact the researchers.

此声明将就本研究性质及要求做一说明，这样有助于您最终决定是否参加此次访谈。如有任何关于此研究的问题，请直接与研究者联系！

You have been selected as a potential participant in the project **Approaches to learning: Perceptions of Chinese international undergraduates and their lecturers in Australian Universities** which is currently being conducted as part of a PhD by Assoc Prof Boli Li from the School of Education at Federation University Australia under the supervision of Associate Professors Margaret Plunkett and Jenene Burke. Your participation would involve participating in an interview, which seeks to investigate how Chinese international undergraduates perceive their approaches to learning and how they negotiate and adjust their approaches to learning in Australian universities.

欢迎您参加名为《中国留澳本科生学习方法之调查》的研究访谈。此研究是李伯利副教授的博士论文的一部分，其导师是澳大利亚联邦大学教育学院的 Margaret Plunkett 副教授和 Jenene Burke 副教授。此次访谈旨在调查在澳中国本科生对其学习方法的洞察及其在澳高校的调整适应过程。

Chinese international undergraduates over 18 in Australian universities are invited to participate in this research if they are native born Chinese, having lived and been educated in China's territory for most of their lives, who came to Australia to pursue a university degree, and a Chinese dialect (and not English) is their native tongue.

凡在澳高校进行本科学习且年满 18 周岁的中国学生，只要是中国本土出生，并主要在中国本土受教育，且母语是汉语（而不是英语）者，均可邀请参加此次访谈。

### Participation 如何参与

This research seeks information about your learning experiences in Australian universities and your perceptions of learning differences compared with Australian domestic peers. The interview would take a maximum of 60 minutes to complete in a way at your convenience, either through face-to-face, or via telephone, video (Zoom, Skype) or Chinese Wechat or QQ. If face-to-face is chosen, the interview can be taken at an appointed place, for example, the group room in the university library, the student lounge, or cafe or whichever place at your convenience.

该访谈主要了解您在澳大学的学习经历及您的感知到的与澳洲本地学生不同的学习方法。此次访谈最多花费您 60 分钟的时间，可以通过面谈、电话、视频会议（如 zoom 或 skype）或微信、QQ 等进行。如若选择面谈，则可选择在大学图书馆的讨论室、学生休息室，亦或咖啡厅或您方便之处进行。

Your participation is voluntary. Should you choose not to participate, no explanation is required. You are entitled to withdraw your participation at any time until data is

processed. You are free to choose to decline to answer any questions, or withdraw any of the data collected without any consequence.

您的参与是自愿的。倘若您选择不参与，不需要任何解释。您有权在数据收集过程中任何时段选择退出。访谈中，您也可以选择不予回答，或随时撤回已经采集的您的数据而不会负担任何不良后果。

The information you provide in the interview will help inform our understandings about the learning and teaching of undergraduates in Australian universities, particularly in relation to the learning and teaching of Chinese international students.

您提供的访谈信息将有助于了解澳洲高校关于本科生的教育与学习情况，尤其是关于中国留学生教学情况。

### **Privacy and confidentiality** 隐私与保密

Collected data will be confidential and no identifying information will be used in any publication arising from the research. As the sample size for interviews is small this may have implications for privacy/anonymity. In order to maintain data confidentiality any responses deemed personal will not be used as data, and each participant will be identified by a pseudonym. The master list identifying participants will be stored in a password-protected file. Only the above-named researchers will have access to the data. Print data will be stored in a locked filing cabinet at the university and electronic data in password protected files and will be destroyed five years after collection. Please note that confidentiality of information provided is subject to legal limitations (e.g., subpoena, freedom of information claim, or mandatory reporting in some professions) and total anonymity cannot be promised for that reason.

