

**The learning virtues:
Chinese cultural dispositions and student success**

**by
(Cynthia) Qing Xie**

M.A., University of Jyväskylä, 2000
B.A., East China Normal University, 1992

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Approval

Name: (Cynthia) Qing Xie

Degree: Doctor of Philosophy

Title: The learning virtues: Chinese cultural dispositions and student success

Examining Committee:

Chair: Geneviève Brisson
Assistant Professor

Stephen Smith
Senior Supervisor
Professor

Cécile Bullock
Co-Supervisor
Associate Professor

Cindy Xin
Supervisor
Adjunct Professor

Allan MacKinnon
Internal Examiner
Associate Professor

Gary Poole
External Examiner
Professor Emeritus
Centre for Health Education Scholarship
University of British Columbia

Date Defended/Approved: April 15, 2020

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Abstract

Internationalization in Western higher education, especially given the large number of students coming from China, requires an understanding of culturally-informed learning dispositions. Learning challenges and cultural strain are the foci of most of the existing research, however these foci do not sufficiently illumine the positive and often outstanding educational outcomes these international students attain. This phenomenological case study explores the experiences of eleven Chinese international students in an undergraduate dual degree program of Simon Fraser University and Zhejiang University, investigating the qualities they share which dispose them to perform well academically.

An analysis of three sources of data, namely, (1) autobiographical descriptions of student participants' learning histories, (2) interviews with student participants, and (3) interviews of two faculty members, reveals six key learning dispositions driving these students earnestly, strategically and proactively toward academic excellence. With "Enterprise" and "Resolve," they set high standards and aspirations as their learning goals, and pursue these goals with diligence. In the process of academic learning, "Concentration" assures full engagement in learning tasks, while "Perseverance" helps them endure learning hardships. "Humility" has them temper their self-satisfactions in order to be ready to learn from their teachers and peers. With the disposition of "Responsibility," learning to the best of their abilities fulfills family expectations and connects their actions to intended futures.

These learning dispositions are rooted in the Confucian learning tradition. They reveal the moral dimension to the learning. This study thus charts a new line of inquiry, one based on taking an emic, insider perspective on the internationalization of higher education, that promises to enrich our understandings of learning beyond knowledge construction and competency development. The findings will also inform current and potential Chinese international students, and their host Western universities, how and why these students are able to excel in their studies. Some practical recommendations for supporting these international students are drawn from the study data.

Keywords: Chinese international student; learning disposition; Confucian learning tradition; academic excellence

to Daniel

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Prelude

The concept of “learning disposition” exists not only in academic discourse but also in everyday life. I begin this thesis with a conversation I had with my son Daniel a couple of weeks before I started this research project. On the last day of school, Daniel came back home with a big smile. “I got the Academic Excellence Award again this year, Mom!”

Qing: Great, congratulations! It encourages you to keep up your good work, right?

Daniel: Yeah. Here is my report card, almost straight As. I am one of the few students in my class who got so many As.

Qing: That’s good! Your effort in schoolwork is recognized.

Daniel: I got a ‘G’ (Good) on Individual Effort for Oral Language this term, better than the ‘S’ (Satisfactory) in the last two terms.

Qing: That’s the best news! It shows you have been working harder recently. Though your letter grade on Oral Language hasn’t changed, I believe if you put continuous effort, like you did in the last term, you will improve your oral skill sooner or later.

Daniel: I know.

Qing: I am very happy with your progress in school, as you are. Remember, ‘Modesty makes one progress, while conceit makes one lag behind’.

Daniel: I know this Chinese saying, Mom. Don’t worry, I’ll keep working hard.”

Our conversation¹ ended happily. As Daniel went to play his computer games, which he had longed to be doing this past week, I started to read his report card carefully. His teacher had provided detailed information about what Daniel is able to do: follow task criteria carefully, write an appropriate story for a targeted audience, understand math concepts, able to participate in discussions about science, and so on. In the written comments about “behavior, including attitudes, work habits, effort and social responsibility,” Daniel’s teacher briefly wrote about his interests in a wide variety

¹ The conversation was held in English.

of subjects and his care for others. I felt I was looking for more specific details detailing his attitudes towards learning, his effort in study, and his interaction with his teacher(s). I couldn't help remembering the repeated comments I received in my report cards during my elementary and secondary school years back in China such as: clear learning goals (*xu-xi mu-di ming-que*, 学习目的明确), correct learning attitudes (*xue-xi tai-du duan-zheng*, 学习态度端正), good learning habit (*xue-xi xi-guan liang-hao*, 学习习惯良好), and respectful behavior to teachers (*zhun-jing lao-shi*, 尊敬老师). My teachers' comments didn't focus on what students were able to do, rather they used "earnest (*ren-zhen*, 认真), diligent (*qin-fen*, 勤奋), self-disciplined (*zi-jue*, 自觉) and modest (*qian-xu*, 谦虚) to describe and encourage students' learning. The differences in describing and guiding students' learning between Daniel's school report card and my old report cards are so apparent. They truly reflect the different concepts and learning traditions in the two different cultures of contemporary British Columbia and Zhejiang Province of thirty years ago.

Such differences have been also found in academic research. For example, Li (2010) explained, after comparing Socrates tutoring a slave boy in geometry and Mencius teaching a king about compassion:

Thus, we find that concepts such as the mind, reasoning, inquiry, and objective knowledge are rarely, if at all, part of Chinese learning parlance (despite the recent importation of these concepts into Chinese societies from the West). Similarly, the learning virtues of personal effort, endurance of hardship, perseverance, concentration, and humility are hardly discernible in iconic texts of the Western learning tradition. (p. 37)

My wondering about learning virtues thus began.

Chapter 1.

Introduction

Internationalization has become a major trend in higher education in recent decades (Naidoo, 2006; Knight, 2006) with five million international students engaged in tertiary education programs worldwide in 2016 (OECD 2018). A majority of the international students are attracted to universities in North America, Europe and Oceania, and especially to the Anglophone universities. In fact, Western countries have dominated the popular host country list for years (UNESCO Institute for Statistics 2012-2017, CBIE August 2018, CBIE A World of Learning 2015, 2016), especially the five English-speaking countries: Australia, Canada, New Zealand, the United Kingdom and the United States which have attracted half of all international students (UNESCO, 2018).

The expected benefits of internationalization are the development of students' international awareness, quality of teaching and learning, and strengthening research (Egron-Polak & Hudson, 2014). When it comes to the reality of international engagement practices, however, the actual situations are often complex and challenging. Students struggle to function in the new academic and sociocultural environments (Knight, 2006; Turner & Robson, 2008; Roberts, 2011, Siczek, 2015). Teachers confront a diverse student body whose ways of learning vary. Many of the supporting services are underutilized (Roberts, 2011). The internationalization of higher education requires the host universities to gain deeper understanding of a demographically changing student body, re-think their current practices, and redirect their internationalization efforts, in order to effectively support students' cross-border learning, and truly integrate an international, intercultural and global dimension into the purpose, functions and delivery of post-secondary education (De Wit, Hunter, Howard, Egron-Polak, 2015).

Many international students in Western universities originate from China, which accounts for 20% or more of the total mobile student population (OECD 2015, 2016, 2017). In Canada, students from China have been steadily growing and comprise the biggest international student group in recent years. They totaled more than 140,000 and counted for 28% in 2017 (CBIE: International Students in Canada, August 2018). This

large and increasing student body has received much scholarly attention over the past two decades. The majority of existing research has focused on the challenges which students from China face, and the tension between their culturally-rooted learning and/or coping approaches and the social and academic cultures of the host countries and universities. Meanwhile, much research also reports that most of the Chinese international students find a pathway through the inevitable challenges and meet the requirements in their new educational environments (Gu, 2009), with quite a few achieving academic excellence (Wong, 2004; Zhou, 2010, Li, 2010).

Taking into account the large presence of Chinese students in the increasingly internationalized Western universities, and the varied and sometimes paradoxical research findings on their learning approaches and outcomes, it is crucial to seek more in-depth understandings of Chinese international students' learning, especially as pertaining to why and how these students are able to succeed. Accordingly, this study investigates the lived experiences of a sample of Chinese international students who perform well academically in Western higher education. Their stories and the insights these stories reveal as to how and why they have been able to excel in learning in non-Chinese educational contexts can be of value to the hundreds of thousands of potential and current Chinese students at Western universities. They can also be of significance to the Western universities receiving and supporting international students from China.

1.1. The motivation for this study

My research interest in why and how Chinese international students achieve academic success in Western universities stems from my own experiences as an international student. I was an "A" level student during my elementary and secondary school years in China. I was subsequently admitted to the East China Normal University, one of the key universities in China, with an exemption from the Chinese National College Admission Examination (Gao Kao). With a B.A. (Honours) degree in Teaching Chinese as a Foreign Language, I went to Finland to pursue my graduate study as an international student in 1995 and obtained a Masters degree in Applied Linguistics from the University of Jyväskylä in 2000. I experienced the challenges, frustrations as well as achievements of many Chinese international students during my studies in Finland. Most of my fellow Chinese students became university faculty members, scientists and

engineers in Finland, Canada, USA and China. Twenty years have passed, however still I feel my experiences are relevant to those of a younger generation of Chinese students now studying at Western universities. In teaching these students, I have been inspired to portray their learning experiences and articulate their perspectives to understand what distinctive meanings they hold for the provision and support of international education.

I have now been a teaching faculty member at universities in China, Finland and Canada for more than twenty years. I meet students who excel in learning, as well as students who struggle to meet the minimum requirements. I have had students who started from a lower-than-average level but made rapid progress and achieved top performances in the end. I have also had students with a good beginning but who quit in the middle of their studies. As a teacher, I always want to figure out why students succeed or fail so I can better help them. I feel a strong obligation to explore what, indeed, makes students ready and willing to learn, and what keeps them resilient when facing challenges. Such pedagogical concern has provoked me to inquire into the importance of learning dispositions.

The School of Computing Science at Simon Fraser University (SFU) in Canada, where I work, initiated a Dual Degree Program (DDP) in computing science with Zhejiang University (ZJU) in China in 2005. Each year, about twenty Chinese students from Zhejiang University come to SFU to study. These students have impressed the faculty members and staff in the School of Computing Science with their outstanding academic performances. I hear stories about their awards in competitions. I see their names on the list of students on the President's Honor Roll almost every year. I know some of them landed jobs in leading tech companies in the world, such as Microsoft, Google and Amazon, while others continued their graduate studies in world-class universities, for example Stanford University, Carnegie Mellon University, University of British Columbia, and Peking University. As I have been working closely with the program as the Mandarin Chinese instructor for the Canadian DDP students since the inception, I recognize that this group of students provide a great opportunity for me to explore Chinese international students' lived experiences of performing well academically in a Canadian university. In short, my personal experiences and pedagogical concerns have led me to this study in which I explore the learning dispositions of Chinese students who perform well academically in Western higher education.

1.2. Research questions and clarification of terms

I had one primary question in mind at the beginning of this study: Why and how do Chinese international students perform well academically in their host Western universities?

The majority of existing research on Chinese international students' cross-border learning has focused on two aspects: the challenges they face during their acculturation or adaptation to the host academic contexts, and their culturally-rooted learning and/or coping approaches. The former focus emphasizes the impact of external contextual factors that impede their academic learning, such as family, social connection, financial situation (examples of social-cultural and economic context), classroom teaching style, and linguistic barriers (examples of educational and linguistic context). The latter focus is on the cultural strain on Chinese international students that hinders them in active acculturation or adaptation. Neither foci can fully answer my questions; instead, they paint a rather depressing picture of Chinese international students and leave little room for expecting any positive learning outcomes. A more detailed review of these studies will be provided in the following section 1.3 as the background of the current study.

The missing piece in this literature, which may shed some light on my question, addresses the characteristic qualities of Chinese international students that have them persist in socially, culturally and linguistically challenging learning contexts. These studies find that Chinese students are diligent in learning, besides portraying them as obedient to teachers, quiet in classroom discussion and self-segregating in social settings. My initial "why and how" question, therefore, needs to be more specific: What are the inner attitudinal forces that make Chinese students ready and willing to study harder in achieving success in their host Western universities? After extensive reading, I have come to the realization that an inquiry into Chinese students' learning dispositions may well provide telling answers to these widely neglected questions. For a more detailed discussion of learning dispositions, please refer to Chapter 2 Literature Review.

The Chinese students' learning dispositions can be gleaned from the experiences of the students who perform well academically. The Chinese students in the Dual Degree Program (DDP) in Computing Science at Simon Fraser University (SFU) in Canada offer an ideal student pool from which to draw in exploring how Chinese

students are disposed to perform well academically in a non-Chinese university. Their lived experiences of achieving academic success at SFU can provide concrete insights into the mystery of why and how Chinese international students perform well academically in their host Western universities. Thus, I further refined my research questions as the following:

- 1) What are the learning characteristics of this group of Chinese DDP students who perform well academically at Simon Fraser University?
- 2) What are the learning dispositions these students ascribe to their good academic performance?
- 3) Do they think that their educational experiences in a Canadian university result in any changes in their learning dispositions? If yes, what are the changes? And how do these changes happen?

I would now like to clarify some important and frequently used terms in this study. In today's increasingly internationalized universities, there are many subgroups of Chinese students: those who grew up in China; those who grew up outside of China; students whose native language is Chinese (including all the dialects); students who are bilingual in Chinese and another language; students who have Chinese as their heritage language; and students who do not have Chinese as a mother tongue. In this study, I use the term "Chinese student" for students who grew up in China and whose native language is Chinese. The term "Chinese learners" is from the literature review, and it refers to "the Chinese students in Confucian-heritage culture classrooms who are influenced by Chinese belief systems" (Watkins & Biggs, 1996; Rao & Chan 2009, p. 4). These are the students whose primary culture and first language is Chinese. Therefore, I sometimes use "Chinese student" and "Chinese learner" interchangeably. The "Chinese international student" refers to the Chinese students who study in Western universities. I use the term "west" to specifically refer to the geographic areas including North America, Europe and Oceania which, as I have already stated, are the most popular destinations for Chinese international students.

1.3. Background of research

Over the past three decades, Chinese learners have attracted the interest of teachers, educational theorists and researchers, both within and outside China. There

are several reasons for such growing attention given to the nature, and presumed distinctiveness, of the Chinese learner: the large scale of China's education system; the changing context of teaching and learning in China; the internationalization of universities in the West with increasingly significant numbers of Chinese students; and the unique characteristics of Chinese education to which may be attributable, to a greater or lesser extent, the reasons for Chinese students' academic successes elsewhere (Jin & Cortazzi, 2011). In this section, I will review first the context of the internationalization of universities in the West. I will then focus on the literature pertaining to Chinese students' cross-border learning and with respect to challenges and coping approaches, heritage culture and host academic contexts, and contradictory research findings on Chinese learners.

1.3.1. The internationalization of Western higher education

The internationalization of higher education has become a significant trend worldwide in the recent decades (Naidoo, 2006; Knight, 2006). Millions of students leave their countries, coming primarily from Asia (1.9 million, 55% of all international students in 2016), to study at Western universities. The large scale of this international student flow has certainly changed the landscape of Western education, with telling economic, political and social impacts on the host countries. Governments, institutions as well as advocating organizations are involved in the internationalization of Western higher education. In this study, my focus will be at the institutional level with attention paid to the rationales for engagement in the internationalization, the activities to facilitate internationalization, and the role of international students in the internationalization of the universities

Definitions and rationales for internationalization of higher education

There has been an extensive range of definitions of internationalization proposed from a variety of perspectives and in keeping with various theoretical frameworks. I only examine selected definitions which pertain to institutional internationalization, and their significance for this study. To begin with, Knight's (1994) widely accepted definition provides a solid starting point for the review:

Internationalization of higher education is the process of integrating an international dimension into the teaching/learning, research and service

functions of a university or college. An international dimension means a perspective, activity or service which introduces or integrates an international/intercultural/global outlook into the major functions of an institution of higher education. (p. 3)

This definition concerns how internationalization should take place across the full range of a university's major functions, including teaching and learning, and research and service. It also emphasizes the importance of embedding the international dimension within the whole educational processes: from university vision to program delivery.