所收集数据将严格保密，与此研究有关的任何出版将不涉及任何采访者的可辨信息。但是如若访谈样本过小的话，隐私或匿名或有所暗示。为此，为保证数据隐秘性，任何私人性的回复将不作为数据予以采用，且每一个受访者将采用假名的形式。受访者的总清单将被存放在一个加密的文件夹中，只有上述研究者方有权进入。所有印刷数据将锁入并存放在联邦大学的文件柜中，电子数据加密储存并将于五年后予以销毁。不过请注意，本研究的隐秘性需符合法律规定（如传讯，信息索取自由，或某些流程中的要求的强制性的报告等），在此情况下，就难于保证完全的匿名。

### **Are there any risks associated with the participation in this study?** 参与此次访谈有任何风险吗？

The interview is of low risk. The researchers are seeking information about your learning experiences in Australian universities, which may create some mixed feelings or uneasiness. This research is being conducted purely for academic purposes and does not include any questions that relate to political factors. If you feel uneasy with any of the questions, you are entitled to withdraw from the research, and any data collected before your completion will be removed from the aggregate.

此次访谈风险甚微。此研究的目的主要了解您在澳大学的学习经历，个中滋味或许有甜有苦。此次研究纯粹为了学术之用，不会涉及有关政治的任何话题。如若您不想回答任何问题，您有权撤出此次调查，而且数据采集前的有关您的任何数据也将从总数据中清除。

Your personal information will be treated in a respectful and confidential manner and will not be identifiable. Should you experience any distress or personal concerns from your participation in this study, 24 hour counselling is available via Lifeline on 131114.

绝对尊重您的个人隐私，所有信息信将不可辨认。如若您参与此次访谈有任何的困扰或忧虑，请致电 24 小时生命热线 131114.

If you have any questions, or you would like further information regarding the project titled **Perceived approaches to learning of Chinese international students in Australian universities**, please contact the Principal Researcher,  
**Associate Professor Margaret Plunkett** of

The School of Education  
Telephone: (03) 51226980  
Email: Margaret.plunkett@federation.edu.au

要是您有任何疑问，或欲就此研究《中国留澳本科生学习方法之探索：论中国学生及其澳洲教师之感知》了解更多的信息，请联系主研人：

联邦大学教育学院

Margaret Plunkett 副教授

电话：: (03) 51226980

邮件：Margaret.plunkett@federation.edu.au

## Appendix F Consent Form for Chinese International Undergraduates (Bilingual Version)

### Consent(同意表) – Please complete the following information: 请填写如下信息

I (name of participant 我, 参与者的名字) \_\_\_\_\_ of (affiliation of participant 学校名称) \_\_\_\_\_ hereby consent to participate in the above research study. 在此同意参与上述研究。

The research program in which I am being asked to participate has been explained fully to me, verbally or in writing, and any matters on which I have sought information have been answered to my satisfaction. 我受邀参与该研究, 已通过口头或书面的形式全面了解了此研究, 我所有的疑问也予以了答复。

I understand that: 我已了解了如下信息:

All information I provide (in surveys or interviews) will be treated with the strictest confidence and data will be stored separately from any listing that includes my name and contact details. 我提供的所有信息(问卷或访谈)都将严格保密, 含有我的名字及联系信息的数据都将单独保存。

Aggregated results will be used for research purposes and may be reported in a thesis and scientific and academic journals and books. 所有结果将作研究之用, 可以发表在论文、科研杂志和书籍中。

If the sample size is small this may have implications for privacy/anonymity. 如若研究样本量小, 可能会暗含我的隐私/匿名信息。

I am free to withdraw my consent at any time during the study in which event my participation in the research study will immediately cease and information/data obtained from it will not be used. 我有权随时撤回同意书, 在此情况下, 我的参与将立即停止, 且收集到的我的信息或数据将不再被使用。

I understand the exception to this is: 我了解此研究的特殊情形如下:

If I withdraw after information has been aggregated it is unable to be individually identified - so from this point it is not possible to withdraw my information/data, although I may still withdraw my consent to participate. 要是数据已经收集整合, 个人信息将无法识别, 因而从此刻开始, 即便我退出参与, 但信息或数据已无法撤回。

SIGNATURE(签名): \_\_\_\_\_ DATE(日期): \_\_\_\_\_.

## Appendix G Final Ethical Report for HREC

Please indicate the type of report	<input type="checkbox"/> Annual Report (Omit 3b & 5b) <input checked="" type="checkbox"/> Final Report
Project No:	<b>A18-144</b>
Project Name:	<b>Approaches to learning: Perceptions of Chinese international undergraduates and their lecturers in Australian Universities</b>
Principal Researcher:	<b>Assoc Prof Margaret Plunkett</b>
Other Researchers:	<b>Assoc Prof Jenene Burke Boli Li</b>
Date of Original Approval:	<b>07/12/2018</b>
School / Section:	<b>School of Education</b>
Phone:	<b>0351226980</b>
Email:	<b>Margaret.plunkett@federation.edu.au</b>

**Please note:** For HDR candidates, this Ethics annual report is a separate requirement, in addition to your HDR Candidature annual report, which is submitted mid-year to [research.degrees@federation.edu.au](mailto:research.degrees@federation.edu.au).

1) Please indicate the current status of the project:				
1a) Yet to start 1b) Continuing 1c) Data collection completed 1d) Abandoned / Withdrawn:				<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>
1e) If the approval was subject to certain conditions, have these conditions been met? (If not, please give details in the comments box below)		<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
<b>Comments:</b>				
1f) Data Analysis	<input type="checkbox"/> Not yet commenced	<input type="checkbox"/> Proceeding	<input checked="" type="checkbox"/> Complete	<input type="checkbox"/> None
1g) Have ethical problems been encountered in any of the following areas: Study Design Recruitment of Subjects Finance Facilities, Equipment (If yes, please give details in the comments box below)			<input type="checkbox"/> Yes <input type="checkbox"/> Yes <input type="checkbox"/> Yes <input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> No
<b>Comments:</b>				
<b>2a) Have amendments been made to the originally approved project?</b>				
<input checked="" type="checkbox"/> No		<input type="checkbox"/> Yes		
<b>2b) If yes, was HREC approval granted for these changes?</b>				
<input type="checkbox"/>		Provide detail:		

Yes	<input type="checkbox"/> <b>Yes</b> Application for Amendment to an Existing Project <input type="checkbox"/> <b>Yes</b> Change of Personnel <input type="checkbox"/> <b>Yes</b> Extension Request
<input type="checkbox"/> <b>No</b>	If you have made changes, but not had HREC approval, provide detail as to why this has not yet occurred:
2c) Do you need to submit any amendments now?	
<input checked="" type="checkbox"/> <b>No</b>	<input type="checkbox"/> <b>Yes</b> Application for Amendment to an Existing Project <input type="checkbox"/> <b>Yes</b> Change of Personnel <input type="checkbox"/> <b>Yes</b> Extension Request * NB: If 'Yes', <u>download &amp; submit the appropriate request</u> to the HREC for approval: Please note: Extensions will not be granted retrospectively. Apply well prior to the project end date, to ensure continuity of HRE approval.

3a) Please indicate where you are storing the data collected during the course of this project: (Australian code for the Responsible conduct of Research Ch 2.2.2, 2.5 – 2.7)	
Hardcopy data is being stored in a locked filing cabinet in the office of the student researcher while all online data is stored on password protected computer of the student researcher	
3b) <b>Final Reports:</b> Advise when & how stored data will be destroyed (Australian code for the Responsible conduct of Research Ch 2.1.1)	
Data will be kept for a minimum of 5 years and then disposed of through the Federation University Secure data disposal system.	

4) Have there been any events that might have had an adverse effect on the research participants OR unforeseen events that might affect continued ethical acceptability of the project?	
<input checked="" type="checkbox"/> <b>No</b>	<input type="checkbox"/> <b>Yes</b> * NB: If 'yes', please provide details in the comments box below:
<b>Comments:</b>	

5a) Please provide a short summary of results of the project so far (no attachments please):	
<p>The findings demonstrated that perceptions of Chinese international students (CIS) in Australian universities were characterised by a unique learning structure that differed from domestic students in a number of ways, particularly in relation to group learning, the use of understanding and memorisation strategies, and classroom engagement. It was noted that these disparities did not support the generally held view of CIS as mainly surface oriented learners preferring rote-learning techniques (Grimshaw, 2007). This study also unpacked negotiations that occurred between CIS and their Australian lecturers. While CIS' learning approaches were greatly shaped and determined by academics' instructional decisions such as curriculum, teaching patterns and assessment procedures, it was also found that academics' instructional activities were also reshaped and counter-determined by CIS' learning approaches.</p>	
5b) <b>Final Reports:</b> Provide details about how the aims of the project, as stated in the application for approval, were achieved (or not achieved).	