Some scholars have expressed concerns that the students' voices are missing in the above definition, and have proposed that students' experiences to be recognized in the process of institutional internationalization (for example, Beck, 2008). Other scholars were concerned that this definition lacks reference to rationales for undertaking internationalization (Qiang, 2003; De Wit Hunter, Howard, Egron-Polak, 2015) and that it is hard to implement the process or develop the strategies of internationalization without a common understanding of the purpose. Wit et al. (2015) proposed a definition clarifying this process/goal argument:

Internationalization of higher education is the intentional process of integrating an international, intercultural or global dimension into the purpose, functions and delivery of post-secondary education, in order to enhance the quality of education and research for all students and staff, and to make a meaningful contribution to society. (Wit et al., 2015)

These discussions and development of the definitions of internationalization in higher education expressed an increasing attention on the students. The International Association of Universities (IAU) adopts the above definition to acknowledge that "internationalization is not a goal in itself, but a means of enhancing quality and excellence of higher education and research" (IAU website). According to the most recent available Global Survey conducted by the IAU, the universities' most expected benefits from internationalization remain similar over time, focusing on students' international awareness, quality of teaching and learning, and strengthening research (Egron-Polak & Hudson, 2014).

These purposes or expectations fall into the different rationales for internationalization: academic, cultural/social, political and economic rationales (Knight, 1999). The academic rationale focuses on developing students' knowledge and skills for

living and working in the globalized environment, while the cultural/social rationale is to develop cross-cultural knowledge and skills. Government and universities also value internationally and intercultural knowledge and competent students and scholars who improve the prestige and profile of the institutions, the economic, scientific and technological competitiveness of the countries, and who contribute to national security (Knight, 1996, 2006). Therefore, to develop students' international and intercultural knowledge and skills is the essential purpose of internationalization. Siter (2004) had a slightly different approach regarding the rationales of idealism, instrumentalism and educationalism underpinning the implementation of internationalization, and suggested more specific objectives for international and intercultural skill development. The vision for Idealism is to create a better world that is not so Western-centric and ethnocentric.

In sum, the value of the definitions and rationales for internationalization in higher education for the purpose of this study lies in their mutual agreement about the essential purpose of internationalization, which is to develop students' international and intercultural awareness, perspectives and competence through engaging and supporting them in the internationalized teaching and learning, along with the research and service. Students' engagement is an imperative and integral component of the internationalization of higher education.

Engaging students in internationalization

There is a wide range of activities that universities can implement in order to engage and support students in being internationally and intercultural competent. McKellin (1996) categorized the activities in terms of curriculum development, faculty, staff, administration development, international projects, institutional linkages, communicative linkages, international student programs and exchange programs. Scholars have in turn identified a number of avenues and strategies to engage students in these internationalization activities. One important avenue is often termed internationalizing curriculum. There are a number of types of curricula which attempt to integrate an international, intercultural or global dimension, for example, joint or double degrees, curricula for international students, and courses taught by visiting scholars (Bremer & Van der Wende, 1995, McKellin, 1996, Knight 1999). Bond (2003) summarized three main approaches used in internationalizing curricula: the add-on approach, the infusion approach and the transformation approach. The transformation

approach is the most challenging one which requires a “shift in the way we understand the world” (p.5), and a focus on enabling students “to move between two or more worldviews” (p. 5).

Besides curricula, institutions also have committed, in varying degrees, to providing services that can assist international students who face academic challenges as well as emotional, social and cultural stresses (Sawir et al., 2008) when studying away from home. Roberts (2011) sorted some common services into several grouping: learning support services, such as library, language support center; academic development support services, such as buddy support, mentor support, and career center; administrative support services, such as international student office and international student advisors; social support services, such as clubs, volunteer activities and sporting facilities; and services focused on security and wellbeing, such as campus security and counselling services.

The curricula and support services promoting internationalization appear to be of a sufficiently wide range in type and functions. Yet there are challenges in reality when universities confront dynamic and complex planning expectations and must manage any teaching needs while meeting governmental and institutional mandates. Students struggle to function in the new academic and sociocultural environments (Knight, 2006; Turner & Robson, 2008; Roberts, 2011, Siczek, 2015). Services intended to assist international students are often underutilized (Roberts, 2011). To address these challenges and concerns, teachers, educational theorists and researchers have attempted to examine students’ needs and identify the factors that contribute to the effectiveness of the internationalized programs, services and strategies implemented by institutions in light of those needs.

Extensive research is available regarding how language proficiency, individual characteristics, and social relations influence student engagement. Abundant studies have found that foreign language proficiency (English and/or local language proficiency) is key to international students’ academic success and overall adaptation (Meng et al., 2017; Spencer-Oatey et al., 2016, Cao et al., 2016; Zhou 2010). Individual characteristics such as learning styles, emotional adjustment and self-perceptions can also affect students’ international and intercultural learning experiences (Yamada et al., 2014; Rienties and Tempellar, 2013; Tempelaar et al., 2012; Abudulla, 2008).

Researchers also found social supports, such as family, peers, mentorship and friendships, are of great importance to students' sojourning in foreign countries (Thomson, 2016; Yamada et al., 2014; Rienties et al., 2013; Rose-Redwood & Rose-Redwood, 2013; Chavajay, P. 2013; Hendrickson et al., 2011). Rienties (2013) studied how 217 students developed and maintained learning relations with co-national, multi-national and host national students over time in a large classroom. A substantial segregation between Confucian Asian, European international and UK students was present. The study suggested that students' academic specialization was the best predictor of initial friendship formation, followed by co-nationality, while instructional design might have a strong influence on how international and host students work and learn together. Similarly, Rose-Redwood & Rose-Redwood (2013) found four types of social interaction on a continuum in their study of international graduate students at a Mid-Atlantic University in the United States: Self-Segregators who only socially interact with co-nationals; Exclusive Global Mixers who socially interact with co-nationals and other internationals, excluding host nationals; Inclusive Global Mixers who socially interact with co-nationals, other internationals and host nationals; and Host Interactors who socially interact with host nationals and some co-nationals, excluding other internationals. The majority participants forged affective bonds with co-nationals and other internationals, instead of host nationals. This finding indicated that "while international students may not have taken full advantage of the institutional resources and opportunities available at the host university, many American students themselves were also shot out of the exclusive global networks"(p.426).

In sum, tertiary institutions have implemented a wide range of activities with the intention of internationalizing their teaching and learning, and research and service functions. Facing the challenges and concerns arising from engaging students during the process, researches have been focused on examining students' needs and expectations, identifying the factors enhancing or inhibiting the effectiveness of the practices, and developing strategies to support students in adaptation and acculturation to the host universities. Still, some scholars maintain that this engagement is rarely fully integrated or sustained in the teaching and learning environment in Western institutions (Knight, 2004; Qiang 2003). This is partly because of the general assumption that the host universities and colleges hold a monopoly on legitimate forms of knowledge and culture. Their structures and practices fall within such a linguistic, cultural and

epistemological bias toward the dominant community (Turner & Robson, 2008; Caruana, 2010; Rose-Redwood and Rose-redwood, 2013; Siczek, 2015). As a result, it is generally assumed that international students should adapt to the social and institutional cultures and practices of the Western universities. Some researchers have realized the limit of the one-way assimilation and advocated a shift from this western-centric view to a world-mindedness perspective. For example, regarding international students' social life, Rose-Redwood and Rose-Redwood (2013) argued that an institutionalist perspective – “the dominant culture of the educational institution is taken as the standard against which to measure the social life of international students on campus (p. 413)” – should be shifted towards an internationalist perspective which encourages global social mixing to “foster meaningful cross-cultural dialogue among different nationalities including the host community (p. 426).” Smith (2007) argued that in terms of providing support services for international students, culture is at the heart of the matter and the support must be culturally meaningful to be effective.

When the internationalization is not implemented with such a world-minded perspective, an idealism ideology (Siter, 2004) results, or a counterhegemonic approach (Schoorman, 2000), and when only one-way assimilation is preferred, the effect of internationalization at universities may be limited; furthermore, universities may miss the opportunities to benefit from the contributions that international students can bring to the campuses and classrooms.

The role of international students in the internationalization

International education generates significant revenue for the host countries and institutions (Knight, 2006), for example, international students brought US \$39.4 billion to the United States, US \$15.5 billion to Canada in 2016 (UNESCO 2018; Global Affairs Canada, 2017), and £25.8 billion to the United Kingdom in 2015 (Universities UK, 2017). International education has become a key economy driver for provincial and state governments such as the province of British Columbia in Canada where there was contribution of CAD \$4.7 billion to the province, CAD \$246 million to government revenue, and more than 35,000 jobs created in 2017 (BCCIE 2019). International students, therefore are often perceived as a source of revenue and as the “customers” of the higher education service (Knight, 2006; Middlehurst and Woodfield, 2007; Fleischman, Raciti & Lawley, 2015).

Besides the recognized huge economic benefits, some scholars recognize the important role that international students can play in the internationalization of Western higher education. Enrolling international students can also bring significant social, cultural and educational benefits to the host institutions (Siczek, 2015; Liu, 2016). The international students themselves are products of global interconnectivity, shaped by both global trends and their own cultural experiences as they cross borders (Siczek, 2014; Dervin, 2011; Beck, 2008). They carry different sources of knowledge, beliefs, values and approaches while experiencing educational environments with norms and expectations foreign to them. Their experiences involve an examination of themselves “in the context of their sociocultural past and their new global futures” (Siczek, 2015. p.11). The very experience of international students’ transnational learning may thus challenge our static view of “nationality,” “ethnicity” and even “culture,” reorient the status quo hegemonies of teaching and learning, inspire innovation in practices, and cultivate the global and intercultural competence on the part of domestic students and faculty (Siczek, 2015). International students can indeed be “an enormous resource” for the universities in their internationalization effort (Aulakh et al., 1997; cited in Webb, G., 2005. p.112).

In the context of internationalized Western higher education, as reviewed above, students from China have made a strong presence. Their learning experiences in the Western universities have attracted much scholarly attention. I now turn to the voluminous literature on Chinese students and their ways of learning.

1.3.2. Chinese students’ learning in the Western higher education institutions

The global population of internationally mobile students has expanded remarkably in the recent decades. China has been the world’s largest exporter of international students. Most mobile students in the member countries of the Organisation for Economic co-operation and Development (OECD) originate from China, accounting for 20% or more of the total population (OECD 2015, 2016, 2017). International students from China have become quite visible, as they often make up the biggest group among the international student population in the host institutions in the popular destination countries. For example, more than 350,000 Chinese international students enrolled in the universities in the United States in 2017-2018, counting for 33.2% of the total

international student number (Open Doors 2018 factsheet). Canada is similar and has seen a steadily growing international student body over the past years with students from China totaling more than 140,000 and counting for 28% in 2017 (CBIE: International Students in Canada, August 2018). Meanwhile, statistics from the Ministry of Education of China show that in 2016, the total number of Chinese students studying abroad was 544,500 (Wei & Hu, 2018). Clearly Chinese international students have made a strong presence at Western universities.

Researchers have given much attention to understanding this large and increasing group of Chinese international students over the past two decades. In addition, the distinctive differences between Western and Confucian Asian epistemologies and their respective impacts on academic pursuits have also attracted the interests of researchers and education theorists (Turner & Robson, 2008). There is abundant research about Chinese students learning in Western higher education institutions. The majority of existing research has focused on two aspects: 1) the challenges that Chinese international students face while learning at Western universities; and 2) the culturally-rooted coping approaches that Chinese international students adopt to tackle the challenges. I will report the findings of these studies below.

Challenges of Chinese students' cross-border learning

Studying abroad, especially studying at a Western university, has been generally accepted as an opt-out of the rigid and high competitive Chinese education system (Fischer, 2014), as well as being an enriching experience, a normal part of a life circle (Beech, 2015), sometimes even as a significant accomplishment (Zhang, 2016), for Chinese students. Extensive research has shown, however, that international students experience a wide spectrum of adjustment stresses affecting their academic performance and overall adaptation (e.g. Ozer, 2015; Rahman & Rollock, 2004) with Chinese students experiencing greater challenges because of the greater differences in the educational practices and/or cultural orientations between China and the Western countries (e.g. Smith, 2007; Yan & Berliner, 2009, 2011; Wang and Greenwood, 2015; Rienties & Tempelaar, 2013). These challenges have been identified systematically and grouped into psychological, sociocultural and academic dimensions (Cao et al., 2016), or studied in depth as, for example, in terms of classroom interaction (Wang & Mallinckrodt, 2006), critical argumentation (Durkin, 2011) and social connectedness

(Cao et al., 2018). Since the present study is concerned with Chinese students' learning in Western contexts, in the following review I will group the challenges according to the different contexts from which the difficulties originated.

Challenges from a different educational context

Numerous studies have been conducted regarding the challenges for Chinese international students arising from Western educational contexts. There are, for the most part, two principal foci: language barriers and challenges from the Western academic cultures.

Studying abroad, the very obvious difference for Chinese students is that the language of class instruction and academic tasks is no longer Chinese. According to Yeh and Inose (2003), the single greatest challenge experienced by international students in English-speaking countries is a lack of English proficiency. As the majority of Chinese international students study in the five English-speaking countries - the United States, the United Kingdom, Canada, Australia and New Zealand - the language barriers faced by the Chinese international students pertain to the difficulties of the English language. Some studies conducted in non-English speaking countries also found that Chinese international students had difficulties with handling academic tasks in local languages, such as Dutch and French (Cao et al., 2018). Although Chinese international students generally have taken either the TOEFL (Test of English as a Foreign Language) or IELTS (International English Language Testing System) for admission to Anglophone institutions, it has been found that their acceptable scores do not mean that they are free of language difficulties (Liu, 2016; Zhou, 2010). In fact, studies have found that they have difficulties in listening, speaking, reading and writing in English, especially academic English. Liu et al. (2014) found that listening is the most needed language competency; Roberston (2000) discovered that understanding colloquial English is challenging; Wang (2003) revealed that "Chinglish" expression is one of the key difficulties; Li et al. (2010) concluded that poorer English writing ability explained Chinese students' relatively low performance in comparison to other international students; and Lipson (2008) identified that a lack of competences in academic English as the essential problem. In summary, researchers found that limited skills in English constituted a big and often the most significant challenge for Chinese international students in pursuing their academic goals in English-speaking institutions. This language

barrier has impacted Chinese international students' academic performance, classroom participation, confidence in academic success, and overall adaptation to the new learning environment (Liu, 2016; Sato & Hodge, 2009; Lin & Yi, 1997). Some studies also found that Chinese international students had less difficulty in science and mathematics classes because the concepts and formulas were universal (Jinyan, 2005; Zhou, 2010).

Besides the language barrier, Chinese international students also face the challenges from the academic cultures of the Western universities, which are quite different from what they were familiar with back in China, including the education system, lecture style teaching, assessment practices, relationships between students and teachers. The term "academic culture shock" (Gilbert, 2000) describes the students' feeling of incongruity between their home country and the host country. In China, a large population with relatively limited educational resources gives rise to intense academic competition. There is pressure on students to study hard to gain entrance to good universities in hopes of achieving a more promising future (Li, 2017). Many schools implement exam-oriented educational approaches, particularly at the secondary school level (Martin & Hau, 2010). Chinese teachers have significant authority and students display almost unquestioning acceptance of the knowledge of their teachers (Chen, Greenberger, Farruggia, Bush, & Dong, 2003; Cortazzi & Jin, 1997; Bond, 1995). When the Chinese students from such an educational background enter the classrooms in the Western universities, they invariably find it very difficult to adapt to significant differences: the lack of use of textbooks; lack of notes written on the board; lack of lecture summaries; and the amount of required student participation (Jinyan, 2005; Tweed & Lehman, 2002, Wang 2013). In terms of participation, Chinese international students are unfamiliar with and feel awkward in asking questions in class, participating in discussion, and doing teamwork (Kennedy, 2002; Wang & Mallinckrodt, 2006; Cao et al., 2018). Chinese students also find it a challenge to be critical of teachers and teaching materials, and to form critical arguments in discussion and writing (Durkin, 2011; Zhou et al., 2008; Cao et al., 2018). Their silence in classrooms as well as less interaction with teachers and peers may be perceived as being withdrawn or uninterested (Ward et al., 2005). The high level of interactivity and the active participation required in Western academic cultures is a big challenge for the Chinese

international students who are used to a teacher-centered, content-based and test-driven environment (Wang & Kreysa, 2006; Bartlett & Fischer, 2011, Liu, 2016).

Challenges from a different social and cultural context

In addition to the difficulties in language and academic learning, Chinese international students also face cross-cultural adjustment challenges which are “a function of psychological/emotional adjustment and sociocultural adaptation” (Li et al., 2010 p. 393). Numerous studies found that Chinese international students lack of both social connectedness and social support (for example, Burns, 1991; Rienties et al., 2013; Gareis, 2012; Liu, 2016) while living and studying abroad, where family, friends and familiar social networks are not close by.

Social connectedness can be defined as an aspect of the individual self that manifests the subjective sense of being in close relationship with the social world (Lee & Robbins, 1995). Social networks, for example friendship, have a large impact on how international students adjust in an international learning environment (Rienties et al., 2012; Montgomery & McDowell, 2009). Zhang (2016) studied Chinese doctoral students’ academic and sociocultural experiences in a university in the United States and found that respondents had difficulties in maintaining old relationships back in their home country, as well as initiating new friendships when transitioning to a new culture. Cao et al. (2018) studied Chinese students in three Belgian universities and identified interaction with tutors and developing friendships with non-compatriots as the main communication barriers. Students reported difficulty “in understanding their jokes”, “can’t express myself” and “sharing little in common,” which revealed that the sense of disconnectedness was related to the language barrier and cultural distance (Cao et al., 2018). Some students felt that differences in political and religious views made it more difficult to maintain cross-cultural friendships (Liu, 2016). Often, Chinese international students feel isolated and lonely (Robertson et al., 2000). As a result, they seek social support and emotional fulfillment from co-national students (Bertram et al., 2014; Cao et al., 2018). In other words, they primarily interact with co-nationals, which is referred to as self-segregation (Chen, 1991). Though self-segregation is typically viewed as a form of social isolation that seriously obstructs the adaptation to the host institution, some literature has highlighted the benefits that international students gain from interaction with compatriots, such as better coping with their isolation within the host population and

its positive impact on academic achievement (Rose-Redwood & Rose-Redwood 2013; Furnham & Alibhai, 1985; Li et al., 2010).

Besides support from friends, numerous studies investigated other social supports which may impact international students' sociocultural adjustment and academic performance. The role of family has received a lot of attention, especially in relation to students from Asia. Li (2017) examined 693 Chinese high school students in China in terms of how they can perform well academically despite the challenges of their highly competitive academic environments. The empirical data showed that parental supervision and school involvement and recognition are significantly associated with academic resilience. Parental supervision refers to parental awareness of their children's whereabouts and activities through communication or supervision (Clark, Kirschi, Mezzich, & Chung, 2008). Studies of Chinese children in North American contexts also related family involvement to children's academic successes. Okagaki & Frensch (1998) attributed the school success of Asian children to their parents' high expectations, valuing education, and recognizing the role of positive discipline. Regarding Chinese international students studying at Western universities, some studies found that family support was important for them to cope with psychological and cross-cultural distress (Bertram et al., 2014). Chinese family communication played a positive role in helping students feel less stress in a new country (Kline & Liu 2005). In contrast, some studies found that family had a negative impact on students' studies and lives overseas. There was greater pressure from families on international students, including students from China, than for domestic students (Robertson et al., 2000; Li et al., 2010). Such pressure is no doubt exacerbated by the fact that in most cases the international students' tuitions and living costs are fully covered by their families. The resulting pressures create a great deal of fear of failure and can become counterproductive to students' academic achievements (Li et al., 2010; Cao et al., 2018). In sum, the findings about whether family plays a positive or negative role in Chinese international students' overseas study remain inconsistent.

Besides the challenges of missing social supports and connections, the unfamiliar environment itself also presents some challenges for Chinese international students. It could be the absence of Chinese food (Liu, 2016), "confusing" support mechanism on campus (Zhang, 2016), or the difficulty finding a self-study space (Cao et

al., 2018). Such things were noted by the students as having some negative emotional impacts upon them, which led to negative experiences and academic results (Liu, 2016).

In summary, the challenges that Chinese international students face while learning at Western universities, are mainly in three aspects: language barriers, challenges from Western academic cultures, and lack of social support and connectedness. Most studies of Chinese international students focused on these contextual factors that hinder smooth integration in their new learning environments. It is worth noting, when examining students' experiences, that a few studies identified some personal factors that affected their learning overseas, for example, self-regulation (Cao et al., 2018) and time management skills (Wang and Hannes, 2014). A self-regulated Chinese student is certainly more prepared than a less self-regulated Chinese student while facing the same amount and kinds of challenges. The difference in their learning outcomes cannot be accurately explained by contextual challenges alone. Therefore, it shall be beneficial that a balanced amount of scholarly attention be paid to the students themselves, and to their learning and coping approaches, in addition to the reasons underlying these behaviors. Hence, the task of the present study is to investigate the characteristic approach that Chinese international students take in response to the learning challenges they face.

Culturally-rooted coping approaches

Identifying challenges provides some understanding of the impacts of the institutional and sociocultural contexts on Chinese international students' learning. Some researchers moved forward to investigate the ways Chinese international students cope with difficulties. These researchers also explore the cultural orientations that underlie the learning and coping behaviors in order to gain some insights into the impact of the Chinese culture on their learning. Hofstede's (1986, 2005) major dimensions on which cultures differ, namely, power distance, individualism-collectivism, masculinity-femininity, and long-term-short-term orientation, are often used to explain the distinctiveness of Chinese students' learning in the non-Chinese environments. I will briefly elaborate these dimensions below in the context of education.

In large-power-distance culture, children are expected to be obedient toward their parents at home, and respectful of teachers at school. Teachers are assumed to take all initiative in class. In collectivist culture, harmony should always be maintained and direct

confrontations shall be avoided so as not to hurt anyone or cause loss of face. In masculine culture, the best students are the norm. Students seek to excel in competition and parents expect their children to try to match the best. Failing in school is a disaster in a masculine culture. Long-term oriented culture values perseverance, and humility is considered a general human virtue. Students attribute success to effort and failure to lack of it. These Chinese cultural values are used to explain the distinctiveness of Chinese students' learning in non-Chinese environments. The tension between culturally-rooted coping approaches and the academic and social cultures of the host countries and universities is apparent in these studies.

Based on the aforementioned challenges in section 1.3.2, I will review the literature regarding Chinese international students' coping approaches in three aspects: with the language barriers, the academic cultural barriers, and the social isolation.

Coping with language barriers

Regarding the enormous language barriers, studies have shown that Chinese international students confronted the difficulties by investing extra effort in improving their English skills (Li, 2010). They took actions such as: note-taking or audio-taping the classes, watching TV or reading the news in English, memorizing sentence structures or imitating sentences in journal articles, and attending additional language training programs. They also seek out help, such as trying to speak English as much as possible with other students and attending the professors' or teaching assistants' office hours (Zhou, 2010, Cao, 2018). According to Lazarus and Folkman (1984), these are problem-focused coping strategies, which actively deal with hardships by altering person-environment relationships, including finding solutions or taking actions to resolve the hardships. Such proactive coping strategies echoed some research findings (e.g. Le & Gardner, 2010; Sato & Hodge, 2009) that Chinese international students are hard-working, self-efficient and highly motivated for academic success. Two cultural-specific factors may underlie this effort approach. First, it is deeply rooted in Chinese traditional culture that academic achievement is an honor to the self and the family (Yan & Berliner, 2009). Language proficiency is vital for academic success when studying abroad, as both research indicates and students naturally feel to be the case. It is therefore a top priority in efforts to improve English skills. Second, effort is emphasized in the Chinese

culture and believed to be a determining factor for academic achievement (Hau & Salili, 1990, 1991, 1996; Li, 2009).

Studies also showed that Chinese international students majoring in natural sciences experienced less difficulties in English language use in academic learning and overcome language barriers more easily than those studying in arts and social science programs with higher language requirements (Zhou, 2010). Most students made progress in English over the time, however some students, while trying hard, faced persistent language barriers (Cao, 2018).

Coping with the challenges from Western academic cultures

As aforementioned, the high level of interactivity and the active participation required in Western academic cultures were big challenges for the Chinese international students who were used to a teacher-centered, content-based and test-driven environment (Wang & Kreysa, 2006; Bartlett & Fischer, 2011, Liu, 2016). In other words, Chinese international students were not used to active class participation, critiquing learning materials and arguing with their teachers. Language difficulties are one of the reasons. Students reported that they needed more time to process what they heard and to formulate what they wanted to say (Liu, 2016). Furthermore, they were afraid of making mistakes or being embarrassed publicly (Liu, 2016). The “face” concept in Chinese culture may account for such a fear. Keeping “face”, the public image, is highly valued in Chinese communication and making mistakes in public may cause loss of face and should be avoided (Wang & Greenwood, 2015; Zhou, 2008). Students also did not like to question, interrupt or disagree with their professors (Liu, 2016). Bond (1995) offered some cultural explanation for such hesitations: teachers are regarded as real-life superiors, according to Confucian teaching, therefore students, as subordinates, are less likely to volunteer opinions, take individual initiative or confront others face-to-face; instead, they show respect by keeping quiet and showing conformity. Cao et al. (2017) concluded that Chinese students brought up in a Confucian culture characterized by collectivism and high power distance tend to pursue interpersonal harmony, accept and respect teachers’ authority, and seldom challenge their teachers. Consequently, students are relatively weak in verbal fluency and persuasive argumentation since they are not trained in these skills. Facing the challenges, how do Chinese international students respond? In various studies it was found that, in contrast with taking the

problem-focusing coping strategy to confront the language barriers, students adopted so-called forbearance coping, which refers to the minimization or concealment of stressors or concerns in order not to burden others and thus maintain social harmony (Moore III and Constantine, 2005). In other words, they just “accept” the challenging situation as a fact of life, or choose to “be myself”, or wait for “time helps” (Cao et al., 2018). Some students may want to make a change, but find themselves struggling in a “vicious circle”: the more they blame themselves for not participating in class discussions the more hesitant they are to share opinions with classmates (Zhang, 2016). Chinese students are often portrayed as diligent learners, but passive in classroom activities, obedient to instructors and less engaged in critical arguments in the Western universities (Kennedy, 2002; Durkin, 2011; Li, 2010). The analysis of the Chinese cultural orientations that underlie these learning or coping behaviors clarify some misinterpretations of Chinese international students, such as they are withdrawn or uninterested (Ward et al., 2005) in learning. At the same time, however, these studies also emphasize the cultural strains on Chinese international students in Western universities.

Coping with social isolation

As mentioned already, the lack of social supports and connections result in feelings of isolation for the Chinese international students in the learning environments that are new to them. Specifically, the difficulties lie in seeking help from others and forming friendship with non-compatriots. International students tend to interact socially more with co-nationals and other internationals (Rose-Redwood & Rose-Redwood, 2013; Hendrickson et al., 2011; Montgomery, 2009); however, international students from Confucian cultures are often found to be more reliant on their co-national peers as the primary sources for social support and friendship (Cao et al., 2018; Rienties, 2013; Zhang, 2016). They are not active in seeking help from teachers, teaching assistants and/or other professionals on campus nor do they typically form friendship with non-compatriots (Cao et al., 2018; Zhang, 2016).

While language barriers constitute major challenges, studies also found that social support-seeking behaviors differ greatly across cultures. Cultural dimensions of individualism-collectivism are used to explain Chinese international students' passive coping with the social isolation. Students from individualist cultures feel freer to seek

social support in pursuing individual well-being, while students from collectivistic cultures, such as China, are more cautious about confessing their personal problems to others because they are acculturated to not burden their social networks (Kim et al., 2008). Bond (1995) argued that a person with a collectivist orientation towards social life concentrates his or her energy on a narrow group, while one with an individualistic orientation favors less intense interactions but with a wider range of people. The saving-face concept may also be at play, as Heggins & Jackson (2003) pointed out that Asian international students had a tendency to keep problems to themselves and may view help-seeking as a sign of weakness.

Paradoxical research findings of Chinese learners

In the previous sections, I first reviewed the challenges that the Chinese international students face while learning at Western universities, which are mainly language barriers, challenges from Western academic cultures, and lack of social support and connectedness. These are the main contextual factors found in the literature that hinder Chinese international students from smooth integration into the new learning environments. Moreover, according to some comparative studies, Chinese international students experienced greater challenges because of the greater differences in language, education and culture between China and the host Western countries (Yan & Berliner, 2009; Rienties & Tempelaar, 2013). I then reviewed the studies of Chinese international students' coping approaches in the Western universities. It was revealed that heritage culture values played a significant role in enabling the Chinese international students to adjust and integrate (Wang & Greenwood, 2015; Wang & Mallinckrodt, 2006; Cao et al., 2018). Most studies found that Chinese international students worked hard to solve language problems, however they were less active in coping with the high level of class interactivity and the active participation of students in Western classrooms (Smith & Smith, 1996; Durkin, 2011). They also tended to be self-segregating, not actively seeking social supports or forming social connections with others besides co-nationals. In short, the challenges were greater, while the coping seemed to be not so active and effective.

The reviewed studies paint a rather depressing picture: a large number of passive learners face immense adjustment problems and language challenges in their international study lives. We can hardly expect any satisfactory learning outcomes in

such a scenario, yet surprisingly and fortunately, many studies reported positive learning outcomes achieved by Chinese international students. Most of them worked out a pathway through the inevitable challenges in order to meet the requirements in their new educational environments. Gu (2009) conducted three studies of Chinese students in the United Kingdom from 2004 to 2008, and identified the distinctive patterns of struggles, changes and achievements that different groups of Chinese students have experienced over the time, concluding that the large majority of Chinese international students has experienced positive adaptation and development in their academic studies over time. Wong (2004) found that Asian international students, including Chinese students, quickly adapted to the host academic styles in an Australian university within three months. Chinese international students are hard-working, self-efficient and highly motivated for academic success (Le & Gardner, 2010; Sato & Hodge, 2009) and often viewed as overachievers. Ruble and Zhang (2013) examined the stereotypes of Chinese international students held by American students. Smart and hardworking were found to be the most common stereotypes of more than three quarters of all Chinese international students. This was consistent with the positive “model minority who are destined to succeed” stereotype often attributed to Asians in the United States (Hsin, A., & Xie, Y., 2014, p.8420). Chinese international students exemplified their academic achievement with high GPAs (Grade Point Average), publications and/or involvement in academic associations (Zhou, 2010).