(Australian code for the Responsible conduct of Research 4.4.1)

The aim of the study was first to better understand the learning approaches used by Chinese international undergraduates to assist them in preparing for a successful learning experience in Australian universities. A further aim was to provide information that may be of assistance to academics to better understand effective practices for teaching international students. Using comparative data from Australian domestic university students will facilitate contextualisation of the understandings about Chinese students' approaches to learning in Australian universities.

These aims were achieved in that the study resulted in the development of a model – the Co-constructed Model of Learning and Teaching for Chinese students in Australian universities, which will help to guide both future international students and Australian academics regarding appropriate learning and teaching protocols.



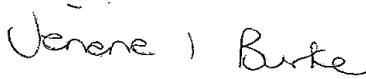
6) Publications: Provide details of research dissemination outcomes for the previous year resulting from this project: e.g.: Community seminars; Conference attendance; Government reports and/or research publications

No publications as yet – the main focus has been on completing the associated doctoral thesis

7) The HREC welcomes any feedback on:

- Difficulties experienced with carrying out the research project; or
- Appropriate suggestions which might lead to improvements in ethical clearance and monitoring of research.

8) Signatures

Principal Researcher:	 <b>Print name: A/P Margaret Plunkett</b>	Date:	<b>17/07/20</b>
Other/Student Researchers:	 <b>Print name: Boli Li</b>	Date:	<b>17/07/20</b>
	 <b>Print name: A/P Jenene Burke</b>	Date:	<b>17/07/20</b>

Submit to the Ethics Officer, Mt Helen campus, by the due date:  
[research.ethics@federation.edu.au](mailto:research.ethics@federation.edu.au)

## Appendix H Validation of the Subscales of R-SPQ-2F with the CIS Sample

**Analysis of Deep Approach Subscales with the CIS Sample.** The aim of the DA subscale in the R-SPQ-2F was to examine the depth to which the participants handled their learning in order to meet requirements in specific context. In the current study, the participants were asked to report how they approached their learning incorporated with ‘predominantly deep’ motives and strategies (Biggs et al., 2001, p. 137).

Both KMO and BTS tests were conducted, with the KMO value (.83 >.60), and the BTS (354) test significant ( $p < .01$ ), suggesting the suitability of the data for factor analysis. The total variance demonstrated two factors with an eigenvalue of 3.64 and 1.18 (exceeding 1.00), explaining a cumulative of 48.15% of the variance. The scree plot also supported a two-factor settlement of this scale. However, the results of parallel analysis, with free eigenvalues of 1.41 and 1.27, seemed to support one-component classification of the DA subscale. Nevertheless, the component matrix of two components was .413 (above .30), signifying the existence of two components, though they were highly correlated. It further confirms a justification for the use of oblique rotation (Pallant, 2016).

After Direct Oblimin rotation with Kaiser Normalisation, the component matrix indicated that six items (6, 13, 5, 1, 9, 14), which are listed based on the order of loadings, could be subsumed into one component while the remaining four items (17, 10, 18, 2) could be categorised into another component. The component correlation matrix was .40 (above .3), suggesting a strong correlation between the two components. However, a closer inspection revealed that Item 6 with a loading of .76, which was supposed to be part of DM, which was an item within DS, differed from the original classification provided by Biggs et al. (2001) and other researchers such as Xie (2014).

Therefore, another round of PCA with Oblimin rotation was performed with a reduction of Item 6. In the same way, a third and fourth round of PCA with Oblimin rotation were conducted, and the pattern and structure matrix was illustrated in Table I.

Table I  
*Pattern and structure matrix for PCA with Oblimin Rotation of the DA subscale on CIS sample*

Item	Pattern coefficients		Structure coefficients		Communalities
	Component 1	Component 2	Component1	Component2	
B1	<b>.67</b>	.06	<b>.69</b>	.28	.48
B2	-.14	<b>.85</b>	.13	<b>.80</b>	.66
B5	<b>.85</b>	-.28	<b>.76</b>	.00	.64
B9	<b>.63</b>	.16	<b>.68</b>	.36	.49
B10	.28	<b>.54</b>	.46	<b>.64</b>	.48
B13	<b>.63</b>	.18	<b>.69</b>	.39	.51
B14	.39	<b>.54</b>	.57	<b>.67</b>	.58

As outlined in Table I, four items (1, 5, 9 and 13) were included in DM, while three items (2, 10 and 14) were in DS. These items fit with the classification of DM and DS



subscales by Biggs et al. (2001), as depicted in Figure 4.3, illustrating the particular fit for the current CIS sample.

In Biggs et al.'s (2001) study, Cronbach alpha coefficients were derived of .62, .63, .72, and .57 respectively for DM, DS, SM, and SS, and they argued that these coefficients were "acceptable" (p. 133) given the fact that each subscale was composed of five items. Scholars differ in the acceptance threshold of alpha coefficients (Schmitt, 1996; Xie, 2014). Some such as Pallant (2016) and Wu (2010) regard .70 as the cut-off valued of acceptance while others argue that a value of .50 may not fatally affect the validity of a scale (Schmitt, 1996). According to Pallant (2016) and Xie (2014), alpha coefficients are likely to be dependent, first, on the number of the items on a scale, and second, on the multidimensionality of a scale. Fewer items (fewer than 10) of a dimension usually give rise to a small alpha coefficient. If a scale is multidimensional yet with fewer items, the reliability of a scale tends to be underestimated by the alpha value (Schmitt, 1996). In such an instance, it may be appropriate to measure and report the mean inter-item correlation for the items (Pallant, 2016). As recommended by Briggs and Cheek (1986), an optimal mean inter-item correlation values ranging from .2 to .4 is considered accepted.

In the current research, the renewed items of DM and DS were put for reliability individually. With the mean inter-item correlation value of .36 and .32 respectively, both were above the cut-off of .2, indicating that the renewed DM and DS subscales were reliable and valid with the CIS sample. Particularly given that the DM subscale in this study merely consists of four items and DS contains only three, it was reasonable to deem such coefficients generated were acceptable.

**Analysis of Surface Approach Subscales with the CIS Sample.** The SA subscale in Biggs et al.'s (2001) R-SPQ-2F aimed to identify whether participants handled their learning superficially with surface motives and surface strategies to reproduce the tasks presented to them. This subscale is made up of ten items, with surface motives to meet the learning requirement with minimum efforts demanded, and surface strategies to restrain the study scope of material studied and to reproduce it through rote learning (Biggs et al., 2001).

In the same way, the other 10 items were subjected to PCA for factor analysis. KMO and BTS tests were performed and the suitability of factor analysis was met with the KMO value of .78 and the significant BTS ( $p < .01$ ). The total variance explained the emergence of three factors exceeding 1.00 with an eigenvalue of 3.35, 1.24, and 1.00, explaining a cumulative of 56% of the variance. However, the scree plot test indicated a mere two-component labelling of the SA subscales. Parallel analysis also supported the two-component labelling of the SA subscale.

After oblimin rotation with Kaiser Normalisation, the structure matrix displayed that six items (8, 20, 7, 19, 11, 3) were included into Component 1 while the remaining four items, (12, 4, 15, 16) were entailed in Component 2. However, based on previous research on the identification of SA, Items 8 and 20 were supposed to be included into SS instead of SM, and Item 15 was supposed to be subsumed into SS rather than SM. Since Item 8 had a higher loading (.81), it was decided to reduce it for further analysis. Consequently, a second run of PCA with Varimax was performed with the movement of Item 8. In the same way, Item 20, Item 19 and Item 15 were removed, and thus another three rounds of PCA with oblimin rotations were performed. Table II outlines the pattern and structure matrices for the last round of PCA with oblimin rotation of the SA subscale with the CIS sample.