The paradoxical research findings on Chinese students’ learning approaches and outcomes raise a lot of questions, such as: How can they become overachievers? To what extent do they keep working hard for academic success? Facing the enormous and inevitable difficulties, where does their resiliency come from? How can we relate their academic achievement to their passive learning approaches, such as silence in class and lack of critical thinking, as indicated in the reviewed studies? How can they achieve positive learning outcomes while reluctant to admit failure and seek help, especially in a new environment where they already lack social support?

In summary, the missing piece in the current literature is an investigation of how the Chinese international students succeed academically when facing the transitioning challenges of the socio-cultural and educational gap or tension between their native and Western cultural and educational traditions. The exploration of this missing piece is of great practical and theoretical significance.

1.4. Significance of research

My study aims to find out why and how Chinese international students perform well academically in the increasingly internationalized Western higher education contexts. Considering the large presence of Chinese students in Western universities, the findings of this study can contribute to an in-depth understanding of Chinese international students and their learning. Their lived experiences and perspectives on performing well academically can benefit the hundreds of thousands of current and potential Chinese students at Western universities in regard to recognizing their strengths and weaknesses, as well as provide the empirical data for decisions made at Western universities to receive and support international students from China.

The study will not only benefit the Chinese international students and their host universities but also contribute to the current learning theories. Unlike the voluminous literature focusing on learning capacity and/or external conditions, this study theorizes Chinese students' dispositions for effective learning through an emic cultural approach. It is an attempt to enrich the understanding of teaching and learning beyond the cognitivist rendition.

1.5. Structure of this thesis

In this introduction, I have provided the background, purpose as well as my personal aspirations for pursuing this study of Chinese international students' learning dispositions for performing well academically in a non-Chinese university.

In Chapter 2, the theories of learning disposition as well as the dispositional studies of Chinese students' learning within a Chinese cultural account will be examined in detail. Here I provide a conceptualization and framework of Chinese learners' learning dispositions based on the reviewed works.

Chapter 3 provides the rationale, design and procedure of this research project. A phenomenological case study approach is chosen since it enables me to explore the phenomenon of "performing well academically" through the lived experiences of the Chinese international students. The Chinese learning dispositions are explored in terms

of the essential meanings of academic success. The chosen case includes detailed considerations of cultural contexts to ensure a holistic and meaningful understanding.

Chapter 4 and 5 report the findings of this study in detail. Chapter 4 answers the first research question about participants' lived experiences of performing well academically in a non-Chinese university. Student participants' experiences from elementary school, secondary school as well as university, both in China and in Canada, are accurately described and interpreted (Stake, 2005). Chapter 5 answers the second and third questions regarding Chinese students' learning dispositions and the impacts of cross-border learning on their culturally-rooted dispositions. Six learning dispositions which drive the student participants to study earnestly, strategically and proactively across cultures are identified. These dispositions concern Enterprise, Resolve, Concentration, Perseverance, Humility and Responsibility. The Canadian educational experience may not result in big changes, but some alterations in learning dispositions will be shown to occur.

In the last chapter, Chapter 6, I discuss in depth the moral perspective of learning revealed through the Chinese learning dispositions. Morality is the goal of learning, and the learning process itself is a process of virtue cultivation. These learning virtues work together to provide strong and multi-dimensional wills for learning along with high resiliency to challenges. The moral perspective of learning can help us better understand Chinese students and their learning, as well as enrich current learning theories. I make recommendations at the end of this chapter for the current and potential Chinese students at Western universities and the host universities with a significant number of international students from China. I conclude the chapter with the limitations of the study and recommendations for future research.

Chapter 2.

Literature review

This study is concerned with the lived experiences of the Chinese students who perform well academically in the increasingly internationalized Western tertiary education. My aim is to give these students a voice to be able to say how and why it is possible for them to excel in a non-Chinese educational context. Literature pertinent to Chinese learners in the Western higher education contexts was reviewed above in section 1.3.2. as the background to the present study. The varied and paradoxical findings on Chinese international students learning approaches and outcomes prompt me to explore the theories related to the factors contributing to their academic success.

Specifically, my intention in this chapter is to review relevant literature in the following areas: (a) paradox of Chinese learners; (b) learning dispositions; and (c) learning virtues rooted in the Confucian heritage learning tradition. I will conclude the chapter with a summary of this literature and indicate any gaps I have found.

2.1. Paradox of Chinese learners

The current literature on Chinese international students, as reviewed in section 1.3.2, identified the challenges that hinder these students from smooth integration into the new learning environments as pertaining mainly to language barriers, challenges from Western academic cultures, and lack of social support and connectedness. Their learning and coping approaches in the Western universities also have been investigated. It is found that their coping strategies are not very active and effective, especially with the high level interactivity in Western classrooms, at seeking social supports and forming social connectedness besides co-nationals. The tension between the Western higher education contexts and Chinese learning are quite apparent in the reviewed literature. Meanwhile, abundant studies also reported positive learning outcomes achieved by Chinese international students. Li (2010) concluded her study saying:

Chinese students were likely to show lower proficiency in English than other students and they tended to adopt a less active learning strategy. However, no evidence showed that this learning strategy had a significant impact on their academic achievement. (p. 402)

This paradox of Chinese international students needs an explanation.

Watkins and Biggs (1996), in their well-received book *The Chinese Learner: Cultural, Psychological and Contextual Influences*, attempted to explain a similar paradox regarding Chinese students: they appear to be rote and passive learners in less favorable educational environment, yet show strong academic performance consistently. This study is reviewed in detail below in order to seek some explanations of the paradox of Chinese international students in the Western universities.

Watkins and Biggs (1996) coined a phrase, namely, the “paradox of the Chinese learner.” The term “Chinese learner” refers to the Chinese students in Confucian-heritage cultures (CHC) that include China, Taiwan, Singapore, Hong Kong, Japan and Korea, where teaching and learning are deeply influenced by Confucian values. The phrase, the “paradox of the Chinese learner” means, on the one hand, that Chinese learners are traditionally considered rote learners or passive receivers whose formative educational experiences have been in less than favorable educational environments, with large class sizes, expository instructional styles, and huge pressure from endless examinations. As rote learning is known to lead to superficial learning, or in Biggs’ term, a “surface approach” (Watkins, 1996, p. 8), and to poor learning outcomes, Chinese students should perform badly. On the contrary, Chinese learners are found to have a preference for, and exhibit a deep approach to learning (Biggs, 1987, 1993), where they are motivated by interest in the subject itself and its related areas, and where the learning strategy requires understanding through interrelating ideas and reading widely. Chinese and other CHC students display good subject-matter understandings, show strong academic performance (Watkins & Biggs, 1996; 2001) and, furthermore, they consistently outperform their counterparts from other countries according to various studies on learning outcomes, such as the studies conducted by the International Association for the Evaluation of Educational Achievement (IEA) in mathematics and science, and the Program for International Students Assessment (PISA assessment) in mathematics, science and reading (OECD 2010, 2014, 2018).

How can a utilitarian rote learning approach and/or a passive way of receiving knowledge from expository instruction promote higher cognitive learning strategies and achieve good learning outcomes? To explain this paradox, Biggs (1996) tried to interpret Chinese learning in its original Chinese system:

Teacher and student are specifically shown here as sharing learning-related beliefs and values that arise in the general social milieu. In CHC countries it seems likely that these beliefs, values, and practices lead children to internalize dispositions that enhance teachability or docility. Such docility dispositions might include:

- 1) Attributions that encourage further involvement and self-management after failure, including, effort, strategy, interest in the task, and skill of the teacher;
- 2) Metacognitive skills such as scanning to seek cues that help the direction of effort, and that give assent to the direction of effort towards repetitive and boring tasks, knowing that meaning and purpose will be found ultimately; and
- 3) Recognition of group problem solving and the ability to accept the rules governing social behavior in groups (p. 61)

According to Biggs, these dispositions, which are developed through socialization in traditional Confucian cultures from an early age, are the characteristics of Chinese learning that make these students highly adaptive in institutional settings for teaching and learning, and able to outperform their Western peers in academic achievement. While explaining the paradox, Biggs and Watkins (1996) highlighted the Western misperceptions of CHC such as, for example, interpreting repetitive effort as rote learning. They argued that the dichotomies employed to explain the factors that contribute to student learning in the Western contexts are less distinct in CHC. Therefore, an emic approach is suggested:

We should interpret a piece of the action in terms of the system of which it is part, not in terms of an exotic system (p. 54)

Chan and Rao (2010), in their book of *Revisiting the Chinese Learner: Changing Contexts, Changing Education*, continued to explain the paradox of the Chinese learner in the context of societal changes and educational reforms. The studies in both books found that Chinese students are adaptive learners who can learn well in large classes or even under heavy external examinations, and that they are also open to acquiring knowledge from non-traditional sources. Most of these studies were conducted in CHC classrooms, mainly in Hong Kong and China. Therefore, we need to ask: are the so-called docility dispositions, which Biggs and his colleagues found to explain the “Paradox of the Chinese Learner,” still in play for the paradox of the Chinese international students studying at Western universities? The educational contexts in the Western universities may not be as “less favorable” as the CHC classrooms. But they are different from

Chinese international students' native and familiar educational contexts, and thus present challenges to the students as discussed in section 1.3.2. So, our question can be formed more specifically as: can the docility dispositions explain why the Chinese international students succeed academically when facing the transitioning challenges of surmounting the socio-cultural and educational gap between their native and the Western cultural and educational traditions? Or, do the learning dispositions cultivated in Confucian heritage cultures contribute to the academic success of Chinese learners across cultures?

In an attempt to answer these questions, it is necessary to have a clear understanding of what a disposition is and what its significance in learning means. In the following section, I will review the studies on 1) the conceptual construct of dispositions, and 2) frameworks of learning dispositions.

2.2. Dispositions for learning

Disposition has not been a focal concept in research on learning until recently. In fact, the world of education is rife with literature on learning capacity (Li, 2010, Perkins, et al., 1993). More specifically, as learning is perceived as being about knowledge construction and skill development (Entwistle, 2012), the attention of the learner is often focused on his/her skills and abilities, especially the cognitive skills and abilities, which are extensively investigated in order to predict school readiness and to evaluate learning outcomes. That's why we see abundant knowledge/skill-based tests used to predict children's readiness for kindergarten (Emerson, 2005), theories and measuring instruments of intelligence developed to understand the capacity of the human brain (Roid, 2003; Gardner, 2006; Gottfredson & Saklofske, 2009), and cognitive tests being the dominant assessment tools for learning outcomes, including the National College Entrance Exam (Gao Kao) in China, the A-level test in the United Kingdom, and the Scholastic Aptitude Test (SAT) and the American College Test (ACT) in the United States. As for the learning process, studies often focus on learning skills (for example, Abbott-Chapman, Hughes & Wyld, 1992), learning strategies (for example, Pokay & Blumenfeld, 1990) and learning approaches (for example, Biggs 1987). Various instruments have been developed to assess these skills, strategies and approaches, for example, the Approaches to Learning and Studying Inventory (Mogashana, Case & Marshall, 2012), the Learning and Study Strategies Inventory (LASSI) (Weinstein &

Palmer, 1987), and the Study Process Questionnaire (SPQ) (Biggs, 1987). Many studies also focus on the learning environment that can affect the learning process and results that have to do with family, school, and social economic status (Griffin, 2008; Harden, Turkheimer & Loehlin, 2007; Mathews, 2010).

In reality, however, it isn't rare that we see some bright children end up not learning much, while some ordinary students accomplish much. It is also a truism that some students from less favorable living and learning environments learn well, while children from well-off backgrounds do not engage in learning. Dwelling on learning capacity, or focusing on external conditions, do not seem to lead us to a thorough understanding of whether learners are ready to learn and how they can indeed learn well. A few philosophers, psychologists, and educators have presented frameworks that recognize the importance of dispositions in learning. For example, Emerson (2005) reviewed the limits of the widely adopted skill-based tests and developmental readiness tests in predicting young children's school readiness and explored the measures of learning disposition and their usefulness in assessing school readiness. He found that learning disposition accounts for a significant but small amount of variance in children's academic and social outcomes. He argued that learning disposition is "an interesting and useful construct, helpful in combining several distinctive parts of the child's personality into a unified, functioning characteristic, which in turn interacted with family and child care contexts to produce outcomes relevant to kindergarten school readiness" (Emerson, 2005, p. 84). Entwistle (2012) advocated the significance of disposition from the perspective of the quality of learning at university level. According to him, there are four different aspects of quality: knowledge and skills; ways of thinking and practicing; integrative understanding; and the disposition to understand for oneself. Each aspect is essential and adds to "a nested hierarchy leading towards forward-looking, integrative understanding as a general goal for university education" (Entwistle, 2012, p. 28). Riveros, Norris, Hayward & Phillips (2012) concluded that dispositions are useful psychological constructs and urged setting the development of dispositions, such as the disposition to think critically and the disposition to read well, as educational goals promoting high-quality learning. Some instruments were developed to assess or track general or specific dispositions, such as the California Critical Thinking Disposition Inventory (Facione & Facione, 1992), the Learning Disposition Assessment, which includes the Learning Disposition Grid and the Learning Disposition Portfolio (Carr &

Claxton, 2002), and the Learning Disposition Questionnaire (Adderley, 2015). The significance and utility of the instruments, according to Adderley (2015), lie in the “unique emphasis on dispositional preparedness for learning beyond the commonly assessed study strategies and learning approaches” (p. 5).

I agree with the researchers who went beyond learning capacity, that skills and abilities are crucial, however they do not independently make a learner. The construct of learning disposition can go beneath learning strategies and approaches, go beyond skills and abilities, and extend our understanding of learning. Further, I agree that high quality teaching and learning is about the development of “a certain sort of person” (Siegel, 1988, p.41). This opens up a different territory than the development of abilities and skills. It is a domain of cultivating “habits of mind or tendencies to respond” (Katz, 1988, p.30) to learning situations in engaging ways. I will start from a review of the concept of disposition in order to explore this essential domain.

2.2.1. The conceptual construct of dispositions

The notion of disposition is quite “messy” (Perkins et al., 1993, p.18) in terms of its meaning as well as its applications. It can be used to describe substantial properties of non-living things, for example, solubility, inertia and fragility (Riveros, Norris, Hayward & Phillips, 2012). More often, it is used for describing humans and, as the Oxford Advanced Learner’s English-Chinese Dictionary states, “disposition” refers to: 1) “the natural qualities of a person’s character” and 2) “a tendency to behave in a particular way” (p. 491). Its role in affecting human behavior is often blurred with abilities. Therefore, scholars have tried to provide more features of disposition in order to distinguish the concepts. Riveros et al (2012) adopted Hampshire’s (1971) and Cartwright’s (2002) views and made the following list to describe dispositions as:

- 1) Non-episodic in that they cannot come into and go out very rapidly as some abilities;
- 2) Necessity of display and, unlike abilities, they must be manifested and must show itself in actual incidents;
- 3) Latency in that they need not always be on display;
- 4) Need for scrutiny in that they are a general trend in conduct or thought, so counter-instances are especially important to note;

- 5) Not necessarily behavioral;
- 6) Lapses possible since they are about what tends to happen and not what happens inevitably;
- 7) Non-conditionality (a feature of dispositions for non-living things); and
- 8) Malleability insofar as they can be triggered, obstructed, enhanced, and retarded by external conditions.