Table II

*Pattern and structure matrices for PCA with oblimin rotation of SA subscale with the CIS sample*

Item	Pattern matrix		Structure matrix		Communalities
	Component 1	Component 2	Component 1	Component 2	
B11	<b>.76</b>	.15	<b>.71</b>	-.08	.53
B7	<b>.66</b>	-.18	<b>.72</b>	-.38	.55
B3	<b>.66</b>	-.09	<b>.68</b>	-.29	.48
B4	-.23	<b>-.89</b>	.04	<b>-.82</b>	.72
B12	.29	<b>-.68</b>	.50	<b>-.77</b>	.67
B16	.22	<b>-.56</b>	.39	<b>-.63</b>	.44

Table II demonstrates that the final components of the SA subscales for the CIS sample was made up of SM and SS, with each constituting three items instead of five, as initially classified by Biggs et al. (2001). That is, the current research validated that SM was composed of Items 3, 7 and 11, while SS was made up of Items 4, 12 and 16. This finding validated a more parsimonious item inclusion of SM and SS subscales. However, this result was coordinated with the classification of SM and SS as originally defined by Biggs et al. (2001) in the R-SPQ-2F.

In the current research, the renewed subscales of SM and SS were put into SPSS for reliability checking. With the mean inter-item correlation value of .29 and .34 respectively, it indicates that the altered SM and SS subscales had an internal consistency among the CIS sample.

## Appendix I Validation of the Subscales of R-SPQ-2F with the ADS Sample

**Analysis of Deep Approach Subscales with the ADS Sample.** The two-factor DA and SA subscales of the R-SPQ-2F instrument were validated for the ADS sample, with each consisting of ten items as confirmed by Biggs et al. (2001). In order to assess the reliability and validity of these two subscales for the ADS sample, factor analysis was performed. Principal components analysis was run on the 10 items of the DA subscale. The suitability of the data were assessed through the KMO test (.86), and the BTS test, which reached statistical significance ( $p < .01$ ), confirming the factorability of the data set. The PCA demonstrated the presence of two factors, with the first factor, with an eigenvalue of 3.43, explaining 34.26% of the total variance of eight items (1, 10, 13, 2, 6, 17, 18, 14) and the second factor, with an eigenvalue of 1.06, explaining 10.61% of the variance of two items (5, 9). The scree plot also supported a two-factor labelling of this subscale. However, only one random value of the parallel analysis (1.36) was smaller than the two eigenvalues of the total variance exceeding 1, suggesting a possible overlap of the two-factor solution of this subscale. With a component correlation of .257, it signified that the two components were correlated in some way.

An examination of the first component found that Item 1, with a loading of .68, was misplaced in the DS subscale. Hence, a second round of PCA with oblimin rotation was conducted with the deletion of Item 1. Similarly, Items 17 and 13 were found misplaced in another subscale, and removed by PCA followed by oblimin rotations. The results demonstrated five items (2, 18, 10, 6, 14) were entailed in DS with two items in DM (5, 9), which, according to Pallant (2016), Tabachnick et al. (2013), and Wu (2010), was unaligned with the minimum requirement of a dimension (more than 3 items). PCA was again performed with addition of previously deleted Item 1. Table III displays the results of the PCA with oblimin rotation and the communal variance of each item.

Table III

*Pattern and structure matrix for PCA with oblimin rotation of DA subscale of the R-SPQ-2F with the ADS sample*

Item	Pattern coefficients		Structure coefficients		Communalities
	Component 1	Component 2	Component 1	Component 2	
B1	<b>.74</b>	-.05	<b>.73</b>	.21	.53
B2	<b>.73</b>	-.08	<b>.70</b>	.17	.49
B10	<b>.69</b>	-.01	<b>.69</b>	.23	.47
B18	<b>.58</b>	.04	<b>.60</b>	.24	.36
B6	<b>.50</b>	.36	<b>.63</b>	.54	.51
B5	-.21	<b>.89</b>	.11	<b>.82</b>	.71
B9	.22	<b>.56</b>	.42	<b>.64</b>	.45
B14	.35	<b>.41</b>	.50	<b>.54</b>	.40

As such, the DA subscale for the ADS sample was made up of two subscales, with DM consisting of three items (5, 9, 14) and DS consisting of five items (1, 2, 6, 10, 18).