These features distinguish disposition from ability or skill. An ability is a competency to perform a certain type of task at a certain level of proficiency, while a disposition refers to the tendency to use such an ability. Perkins et al. (2000) says that “dispositions concern not what abilities people have, but how people are disposed to use those abilities” (p. 39). A bright child may have the ability to learn, but without a disposition to learn, he or she will tend not to use that learning ability. As Carr & Claxton (2002) puts it, “one has to be disposed to learn, ready and willing to take learning opportunities, as well as able” (p. 10). An investigation into learning disposition can thus open up a domain other than ability to understand how learning is achieved. Furthermore, abilities can remain permanently latent, while a disposition, though not always on display, needs to be “manifested and must show itself in actual incidents” (Hampshire, 1953, p.6) such that a summary can be made of the individual person’s general trend or tendency of conduct and calculations. Siegel (2017) defined a disposition as “a tendency, propensity, or inclination to behave or act in certain ways under certain circumstances” (p. 50). It is an “underlying, enduring feature or trait” (Siegel, 2017, p.58) or a persistent “habit of mind” (Katz, 1988, p. 30). Therefore, when high quality teaching and learning is about the development of “a certain sort of person” (Siegel, 1988, p.41), the value of investigating dispositions in teaching and learning is readily apparent.

As behavioral and thinking tendencies, dispositions differ from motivations which refer to what activate behavior and forms of thought (Riveros et al., 2012); in other words, they are behavioral and thinking activators. While the source of the activation can be extrinsic, such as rewards and stimuli, or intrinsic, such as interests and desires, dispositions always only concern the source within the individual. This distinction makes the construct of disposition an appropriate to research investigating non-Western learners, namely, the Chinese learners. Biggs and Watkins (1996) found the distinction

between intrinsic and extrinsic motivation not to be as clear cut among Chinese learners because the intrinsic significance and the pragmatic utility of education can be emphasized at the same time and affect their learnings (Lee, 1996). That's why the concepts of motivation often cannot fit comfortably in the Chinese learning parlance. And that explains why Biggs (1996) deployed the "docility dispositions" to explain the paradox of the Chinese learners, and not with another term related to motivation, as reviewed in section 2.1.2. Similarly, Li (2010) described a passion and thirst for learning among Chinese learners. The intrinsic source of this affect is one's own realization of the importance of learning or through teachers' and/or parents' guidance. It isn't the same as the intrinsic enjoyment or motivation that often characterize Western learning.

Having considered the notion of disposition, its application in non-living things and human beings, its unique features, which distinguish it from ability and motivation, I'd like to conclude that there are sound grounds for thinking of disposition as an important theoretical construct in the field of education. It can go beneath learning strategies and approaches, go beyond abilities and motivations, and extend our understanding of learning. It also offers a non-Western lens to conduct learning research in an emic approach. In the next section, I will narrow down the concept and framework for studying learning dispositions.

2.2.2. Learning dispositions

The word "disposition" is not precise and self-explanatory, as discussed above. So the conceptualizations of "learning disposition" vary significantly with different interpretations of "disposition." Some scholars make it a synonym for trend as, for example Roberts, Chou & Ching (2009) do in finding that the dispositions of international students in a Taiwanese university were connected to their opportunities to study traditional Chinese characters, the availability and accessibility of government scholarships, and the quality of the Chinese studies program. Other scholars related "learning disposition" to specific curriculum content, for example the mathematical dispositions that Graven, Hewana & Stott (2013) assessed as learner's self-perceptions of how to engage with mathematics. As discussed earlier, the significance and utility of the construct of disposition in the field of education relies on its distinction from other well-studied concepts, such as learning capacity, motivation, approach, and strategy. The learning dispositions, in my opinion, therefore possess the essential features of

dispositions described in section 2.2.1. They are tendencies to respond to learning situations in certain ways (Katz, 1988). The presence or absence of a learning disposition is sustained over time (non-episodic, malleability), and is often complex and subtle (need for scrutiny). Though it is not necessarily always on display (latency, with lapses possible) or observable (not necessarily behavioral), it must be evident (necessity of display). The learning dispositions discussed in this study are neither the trend of a one-time study choice in response to some external opportunities, nor learners' perceptions of a specific school or university subject.

Claxton and Carr (2004) suggested we understand disposition as a “verb with qualifying adverbs” (p.88). For example, the learning disposition of perseverance is evidenced in learning persistently. It is about how one is disposed to persist in learning across the contexts of subject areas and places. Yet even with such similar conceptualization of learning disposition, there is no clear agreement among scholars about the framework of the “key” learning dispositions. One of the reasons is that the learning disposition studies were conducted at different levels of generality. For example, Caxton (1999), cited in Carr & Claxton (2002) amalgamated curiosity, mindfulness, selectivity, resilience, experimentation, reflection, opportunism and conviviality within the term “learnacy” (by analogy with literacy and numeracy). Hyde (2010, 2014, 2019) developed and refined a list of learning dispositions in religious education, including curiosity, being dialogical, persisting/living with uncertainty, meaning-making, taking responsibility and connecting to life. Other lists do not concern learning in general; rather, they focus on specific aspects related to learning such as time management and critical thinking. Huang & Zhang (2001) included sense of time value, time control and time efficacy in their Adolescence Time Management Disposition Scale (ATMD) to measure the time management disposition. The California Critical Thinking Disposition Inventory (CCTDI) (Facione, Facione & Giancarlo, 1998) had analyticity, open-mindedness, inquisitiveness/curiousness, self-confidence, truth seeking and systematicity as items for assessing the critical thinking disposition. Because the purpose of reviewing and investigating learning dispositions in this study is to seek answers to the “paradox” of the Chinese international students in Western universities, attention is not needed to be given to any specific aspect of learning per se but paid to the Chinese international students' recurrent and characteristic ways of participating in

Western educational environments. The frameworks selected for review below are, therefore, only about learning in a general, holistic sense.

Taking a closer look at the frameworks of the dispositions for learning in a holistic sense, as proposed by philosophers, psychologists and education researchers, there is both overlap and diversity. Generally speaking, they include one of the following types of learning dispositions: 1) related to thinking, for example, “experimentation”, “reflection” in Claxton’s (1999) list, “relatedness” in Goleman’s (1996), “meaning-making” in Hyde’s (2010, 2014, 2019) and seven dispositions for good thinking theorized by Perkins, Jay & Tishman (1993); and 2) related to the qualities of a person’s character or temperament, for example, curiosity (Hyde, 2010, 2014, 2019; Carr, 1999; Claxton, 1999; Goleman, 1996), persisting/resilience (Hyde, 2010, 2014, 2019; Bronfenbrenner, 1979; Carr, 1999, Claxton 1999; Adderley, 2015), and conviviality/playfulness/collaborativeness (Bronfenbrenner, 1979; Carr, 1999; Claxton 1999; Goleman, 1996; Adderley, 2015). Since the framework of dispositions related to thinking has drawn a lot of attention, I will review the dispositional theory of thinking developed by Perkins et al. below, as it provides a more comprehensive and overarching framework than other similar studies. The personal quality related dispositions are usually included in the mixed lists of both types. There’s no framework solely for this type of disposition, except for a few studies that used disposition-like terms, such as the “virtues of a child” (Bollnow, 1962/1970, translated by van Manen & Mueller, 1989) and “life-feelings” (Vandenberg, 1975), which I will also review below.

A dispositional theory of thinking

Perkins, Jay & Tishman (1993) proposed a theory of thinking based on the concept of disposition to challenge typical ability-centered theories. This theory restructures the concept of disposition into “triadic dispositions,” which include inclination, sensitivity, and ability. Inclination refers to the person’s felt tendency toward behavior X. Sensitivity refers to the person’s alertness to X occasions. Ability refers to the actual capacity to follow through with X behavior. For example, with the disposition of open-mindedness, upon noticing occasions where open-mindedness is needed in order to respond to narrow thinking, prejudice and bias (sensitivity), a person feels a leaning toward open-minded thinking (inclination) and applies his/her ability to think open-mindedly, resisting the impulse to decide quickly, and listening to oppositional views.

The authors argued that the triadic analysis provided “insight into the composition and mechanism of each disposition” (p. 11) and offered some direction in how to cultivate these dispositions.

The triadic disposition then is used as an explanatory construct to analyze thinking. Thinking dispositions are defined as “the tendencies toward patterns of intellectual activity that condition and guide cognitive behavior specifically” (p. 6). Seven thinking dispositions are advanced and described along with inclination, sensitivity, and ability:

- 1) to be broad and adventurous.
- 2) to sustained intellectual curiosity.
- 3) to clarify and seek understanding.
- 4) to be planful and strategic
- 5) to be intellectually careful.
- 6) to seek and evaluate reasons.
- 7) to be metacognitive.

The authors argued that these seven distinct yet interrelated dispositions “constitute necessary and sufficient elements for a broad normative characterization of good thinking” (p.10). They are individually necessary and collectively comprehensive. Furthermore, they are normatively appropriate. The authors claimed that “a test of a good normative model of thinking is that it fits with strong cultural intuitions” (p. 9). All seven have a cultural presence in everyday beliefs, folk sayings and language about the mind. For example, the folk saying “Look before you leap” reflects the disposition to be planful and strategic. In addition, each of the seven dispositions “clarifies prescriptions and provides advice” (p. 9) for thinking behaviors. For example, the disposition to be planful and strategic “prescribes thoughtful goal making, and advises such actions as thinking ahead to possible consequences and developing and executing stepwise plans” (p. 10). These seven dispositions are also functionally balanced. They form a supportive network for each other in fostering good thinking.

How are thinking dispositions developed? According to the authors, intellectual progress can be understood as the development of “an increasingly sophisticated

network of beliefs about one's own and other's minds, and beliefs about how minds interact with information to represent and interpret the world" (p.15). Young children begin developing many of the key inclinations, sensitivities, and abilities associated with thinking dispositions. There is the "continuous evolution of a more mature constructivist epistemology, and the individual's beliefs about how knowledge is acquired and views of him or herself as a learner" (p.15) affect the continuing development of thinking dispositions. The influence of culture was also emphasized in the development of thinking dispositions, because dispositions are "acquired in precisely the same way that learning is enculturated: through institutional and interpersonal levels of social contact" (p. 17). At the institutional level, for example, ideals such as "freedom of speech" and "market place of ideas" embody a cultural value of open-mindedness. At the interpersonal level, for example, teachers and parents can affect a child's disposition development.

In summary, the dispositional theory just discussed realized the limit of ability-based analysis in explaining thinking, and attempted to close the gap between ability and actual behavior with the construct of thinking dispositions, which "honors the motivational, perceptual, and affective dimensions of behavior" (Perkins, Jay & Tishman, 1993, p. 18). However, the triadic disposition includes ability within the construct, and further, according to the authors, "sensitivities are at least ability-like" (p. 5). The line between disposition and ability is thus still not distinctly drawn. Meanwhile, the theory tends to take a very intellectual and scholastic view of learning, focusing on "mind", "intelligence", "rationality", and "cognition". It often treats "learning" and "thinking" dispositions as if they are the same thing. Some scholars have argued that "thinking" is just one kind of learning and that there are other kinds of learning beyond conscious rationality (Carr & Claxton, 2002; Li, 2010). The personal quality-related dispositions reviewed in the following are neither about intelligence or cognition, nor mixing with ability. They offer another domain of disposition construction that is worth attention.

Virtues of a child & life feelings

Bollnow (1962/1970, translated by van Manen & Mueller, 1989) described the "affective conditions and qualities which are necessary for raising or educating of children to be possible or successful" (p. 5). According to Bollnow, children's original and unlimited trust in one special person, usually the mother, is later replaced by a more

generalized sense of trust in the social-historical world. Affective pre-conditions establish the readiness of the child to be cared for. The following is a summary of Bollnow's list:

The Emotional State of the Child
Cheerfulness
Morning –ness
The joy of expectation
The Virtue of a Child
Gratitude and Obedience
Love and Adoration

The Emotional State of the Child is characteristic of children and youth.

Cheerfulness is “anticipatory openness” to the world. It “unlocks, like the springtime, all the inner blossoms” (Bollnow, 1962/1970, translated by van Manen & Mueller, 1989, p. 20). Morningness is regarded as a “fresh, happy, forward-looking sense of life” which is “associated with the disposition of acceptance, the making of far-reaching plans, and the hope-filled working toward their fulfillment” (p. 23). Expectation “signifies the youthful disposition toward the life to come” (p. 27). Though these expectations are bound to disappoint sometimes, “if every new experience is indeed approached as something new – not as something negative but something enriching,” then the experience will “again give rise to new expectations” (p. 27).

The Virtues of a Child are the “particular attitudes” (p. 29) which determine the child's relation with his or her teacher. Gratitude is a child's feeling resulting from the security he or she received from the adult's protection. This thankfulness can be toward a specific person whom the child trusts absolutely, and toward life itself, that is, being grateful for a life in which there are loving, helping and caring people. Obedience is the “trusting readiness of the child to accept the request with joyful affirmation and to identify with it” (p. 30). Bollnow contended that the fundamental condition of obedience of the child is a most important and necessary prerequisite for educating and bringing up children. Love is the child's “totally trusting and all believing love” (p. 33), while adoration is from the children's inherent need to admire and honor their teacher. The adoring affection for a teacher opens the child to the teacher's teaching.

Developed from *The Virtue of a Child*, Donald Vandenberg continued to explore these very fundamental affective and ontological presuppositions for teaching and learning, with an emphasis on the totality of a pedagogical relationship. According to

Donald Vandenberg, when pupils are ready and willing to learn, and when teachers are ready and willing to teach, they together enter a pedagogic relation wherein learning takes place. Readiness and willingness to learn and teach are the underlying moods that are constitutive of their attunement toward each other, in other words, how the teacher and student are open to each other. Vandenberg used the term “pedagogic atmosphere” to describe this “general state-of-mind ... (as) the pupil’s and teacher’s being there together...” (Vandenberg, 1975, p. 38) and this is the foundation of any pedagogic relation. Vandenberg described the most fundamental conditions of the underlying moods as “life-feelings”. He stated:

If emotions underlie feelings, and moods underlie emotions, and states-of-mind underlie all three, then the affective “entities” lying at a deeper and more permanent level that are constitutive of a general orientation toward one’s own life and toward life in general, are appropriately designated by the term “life-feelings”. (p. 39)

Vandenberg attempted to delineate a unitary phenomenon of a pupil’s and teacher’s affective presuppositions of the pedagogic atmosphere (Graphic 2.1). He explored the pupil’s and teacher’s life-feelings for learning based on Bollnow’s *Virtues of a Child*. The pupil’s life-feelings are “cheerfulness, morningness, expectancy, gratitude, obedience, love and respect” (p. 40). Bollnow mentioned and valued “respect”, which is closely related to “love and adoration”, in pedagogic relationships. However, as “respect” is not a natural sentimental precondition of education, but a result of a long process of education and socialization, it is not discussed in detail in Bollnow’s work. Vandenberg extended it in his argument. According to Vandenberg, the child has an inherent need to “respect” his teacher, his teacher’s knowledge, professional ability and moral character. When the child experiences no problems over his dependence upon adults, he will be grateful for their help. He will show “obedience” towards adults. Thus, “respect,” “gratitude,” and “obedience” are necessary “interhuman” life-feelings for the pupil to have in order to be open to the teacher in their pedagogic relation.

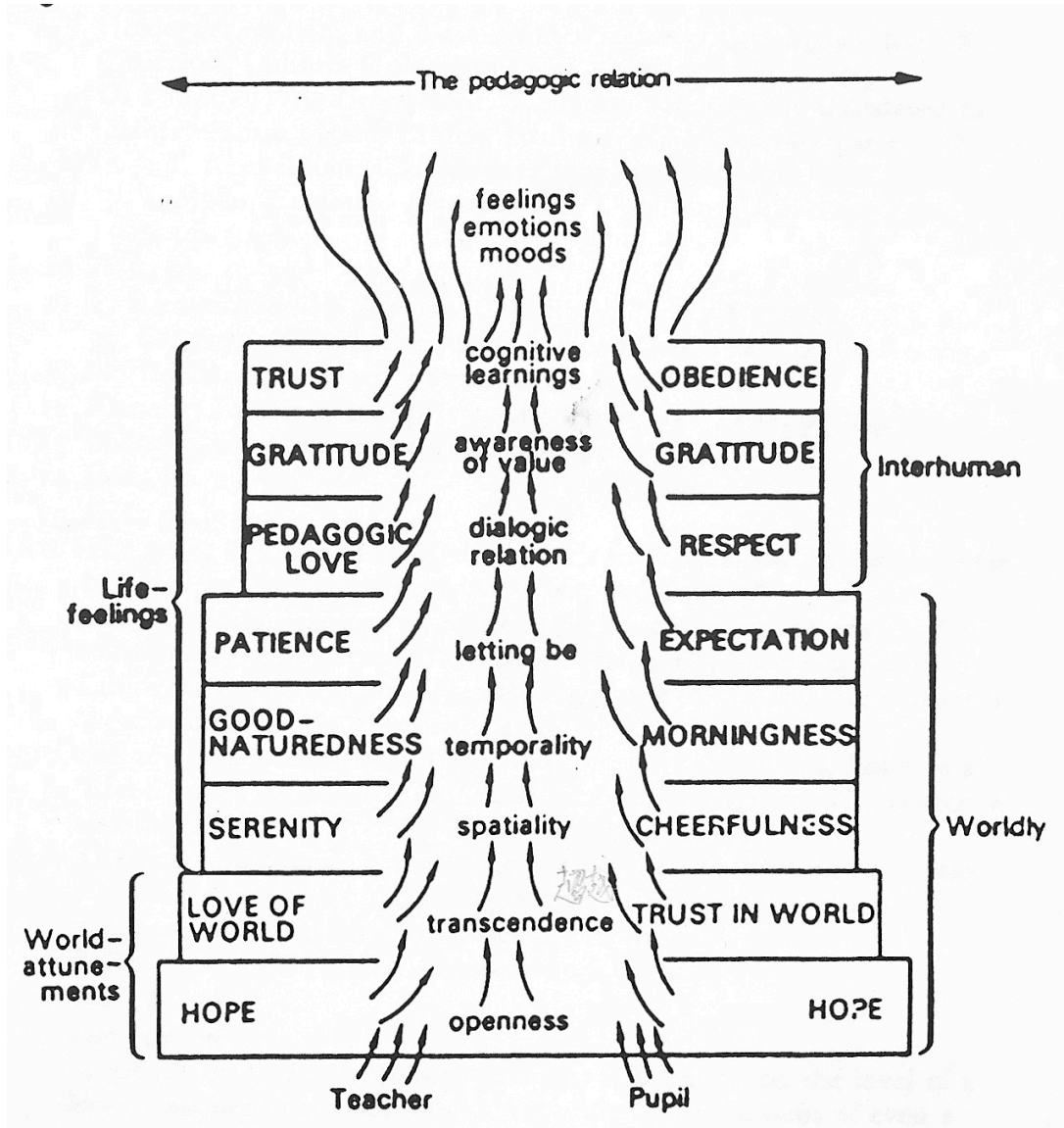


Figure 2.1. The Pedagogic Relations

(Vandenberg, 1975)

The pupil's and teacher's life-feelings coalesce in the unitary phenomenon of the pedagogic atmosphere. According to Vandenberg, "love of/trust in world" from both the pupil's and teacher's side is a primal affective presupposition of the pedagogic relationship. The two sides "are thus united by being with one another in the mutual presence to the beloved world" (Vandenberg, 1975, p. 50). "Love of/trust in world", however, is not sufficient to unite the two sides in the pedagogic atmosphere, instead, the life-feeling of hope is. What does this "hope" mean? Vandenberg stated: "In hope, the person opens to the world as the world opens to him. Hope is the very opening of

openness” (p. 52). His graphic illustrates how these life-feelings from both sides work together from the very fundamental level of “openness” to “transcendence”, to “spatiality,” to “temporality,” to “letting be,” to “dialogic relation,” to “awareness of value,” and finally to form the desirable readiness for “cognitive learning.” That is how the life-feelings for teaching and the life-feelings for learning interact, and form a pedagogic atmosphere, which facilitates the feelings, emotions and moods of the pedagogic relation between teacher and pupil.

In summary, the Virtues of a Child described a set of natural affective conditions and qualities that are necessary for learning. The Life Feelings extended the interhuman qualities needed for learning from teacher, and deepened the framework to the very fundamental orientation toward life and world. These virtues and/or life-feelings were formed through children’s experiences of growing up, opening up to the world, and relating to the world socially and historically. This is the same as Perkins et al. (1993) described of the growth of the thinking dispositions:

The growth of dispositions, however, cannot be explained by looking at the individual as a self-contained system. Because dispositions are grounded in belief systems, values, and attitudes as much as in cognitive structures, we need a culturally based account of their development. (p. 16)

Simply speaking, learning dispositions are rooted in the culture in which a child is raised. As people from diverse cultures are educated and socialized in different ways, it is important to take cultural contexts into consideration when examining their learning dispositions. Therefore, in investigating Chinese learners’ learning dispositions, we need to take Chinese learning culture into account. The thinking dispositions, virtues and life-feelings reviewed the above, are either rooted in the Western scholastic tradition, which emphasizes mind, reasoning and inquiry in learning (Li, 2010), or focused more on the interpersonal level of social contact (such as with the mother and the teachers) instead of the institutional level of socialization (such as culture). So, in the following section, I will focus specifically on the dispositional studies of learning in the Chinese cultural context.

2.3. Learning virtues: Chinese cultural dispositions for learning

In order to examine the learning dispositions rooted in the Chinese learning culture, it is necessary to start with conceptions of learning in this cultural context. I will then review the dispositional studies of Chinese learners and follow that with my conceptualization of Chinese learners' learning dispositions based on the reviewed works.

2.3.1. Conceptions of learning in the Confucian tradition

The docility dispositions accounting for the Paradox of the Chinese Learner, according to Biggs (1996), are developed from the shared learning-related beliefs and values arising in the general social milieu in the Confucian-heritage cultures (CHC): China, Taiwan, Singapore, Hong Kong, Japan and Korea. Indeed, Confucian thoughts about human nature, and teaching and learning, have deeply influenced Chinese culture for over two millennia, just as some scholars concluded that Confucius "established the concerns of Chinese philosophical discourse that persisted throughout Chinese history. In this, he resembled Plato or Aristotle" (Waley, 2000, p. xvii). In this section, following a very brief introduction of Confucius and Confucianism, I highlight the key conceptions of learning in hopes of providing the specific context of Chinese cultural dispositions for learning.

Confucius (551-479 BC) is regarded as the Greatest Master in Chinese history. He lived for over seventy years in the Spring and Autumn Period (770 BC -475 BC), which was a politically chaotic time of social disorder and moral decay. Confucius wanted to establish a well-ordered society with a harmonious social life. He travelled around many states to present his ideas to different rulers, however they were not well received. Despite not being successful in politics, Confucius' educational career was fruitful. Prior to him, education was limited to the wealthy and the nobles. Confucius did not refuse to teach anybody who wanted to learn. He had about three thousand students from rich to poor, noble to humble backgrounds. Confucian thoughts were later interpreted by his students and followers and collated in the famous Four Books, including the *Analects*, *Mencius*, *The Great Learning* and *The Doctrine of the Mean*. Mencius (372-289 BC or 385-303 BC) was a student of Confucius' grandson Zisi and

became a famous follower/interpreter of Confucianism. He is often described as the “second sage” after Confucius himself. About a thousand years after Mencius, Neo-Confucianism, a moral, ethical and metaphysical philosophy, became prominent during the Song (960-1279) and Ming (1368-1644) Dynasties. Its development was a renaissance of traditional Confucian ideas and, at the same time, a reaction to the ideas of Buddhism and Daoism. Its creed was officially recognized from the Song Dynasty and influenced Vietnam, Japan and Korea. Both Confucius himself, his students and followers, including the scholars of Neo-Confucianism paid great attention to learning, and their doctrine about learning shapes the Chinese learners’ perceptions, beliefs as well as behaviors in learning to this day. The most prominent conceptions of learning in the Confucian tradition are reviewed in the following.

Learning as virtue cultivation

Confucius’ major rationale is that every person is potentially educable, regardless of social, economic background, and regardless of one’s natural born intelligence and ability: “By nature men are similar, they diverge as the result of practices” (Slingerland, 2003, *Confucius Analects* 17. 2). Practice means learning here. Mencius claimed that human nature is good, therefore “everyone can become a sage.” This notion reflects a belief in human perfectibility (Tu, 1979) as a characteristic of the Confucian tradition. It forms the “basic optimism and dynamism” (On, 1996, p.30) of human nature with respect to education. It is, to some degree and in my opinion similar to the very fundamental life-feeling of “hope” in Vandenberg’s pedagogic relation (Vandenberg, 1975, p.52). The belief in human perfectibility leaves a person open to the world and inclined to education. It explains the special significance that education receives in the societies with Confucian traditions.

The prime concern of Confucian teaching is being good or, in other words, being virtuous. Humans are educable towards goodness. Morality is the start, the development, and the end of the Confucian teaching. It is “the ultimate and comprehensive concern” (Tu, 1985, p. 52). Kim (2003) concluded:

Confucius thinks that, at least for the great majority of people, the virtues are acquired by learning. That is why learning is so important for him. Wanting or hoping for the virtues is not enough, unless such an attitude is yoked to learning. Learning is, therefore, the path to moral excellence. (p. 80)

So, what are the virtues? In the traditional study of Confucian philosophy, most scholars name the five core virtues as: Ren (仁 Benevolence), Yi (义 Righteousness), Li (礼 Propriety), Zhi (知 Wisdom) and Xin (信 Trustworthiness). Family is central in Confucian thought, therefore Xiao (孝 Filial piety) and Ti (悌 Brotherly love) are also often recognized as important virtues by early Chinese thinkers. These virtues can be defined as a range of potentials through the practice of which people can realize their humanity and construct human civilizations. One should strive to become the most genuine, sincere, and humane person that one can be (de Bary, 1983; Tu, 1979). Sagehood can be attained through continuous self-cultivation, including learning, living up to virtues, and reflecting. The famous neo-Confucianism scholar Cheng Yi says, “When one begins to study and learns how to think, one will be on the road to sagehood” (cited by Chang, 1957, p. 227). Therefore, learning is for virtue cultivation.

Learning for public good

Education is not only important for personal development, i.e. pursuing sagehood, it is also vital for building a well-ordered society since the public good needs virtuous people as public officials. Confucius said: “The officer, having discharged all his duties, should devote his leisure to learning. The student, having completed his learning, should apply himself to be an officer” (*Confucius Analects* 19. 13. Tr. Legge, 1979). The famous verse in the *Great Learning* illustrates this ideal process – that one should “cultivate himself, then regulate his family, then govern the state, and finally lead the world into peace” (*The Great Learning*, IV. Tr. Legge, 1991). The notion of “sage within and king without” (neisheng waiwang) is the ideal learning outcome. A very distinctive concept of “scholar mission” deeply rooted in Confucian tradition is to become a moral model and to thereby serve the public good.

Education, in this sense, can be seen as an important means of leading to a government office, which can also be associated with fame, wealth and upward social mobility. Obtaining a higher social status through education was not only a matter of perception but it was realizable in traditional China (On, 1996). The civil examination system to select scholars for the state bureaucracy is a practical manifestation of the Confucian ideal of recruiting the most competent person for public service. The belief in the possibility of upward social mobility through education success drives many ordinary

people to study hard for a better future. Thus, pursuing upward social mobility, which may be labeled as an “extrinsic” reward, and seeking personal growth, which may be labeled as “intrinsic” motivation, coexist in the Confucian learning tradition. Therefore, there’s not a clear cut between the extrinsic and intrinsic motivations among Chinese learners, who are eager to learn for both themselves (sage within) and the public good (king without) (Biggs, 1996; Lee, 1996).

Learning with effort

Becoming “a sage within and a king without” requires learning with effort. Indeed, learning is always associated with effort in the Confucian tradition. Confucius said:

If another man succeeds by one effort, he will use a hundred efforts. If another man succeeds by ten efforts, he will use a thousand. Let a man proceed in this way, and though dull, he will surely become intelligent; though weak, he will surely become strong. (*Doctrine of the Mean*, XX.20-21 Tr. Legge, 1979)

As indicated in Confucius words, “dull” can turn to intelligent, and “weak” can become “strong,” with a hundred and a thousand efforts. According to Xunzi (aka Hsun Tse, due to different romanization systems), a famous disciple of Confucius, the efforts also need to be long-lasting:

Sincerely put forth your efforts, and finally you will progress. Study until death and do not stop before. For the art of study occupies the whole of life; to arrive at its purpose, you cannot stop for an instant. To do that is to be a man; to stop is to be a bird or a beast. (*The works of Hsun Tse*, Tr. Dubs, 1928, p.36)

Continuous effort in learning distinguishes humans from animals, according to Xunzi. Further, the effort shall not stop even when facing hardships, as emphasized by Mencius:

When Heaven is about to confer a great responsibility on a man, it will exercise his mind with suffering, subject his sinews and bones to hard work, expose his body to hunger, put him to poverty, place obstacles in the path of his deeds, so as to stimulate his mind, harden his nature, and improve wherever he is incompetent. (*Mencius*, VIB.15, Tr. Lao, 1970)

Behind such a great amount of long-lasting and fearless effort is the will to learn. Confucius did not refuse to teach anybody, regardless of their intelligence level or family background; however he would have refused a person who was not eager to learn

(Slingerland, 2003). According to Confucius, the incentive and attitude to learn matter. One should establish one's will (li-zhi, 立志) to learn, because if you "seek and you will get it; let go and you will lose it" (*Mencius*, VIIA. 3 Tr. Lao, 1970). In the Confucian tradition, the will to learn can and should be cultivated deliberately, as it is the driving force of effort and thus can characterize a good learner.

The significance of effort in learning echoes the belief that "everyone is educable." Intelligence, ability, and hardships do not matter. Everyone can develop their potential to the fullest extent in the end with a great deal of continuous effort invested in learning and practice.

Teacher-student relations

According to Confucius's disciple Yan Yuan, Confucius as a teacher "enlarged my mind with learning, and taught me the restraints of propriety" (*Confucius Analects* 9. 11. Tr. Legge, 1979). Teaching and learning are more about virtue development and character building than acquiring knowledge and skills. "The Master taught four things: cultural refinement, comportment, dutifulness and trustworthiness" (Slingerland, 2003, *Confucius Analects* 7.25). Therefore, the teacher is usually expected to be a role model for virtuous conduct. Confucius himself lived up to the virtues and was respected as a "sage" by his students and disciples.

According to the *Analects*, Confucius was also a teacher with care, patience and persistence. He understood the personalities and potentials of his students and individualized his teaching to inspire them. He taught without being weary. He envisioned that teachers and students are morally bonded in the transmission of a cultural legacy. Thus, in the Confucian tradition, teachers love and care for their students beyond teaching and learning. They try their best to cultivate students as if they were their own children. The famous Chinese saying "He who teaches me for one day is my father for life" reflects a filial-like bonding between teacher and student.