It was noted that Item 14 in the DM, which was originally validated as an item in DS, and Item 1 in the DS, which was an item of DM, as asserted by Biggs et al. (2001), were ratified into different dimension with the ADS sample. This finding was divergent from what was initially presumed in the R-SPQ-2F. Although an inter-item mean correlation value of .25 and .33 for DM and DS respectively (between .2 to .4), indicated an acceptable reliability of the DA subscales with the ADS sample, they did not match the items that were validated in the DA subscales for the CIS sample, and therefore were not comparable to each other.

**Analysis of Surface Approach Subscales with the ADS Sample.** Similarly, the two-factor components analysis was conducted on the 10 items of SA on ADS sample. The KMO test presented a result of 0.73, and the BTS test was statistically significant ( $p < .01$ ), indicating the factorability of the data. The total variance demonstrated three factors in the SA subscales with the ADS sample. The first factor with an eigenvalue of 3.09 explained 30.85 % of the variance while the second factor with an eigenvalue of 1.33 explained 13.31 % of the variance, and the third with an eigenvalue of 1.12 explained 11.18% of the variance. The scree plot aligned with a two-factor structure of this SA subscale. Two random values of the parallel analysis (1.36 and 1.28) were smaller than the first two eigenvalues of the total variance, further confirming a categorising of two- factor solution of the SA subscale on ADS sample.

PCA with oblimin rotation discovered six items (7, 12, 15, 3, 19, and 4) were classified into the SM subscale while the other four items (8, 11, 20, and 16) were grouped into the SS subscale. However, a careful reading would find that Item 12, which was originally subsumed in the SS subscale, fell into the SM class. Hence, another run of PCA, accompanied by varimax again, was processed with Item 12 removed.

In the same way, Items 11 and 19 were also discovered misplaced into different labelling from their original validation and thus another two rounds of PCA with varimax rotation were performed. It was noted that four items (16, 8, 20, 4) were entailed in one component, and three (7, 15, 3) in the other. Nevertheless, a further inspection at the communal variance discovered that Item 4 was lowest in coefficient ( $.25 < .30$ ), which, according to Pallant (2016), could be removed in order to increase the total variance explained. Therefore, a final run of PCA with oblimin rotation was conducted. Table IV demonstrates the result of pattern and structure coefficients for PCA with varimax rotation, together with communal variance of the items.

Table IV

*Pattern and structure matrix for PCA with oblimin rotation of SA subscale of the R-SPQ-2F with the ADS sample*

Item	Pattern coefficients		Structure coefficients		Communalities
	Component 1	Component 2	Component 1	Component 2	
B7	<b>.87</b>	-.13	<b>.84</b>	.06	.72
B15	<b>.67</b>	.24	<b>.72</b>	.39	.58
B3	<b>.66</b>	.01	<b>.66</b>	.15	.43
B8	-.27	<b>.83</b>	-.09	<b>.77</b>	.66
B16	.18	<b>.63</b>	.32	<b>.67</b>	.48
B20	.15	<b>.57</b>	.27	<b>.60</b>	.38

As illustrated in Table IV, the SA subscale was made up of two components, which could be defined as SM and SS (Biggs et al., 2001), with the former consisting of three items (3, 7, 15) while the latter also consisted of three items (8, 16, 20). The reliability check was conducted on these two new subscales. The mean of their inter-item correlations was 0.35 for SM and 0.22 for SS. According to Briggs and Cheek (1986), an optimal inter-item correlation is between .20 to .40. Therefore, the SA subscales are considered valid and reliable with the ADS sample. However, they were not aligned with the items that were validated in the SA subscales for the CIS sample, and thus were not comparable to each other.

## Appendix J A Standard Multiple Regression on CIS' Learning Approach

This section analyses how each of the subscales (i.e., DM, SM, DS and SS) makes a contribution to the total characteristics of CIS learning approaches by using standard multiple regression.

CIS participants were characterised by typical motives and strategies in their approaches to learning. Literature suggests that motivation and strategies play key roles in one's learning approaches (e.g., Biggs, 1978; Entwistle, 1983), which are incorporated into the DA and SA subscales in the R-SPQ-2F. However, how much of the variance in terms of motives (DM and SM) and strategies (DS and SS) could be accounted for in CIS' total learning approaches? Did the measure of motives and strategies predict their learning behaviours in Australian universities? Of motives and strategies, which was a better predictor of CIS' approaches to learning in Australian HE?