In sum, the teacher-student relationship in the Confucian tradition is that teachers devote themselves to cultivating in their students the virtues of love, care, patience and persistence, while students come to trust, respect and obey their teachers wholeheartedly. This teacher-student relationship is similar to the life-feelings described in Vandenberg's pedagogic relation, especially the "patience, pedagogic love" from the

teacher's side, and the "respect, obedience" from the student's side. According to Vandenberg, however, the child has an "inherent need" to respect his teacher, while in Confucian thought, the respect is the ultimate goal of education, and the basis of the virtuous model of the teacher and the moral bonding between teacher and students. The respectful attitude towards the teacher also reflects "a deep sense of humility" (Li, 2010, p. 56). One should remain humble and always practice self-improvement, or as Confucius said: "Put me in the company of any two people at random – they will invariably have something to teach me. I can take their qualities as a model and their defects as a warning" (Slingerland, 2003, *Confucius: Analects* 7.22). The humility toward self and respect toward teachers or others are two sides of the same coin in promoting life-long learning for sagehood and the public good.

2.3.2. Dispositional studies about Chinese learners

Most studies of Chinese learners, especially of those studying in Western universities, either emphasize the challenges, which are the contextual factors that hinder them from smooth integration to the new environments (section 1.3.2), or focus on their inadequate learning skills and not-seem-to-be-active coping approaches (section 1.3.2). Thus, the bulk of the literature cannot explain the positive learning outcomes achieved by Chinese international students as attested to in a variety of studies. A dispositional perspective on learning can shed some light on this "paradox", because it can go beneath the learning strategies and approaches and go beyond learning skills and abilities (section 2.2.1). It offers a lens to investigate Chinese learners' "tendencies to respond" (Catz, 1988, p.30) to learning environments, including to the challenges of learning in the Western universities. It analyzes how they are disposed to learning, instead of whether they have the language skills, the critical thinking capacity, and so on, for learning in the Western universities. In other words, the dispositional studies can surpass the limits of ability-based analysis in explaining Chinese students' learning successes by offering insights into their "habits of mind" (Catz, 1988, p. 30) in learning, which may be account for their learning achievements.

The key Confucian conceptions of learning highlighted above (section 2.3.1) provide the Chinese cultural account for Chinese learners' dispositions. There are not many studies, however, that comprehensively investigated Chinese learners from a dispositional perspective. Some studies focus on Chinese students' attributions for

learning success, others pay more attention to the teacher-student relation. For example, Chinese students are found to attribute success to effort, and failure to lack of effort (Holloway, 1988). Besides effort, they also include interest in study, study skill and mood as attributions of success (Hau and Salili, 1991). These attributions which are rooted in Confucian learning tradition help students believe they can improve their performances through putting in more effort, being persistent in the tasks, studying more effectively, or creating the right mood. This explains certain characteristics of Chinese students' learning behaviors (tendency to respond) such as spending more time on learning tasks after class and seeking cues to prepare for examinations. The pedagogic relation between Chinese student and teacher in Confucian-heritage classrooms is a mixture of authoritarianism and student-centeredness (Hess & Azuma, 1991). The teacher is the authority; however, teacher-student relations are "typically marked by warmth and a sense of responsibility on both sides" (Biggs, 1996). This explains the characteristics of Chinese learners' attitudes (habit of mind) toward their teachers that are respectful and obedient. They are the qualities necessary for students to be open to their teachers in their pedagogic relations (Vandenberg, 1975). Among these studies, Biggs' (1996) findings about the docility dispositions and Li's (2010) detailed elaboration of learning virtues provide a more comprehensive understanding of Chinese learning within a dispositional perspective. As the docility dispositions were reviewed in section 2.1 already, I will only briefly review them in light of the larger concept of disposition (below) and then focus on the learning virtues.

Docility dispositions

Biggs (1996) took Chinese cultural contexts into consideration in order to explain the "paradox of the Chinese learner" and found that Confucian-heritage Cultural (CHC) socialization procedures produce docility dispositions that "ease children into the world of school" (p. 60). The docile, or teachable dispositions, create a sense of diligence and receptiveness which fit uncomfortably into Western concepts of intrinsic and extrinsic motivation (Hess & Azuma, 1991). According to Biggs, the attributions for learning success such as effort, strategy, interest, and skill of the teacher, are important docility dispositions, which encourage further involvement and self-management after failure. The docility dispositions also include the metacognitive skills to direct efforts toward repetitive and boring tasks, and the recognition and ability to collaborate with others in learning (Full list cited in section 2.1). Thus, according to Biggs, Chinese students are

disposed to be more willing and ready to learn such that they can outperform their Western peers.

Biggs' list is, however, a mixture of affective qualities, metacognitive skills, social abilities, learning strategies and behaviors. In a strict sense, it is beyond the concept of disposition, which is only "a tendency, propensity, or inclination to behave or act in certain ways under certain circumstances" (Siegel, 2017, p. 50). Focusing on the underpinnings of Biggs' "docility dispositions" concept, which are shared Confucian beliefs and practices about learning, would thus be more appropriate in our discussion about dispositions for learning. Jin Li (2010) explored the beliefs of learning in a great detail, and I will elaborate upon her findings below.

Learning virtues

Jin Li used the term "beliefs about learning" to describe the "learner's outlook toward learning" (Li, 2010, p. 36). It is argued that, parallel to the development of learning capacity, children's beliefs about learning are also shaped progressively through their learning experiences and enculturation. These individual beliefs are profoundly influenced by the children's cultural values and orientations, in other words, they are shaped by their learning beliefs rooted in their cultural values. For example, concepts such as the mind, reasoning, inquiry and objective knowledge are often found in Western conceptualizations of learning, while the learning virtues of personal effort, endurance of hardship, perseverance, concentration, and humility are emphasized and repeated in Chinese learning parlance. Children' beliefs guide their learning and ultimately affect their achievements. Li (2001, 2003) attempted to investigate Chinese learning beliefs as an organized system of meanings from an emic perspective. The findings suggest that the Chinese conception of having a "heart and mind for wanting to learn" (hao-xue-xin, 好学心) includes:

- 1) lifelong pursuit of learning;
- 2) a set of learning virtues;
- 3) humility; and
- 4) desire to learn (Li, 2010, p. 48)

Li (2010) uses a diagram to further illustrate the dynamic relationships among purpose, agency (learning virtues), affect and achievement standards in the Chinese learning model (Figure 2.2).

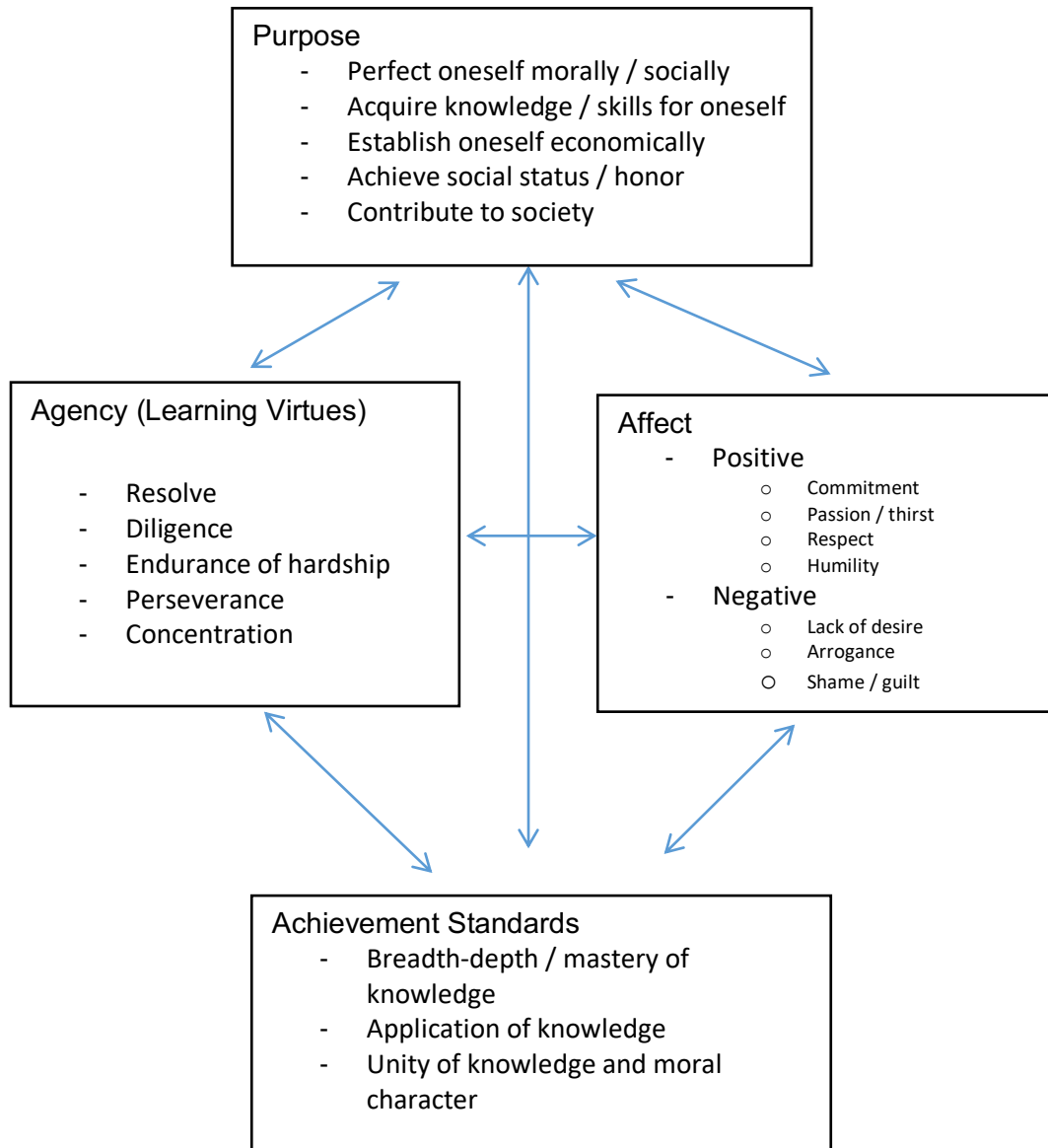


Figure 2.2. The dynamic relationships among purpose, agency, affect, and achievement standards in the Chinese learning model

(Li, 2010)

For the purpose of learning, besides acquiring knowledge/skills, establishing oneself economically and socially, and contributing to society, Chinese students regard the need to perfect oneself morally as the foremost purpose of learning, which is rarely mentioned by European-American students by comparison (Li, 2010). This purpose is

deeply influenced by the Confucian teaching of lifelong striving to become the most genuine, sincere, and humane person that one can be (de Bary, 1983). There are three general achievement standards aimed for by Chinese students: mastery of knowledge, application of knowledge, and unity of knowledge and moral character. Given the purpose of learning for virtue cultivation, it is natural that students expect to seek continuous breadth and depth of learning, and achieve the unity of the cognitive-intellectual and the moral dimensions. In comparison, American students' achievement standards have long "highlighted individual brilliance and achievement" (Li, 2010).

Li (2010) used the term "learning virtues" as Chinese students' personal agency in learning or "the power to originate action" (Bandura, 2001, p. 3). The learning virtues "emphasize a morally good and desirable dispositional quality that underlies personal agency and action" (Li, 2010, p.52). There are five such virtues found in Li's study: 1) Resolve (fen, 奋), 2) Diligence (qin, 勤), 3) Endurance of hardship (ke-ku, 刻苦), 4) Perseverance (heng-xin, 恒心), and 5) Concentration (zhuan-xin, 专心). The notion of Resolve refers to the determination of a learner to be committed to his or her learning. The Chinese word "fen 奋" has multiple layers of meaning, which include goal clarification, consistency between one's resolve and follow-up actions, and resistance to temptation and overcoming obstacles. Diligence (qin, 勤) is an immediate measure and manifestation of Resolve (fen, 奋). The Chinese word qin, 勤 "refers to frequent studying behavior and emphasizes much time spent on learning" (Li, 2010, p.52), which can ensure familiarity with the knowledge and lead to the mastery of content. Chinese learners believe that there are unavoidable hardships in learning, such as physical drudgery and poverty, the difficulty of knowledge and learning tasks, and even a lack of natural ability. One should be prepared to combat those hardships. The notion of Endurance of hardship (ke-ku, 刻苦) is about the consistent and extra effort required to overcome the difficulties and obstacles encountered in the learning process. Perseverance (heng-xin, 恒心) is a crucial attitude for one to stay the course of learning from the beginning to the very end, despite obstacles and distractions along the way. Concentration (zhuan-xin, 专心) is a general learning disposition, emphasizing studying

with consistent focus and dedication. It is “believed to allow the full engagement of one’s mind and heart in study” (Li, 2010, p.53).

There is another set of traits categorized under learning “affect” in this Chinese learning model. Positive types of affect include commitment, passion/thirst for learning, respect and humility. The negative types of affect, which are the converse of the positive ones, are lack of desire, arrogance, and shame and guilt. Commitment (li-zhi, 立志), according to Li, is “a spiritually uplifting and emotionally positive process” which “leads the learner to imagine or envision something greater than his or her current and own life” (Li, 2010, p. 55). This, in my opinion, echoes the “morningness” and “expectancy” that Bollnow and Vandenberg described as a pupil’s Life-feelings for learning. In “morningness”, one looks forward to a journey into the future, including the willingness to be educated. In conscious expectancy, one opens a new book and expects important things to be learned from it. These attunements toward learning are the essence of the knowledge-seeking tendency in Chinese learning that is captured in the over-riding notion of having “a heart and mind that wants to learn (hao-xue-xin, 好学心).” A passion for learning is similar to the intrinsic enjoyment of learning. Chinese learners, however, emphasize the deliberate cultivation of love and passion to learn by one’s own effort or through parents, teachers and peers. The other two affective states, respect and humility, are closely related. Humility is a deep sense of self and others. It is a belief that the self is inadequate and that others are to be respected and are worth learning from. Humility is a personal quality (or strength, as Li stated), which makes Chinese learners respect knowledge and the teacher, and humble themselves for lifelong improvement.

In summary, both the agency (learning virtues) and the positive affective states in Li’s (2010) Chinese learning model (Graphic 2.2) are seen by Chinese learners as essential qualities for successful learning. They are “morally good and desirable dispositional qualities that underlie personal agency and action” (Li, 2010, p. 52). Once the learning virtues are developed, and the positive affects are cultivated, they will shape the learner’s perceptions, emotions and actions toward learning, thus forming the individual learner’s general trend or tendency of conduct toward learning activities, which is manifested in observable learning behaviors. According to my interpretation, the “learning virtues” combined with the positive affectional states are the dispositions for learning translated to the sphere of Chinese cultural beliefs about learning. In other

words, they are the Chinese learning dispositions rooted in the Confucian learning tradition.

In keeping with this reviewed literature on the construct of disposition, the frameworks of learning dispositions, as well as the dispositional studies in the context of Confucian learning tradition, I will now present my conceptualization of Chinese learners' learning dispositions in the following section. My motive is to clarify the messy concept of disposition, emphasize the significance of cultural beliefs of learning, and call for a new line of inquiry, neither emphasizing only the external learning environment, nor focusing just on the internal learning capacity, but attempting to close the gap between them.

2.3.3. Diagram of learning virtues

Among a variety of definitions and theories reviewed above, Stuart Hampshire's (1971) clarification captured the most common characteristics: a disposition is an individual person's general and settled tendency towards an event and is manifested in some observable behaviors that are repeatedly displayed. Learning dispositions can thus be viewed as tendencies to respond to situations of learning in certain ways. They are cultivated, developed and supported by learners' social and cultural traditions, especially the beliefs about learning (Hess and Azuma, 1991; Li, 2010). Hence, the learning dispositions of Chinese students shall be investigated within an emic approach, i.e. taking the Confucian conceptions of learning into account. I borrow the term "learning virtues" (xue-xi-pin-de, 学习品德) to describe Chinese cultural dispositions for learning, which include both the "agency" and positive "affect" in Li's (2010) Chinese Learning Model reviewed above in detail.