The factor analysis on the CIS sample validated the learning approach adopted by CIS is composed of four subscales of DM, DS, SM and SS, as represented by the R-SPQ-2F. The DM subscale consists of four Items (i.e., Item 1, 5, 9 and 13), SM of three items (Item 3, 7 and 11), DS of three items (Item 2, 10 and 14), and SS of three items (Item 4, 12 and 16). To address those questions, standard multiple regression analyses were conducted to determine which type of motive (DM or SM), was more conducive to CIS' learning characteristics? And which type of strategy (DS or SS), was more influential on CIS' learning approaches?

**The Influence of Motives on CIS' Learning.** Assumptions related to normality, outliers, multi-collinearity, linearity, homoscedasticity, and the independence of residuals of the variables were met. The results demonstrated a normal distribution of variables with no obvious outliers. The multi-collinearity demonstrated that both DM and SM scales correlated substantially with Total scores of students' learning ( $r=.75$  and  $.62$  respectively) and a bivariate correlation of  $.20$ , suggesting no violation of regression analysis. The value of Tolerance and VIF (variance inflation factor) were  $.96$  (above  $.10$ ) and  $1.04$  (less than  $10$ ), which confirmed a non-violation of the multi-collinearity assumption and suggested suitability for regression analysis. Furthermore, the Mahalanobis (Mahal in short) value distance was  $13.34$ , which was comparable to the Critical chi-square value of  $13.82$ , further supporting the normality of variables for regression analysis.

A standard multiple regression for DM and SM was performed and found DM and SM explained  $79.7\%$  of the variance in the total learning scores ( $R^2=.797$ ). The ANOVA reached statistical significance ( $F(2,153)=300.73$ ,  $p<.001$ ). The Beta value of  $.65$  for DM, which was comparable with SM ( $\beta=.50$ ), signified that DM made a stronger unique

contribution to explaining CIS' total learning scores than SM. Both of the Sig. values were smaller than .00, suggesting both DM and SM were making a statistically significant unique contribution to the predication of the CIS participants' learning approaches. Additionally, the Part correlation for DM was .64, and made to .41 when squared, indicating that DM was making a unique contribution of 41% to the explanation of variance in the total of students' learning scores. Similarly, SM ( $R^2=.235$ ) accounted for 23.5% contribution to the variability of CIS' learning scores in Australian universities.

**Contribution of Strategies to CIS' Learning.** In the same way, DS and SS for CIS participants, were subjected to a standard multiple regression analysis in order to determine how much of two variables were able to predict the variance of CIS' learning characteristics in Australian HE. Prior to regression, a series of assumption analyses were run to ensure the appropriateness for regression analysis, and found no violations ( $r=.66$  and  $.67$ , Tolerance $=.98$ , VIF $=1.02$  and Mahal $=11.57$ ).

Standard regression was run and the results demonstrates that strategies of DS and SS explained 76.3% of the variability of CIS' total learning scores ( $R^2=.763$ ). The Sig. of ANOVA arrived at a level of statistical significance ( $F(2,153)= 246.67$ ,  $p<.001$ ), suggesting both DS and SS make unique contributions to the total variance of CIS' learning approaches. The standardised Beta value 0.59 for SS indicated a bigger contribution to the explanation of CIS' learning scores than DS ( $\beta=.59$ ). Furthermore, the  $r^2= .334$  signposted that SS was accounting for 33.4 % unique contribution in predicting the total of students' learning approach while SS was accounting for 31.3% ( $r^2= .313$ ).

The results revealed that both motives (DM and SM) were significantly correlated to CIS' learning approaches, with DM (41%) contributing more in predicting the characteristics of CIS' learning than SM (23.5%). The two categories of strategy (DS and SS), functioned almost identically in the predictability of CIS' learning approach with respective contributions of 31.3% and 33.4%. Therefore, in order to foster deep learning, efforts should be made to enhance deep motives in CIS. More suggestions for this analysis were covered in the implications chapter.