To better reflect the essential features of disposition, such as "a general trend" and "necessity of display," I also re-organize these learning dispositions into two aspects: the "inner" and the "outer." The inner aspect is an automatized response toward learning. In other words, the learning beliefs which one acquired through socialization and enculturation in his/her native culture since an early age, "program" the learner to automatically respond to learning in a certain way, and the inner aspect of a disposition reveals such a programmed tendency. The most significant belief about seeking knowledge among Chinese learners is the "heart and mind wanting to learn (hao-xue-

xin, 好学心) (Li, 2003, 2010); therefore I use it as the over-riding term for the inner aspects of dispositions. The outer aspect of a disposition refers to a more observable or behavioral tendency which can measure and manifest the corresponding inner one. It directly relates to learning tasks, learning conditions, and other people who are significant in one’s learning, such as teachers and peers. I will use “learning attitude” as a summarizing term for all the outer aspects of dispositions, as attitude is “the way that you behave towards someone or something that shows how you think and feel” (*Oxford Advanced Learner’s English-Chinese Dictionary* p. 93). The Diagram of Learning Virtues is illustrated in the following (Table 2.1):

Table 2.1. Learning Virtues (xue-xi-pin-de, 学习品德)

Heart and mind for wanting to learn (hao-xue-xin, 好学心)	Learning Attitudes (xue-xi-tai-du, 学习态度)
1. Enterprise (jin-qu-xin, 进取心)	Earnestness (ren-zhen, 认真)
2. Resolve (jue-xin, 决心)	Diligence (qin-fen 勤奋)
3. Perseverance (heng-xin, 恒心)	Endurance of hardship (ke-ku 刻苦)
4. Concentration (zhuan-xin, 专心)	Self-discipline (zi-jue 自觉)
5. Humility (xu-xin, 虚心)	Humbleness (qian-xu, 谦虚)

Learning virtues (xue-xi-pin-de, 学习品德) is the summary of the Chinese learning dispositions. They are morally good and desirable personal qualities and tendencies that promote learning. Each virtue has both inner and outer sides. The inner aspect, termed as the heart and mind wanting to learn (hao-xue-xin, 好学心) has five subcomponents: Enterprise (jin-qu-xin, 进取心), Resolve (jue-xin, 决心), Perseverance (heng-xin, 恒心), Concentration (zhuan-xin, 专心) and Humility (xu-xin, 虚心). They all contain the character of “heart” (xin, 心) in Chinese. The outer aspect, summarized as learning attitudes (xue-xi-tai-du, 学习态度) also have five corresponding subcomponents: Earnestness (ren-zhen, 认真), Diligence (qin-fen 勤奋), Endurance of hardship (ke-ku 刻苦), Self-discipline (zi-jue 自觉) and Humbleness (qian-xu, 谦虚).

All five listed virtues have a cultural presence in well-known and commonly-used Chinese idioms, which tell stories about learning. These stories are introduced to young children by parents, grandparents and in schools in China as the heritage of moral teaching. Some research has already found that preschool children “were more likely to talk about the virtues of diligence, persistence and concentration” and these beliefs grow stronger as they grew older (Li, 2002; 2004; Li & Wang, 2004). In other words, these virtues not only reflect strong cultural intuitions, but also provide advice for good learning. To better illustrate the original cultural meanings of the five virtues, I will discuss each of them in detail with corresponding idioms and stories.

Enterprise (jin-qu-xin, 进取心)

Enterprise (jin-qu-xin, 进取心) is a strong desire to learn, resulting from the Confucian conception of learning for virtue cultivation. Learning is a pursuit of human self-perfection through personal commitment (Lee, 1996). In this life-long pursuit, one should be wary of complacency when learning is achieved. One should also be cautious of ease and comfort in order to continue the never-ending process. In learning any knowledge or skill, with Enterprise (jin-qu-xin, 进取心) one tends to be earnest, enthusiastic, careful, and thorough. The well-known story of “JI Chang Learns Archery” (JI-Chang-xue-she, 纪昌学射) illustrates this quality.

JI Chang was a famous archer in ancient China. When he was young, he learned archery from FEI Wei, a very skillful archer at the time. FEI Wei told JI Chang that he should not start the learning until he was able to stare at objects without blinking for a long time. JI Chang went back home and lay down under his wife’s loom, staring at the fast moving footboard. After three years, JI Chang was able to not blink, even with the tip of an awl close to his eye. He went to FEI Wei and told him what he had achieved. However, FEI Wei said again, that he should not start the learning of archery until he had acquired good eyesight, which means, until he was able to look at tiny objects as big targets, and vague things as clear items. JI Chang went back home again. He pulled out a tiny hair from a cow’s tail. He tied a louse on one end of the hair, and the other end onto the window facing south. JI Chang looked at the louse every day. The louse seemed bigger in ten days. JI Chang kept practicing his eyesight this way for three years, and now the louse seemed as big as a car wheel to him. When he looked around other things were all as big as hills. JI Chang shot the louse, and his arrow went through the center of it without breaking the fine cow

hair. JI Chang went to FEI Wei to report. FEI Wei happily congratulated JI Chang, saying “Now you have got it.” (Translated by the author from *Liezi*)

The story encourages students to commit themselves to learning like JI Chang, who didn't stop at his interim success. It is his Enterprise (jin-qu-xin, 进取心) that drove him in the pursuit of archery with an earnest attitude to learn and attain mastery.

Resolve (jue-xin, 决心)

Resolve (jue-xin, 决心) refers to a learner's determination to come to a course of action and the degree to which he or she is prepared to follow through on his or her commitment (Li, 2010). It reflects the significance of effort in Confucian learning. One's resolve can be measured and manifested by his/her diligence, which is spending a large quantity of time and energy on the learning tasks. The famous Chinese idiom “Dig the Wall to Borrow Some Light” (zao-bi-jie-guang, 凿壁借光) tells a story about resolve and diligence, which have a combined term in Chinese, qinfen (勤奋).

KUANG Heng was a famous economist in the Han Dynasty and was the Prime Minister from 36-29 B.C. He was from a poor family. When KUANG Heng was young, he studied hard. He didn't have a candle for his study during the evenings. His neighbor had candles but the light didn't reach KUANG Heng's home. So he dug a hole in the wall to let the light shine onto his book. In that light he could read. With his great effort on study, KUANG Heng became a very knowledgeable person. (Translated by the author from *Xijing Zaji*)

In this story, KUANG Heng showed his great commitment to learning through his diligent endeavors even in very poor living and learning conditions. His diligence reveals his great resolve to seek knowledge.

Perseverance (heng-xin, 恒心)

Perseverance (heng-xin, 恒心) is a crucial disposition to keep one engaged in a learning task from the beginning to the very end, no matter how long, hard, or boring the process might be. Endurance of hardship deals directly with the difficulties in learning. It does not matter whether the difficulty arises from the general living conditions, such as physical drudgery and poverty, or from the learning itself. Whether too difficult subject

matter, or an insufficient learning capacity for a learner, one needs the endurance of hardship to pave the path to successful outcomes (Li, 2010). In the Confucian conception of learning, the journey of study is full of inevitable difficulties and obstacles. The Chinese proverb “书山无路勤为径 · 学海无涯苦做舟” (there are no easy roads on the mountain of books, only diligence can pave your way; there’s no border to the sea of knowledge, only hardship can be your boat) summarizes the belief that learners should anticipate the hardships and prepare to persevere through them. The famous story of “Grind an Iron Rod into a Needle” (tie-chu-mo-zhen, 铁杵磨针) illustrates this virtue vividly:

LI Bai (Tang Dynasty) is the most famous poet in Chinese history. When LI Bai was young, he studied in the mountains. One day, he gave up before he finished his study. On his way, there was a creek. LI Bai saw an old lady grinding an iron rod on a big rock along the creek. He was curious and asked the old lady:

“What are you doing?”

“I want to make a needle out of it,” the lady replied.

“Is it possible to grind an iron rod into a needle?” LI Bai asked again,

“Yes, but only if you put in enough effort.” the old lady said.

The old lady’s words deeply touched LI Bai. He went back to the mountains and finished his study there. He kept studying hard all the time and finally became a great poet. (Translated by the author from Zhu, Mu, *Fangyu Shenglan*)

Though the facticity of the story might be dubious, the teaching of perseverance is regarded as a truism for learning. The story encourages continuous effort, day by day, year by year, which is believed to be the key to success.

There are a lot of stories about enduring hardship in Chinese classical literature. One famous example is the parable, “Tying Hair to the Beam & Poking the Pin in the Thigh” (xuan-liang-ci-gu, 悬梁刺骨):

This parable contains two stories. “Tying hair to the beam” is about SUN Jin, who was a famous politician in the Han Dynasty. SUN Jin was devoted to study. He studied from morning till night, without taking breaks. When he was tired and felt sleepy, he found a rope and tied it to his hair. Then he

tied the other end of the rope to the beam. When he fell asleep while studying, his head dropped and the rope would pull his hair. Therefore, he would be awakened and would continue to study. Later SUN Jin became a famous scholar in his time.

“Poking the pin in the thigh” is about SU Qin, a famous diplomat during the Warring States time. When SU Qin was studying, he kept a pin at his side. As soon as he fell asleep, he used the pin to poke his thigh. Blood dripped on his feet. In this way, SU Qin kept awake and continued his study. (Translated by the author from *Taiping Yulan* quoted from *Han Shu*)

These stories provide moral examples of enduring physical suffering while learning. Being able to persevere through hardship is highly valued in the Confucian learning tradition. It is the way to achieve success and also the way to build character.

Concentration (zhuan-xin, 专心)

Concentration (zhuan-xin, 专心) is a learning disposition emphasizing “studying with consistent focus and dedication”, which allows the “full engagement of one’s mind and heart in study” (Li, 2010, p. 53). One needs to be self-disciplined in facing distraction, interruption and temptation. The Chinese word for concentration (zhuan-xin 专心) originated from the following story:

YI Qiu was the best chess player in the country. During this time, YI Qiu had two students studying chess with him. One student was very focused during the learning. He listened to YI Qiu with full attention. The other student was also listening; however, in his mind/heart, he was thinking that there might be a goose flying over at that moment. He was thinking about taking his bow and arrow to shoot the goose down. Although these two students were learning together, the second person’s learning was not as good as the first one’s. Was it because the second person was less smart than the first one? Of course not. (Translated by the author from *Mencius*)

Mencius used this story to teach concentration. After the story, he concluded it was not the learning capacity, or intelligence, but the full engagement in the study that determines the learning outcome.

Humility (xu-xin, 虚心)

Humility (xu-xin, 虚心) is a deep sense of self and others. It reflects the belief that the self is inadequate and others are to be respected and are worth learning from. Humility is a personal quality that makes one respect knowledge and the teacher, and

humble oneself for lifelong self-improvement (Li, 2010). Humility (xu-xin, 虚心) also means that one should remain humble and not display pride while achieving well (Li, 2002). Feeling proud of oneself and celebrating are perceived negatively as diverting one from further self-perfection (Li & Wang, 2004). The opposite of humility (xu-xin, 虚心) is arrogance. It is impossible for an arrogant person to be respectful, or for a disrespectful person to be humble. The parable “Standing in the snow to Wait for Master Cheng” (Cheng-men-li-xue, 程门立雪) tells a story about what humility (xu-xin, 虚心) entails and how one should be respectful to the teacher. CHENG Yi, the teacher in this story, was a famous Neo-Confucianism scholar.

YANG Shi was a famous scholar in the Song Dynasty. He studied with CHENG Hao and became a knowledgeable person. When CHENG Hao died, YANG acknowledged CHENG Hao’s brother CHENG Yi as his teacher. YANG was over forty years old then, but still wanted to study more from his teacher. One day, YANG Shi and his friend YOU Zha had a debate and couldn’t reach a conclusion, so they went to see CHENG Yi. When they arrived at CHENG Yi’s place, they found that their teacher was sitting there with eyes closed. YANG Shi asked YOU Zha not to disturb their teacher and both of them then waited outside. It was snowing heavily. YANG Shi stopped YOU Zha from waking up CHENG Yi several times. They stood in the snow and waited for their teacher. When CHENG Yi woke up, he found the snow outside piled to one chi (*i.e. one third of a meter*) deep and two “snowmen” standing there waiting respectfully. (Translated by the author from *The History of Song*)

This story described how respectful a student shall be toward his/her teacher. This deep sense of humility is encouraged as a moral excellence and a personal strength in Confucian teaching. Chinese learners believe that one can always improve as long as one can humble oneself and learn respectfully from others.

These five learning virtues seem individually necessary for learning, and they together represent the key conceptions of learning in the Confucian tradition. Without Enterprise (jin-qu-xin, 进取心), one does not have the drive to continuously pursue learning. Without Resolve (jue-xin, 决心), there will be no action following a will to learn. Without Perseverance (heng-xin, 恒心), one can easily give up when facing difficulties. Without Concentration (zhuan-xin, 专心), there will be no full engagement in learning.

And without Humility (xu-xin, 虚心), one is not ready for being taught and/or pursuing self-improvement. These five learning virtues complement one another for good learning. Their connectedness can be seen through the stories presented above. For example, the story of “ Grind an Iron Rod into a Needle” (tie-chu-mo-zhen, 铁杵磨针), besides Perseverance (heng-xin, 恒心), also teaches Earnestness (ren-zhen, 认真), Diligence (qin-fen, 勤奋) and Humility (xu-xin, 虚心).

In summary, unlike Perkins, Jay & Tishman’s (1993) thinking dispositions, which reflect the Western emphases on “mind”, “intelligence”, “rationality”, and “cognition,” and unlike Bollnow’s “virtues of a child” and Vandenberg’s “life-feelings” of learning which focus on fundamental affective and ontological presuppositions for learning with a natural or culture-free perspective, Biggs’ docility dispositions and Li’s learning virtues both take the Confucian learning conceptions as the cultural context into consideration when examining the Chinese learners’ dispositions. All these scholars agreed that dispositions are grounded in beliefs, values, and attitudes of the culture in which one has been growing and learning. Li’s learning virtues specifically illustrate how Chinese beliefs, attitudes and values greatly shape the characteristic ways of Chinese learning. These morally good and desirable dispositional qualities shape Chinese learner’s automatized responses and observable behavioral tendencies toward learning. Thus, I have presented the Diagram of Learning Virtues (Table 2.1) to show these Chinese cultural learning dispositions and illustrate them in Chinese idioms and stories of learning in hopes of reflecting their original meanings within the Confucian learning tradition.

2.4. Summary of literature review

The majority of the current literature on Chinese international students focuses on the challenges as well as their culturally-rooted coping approaches that hinder them from smooth integration into the new learning environments. The missing piece in the current literature is an investigation of how the Chinese international students succeed academically when facing the transitioning challenges of the socio-cultural and educational gap or tension between their native and Western cultural and educational traditions.

The exploration of the missing piece necessitates the change of two perspectives while investigating Chinese international student's learning. First, learning shall be perceived beyond knowledge construction and competency development. Second, analysis of learning shall take an emic perspective or, in other words, a culturally-based account as Biggs (1996) critically indicated to be necessary:

Western research being conducted from within a monoculture (Western culture) makes it like the fish: the last to discover water. (p. 61)

My literature review has thus focused on the studies of learning dispositions, which are individual learner's tendencies to respond to situations in learning in certain repeatedly displayed ways. Dispositions do not concern what abilities people have, but how people are disposed to use their abilities (Perkins et al., 2000). Furthermore, dispositions are cultivated, developed and supported by learners' social and cultural traditions. Inquiries into learning dispositions can thus go beneath learning behaviors, go beyond learning abilities, and also offer a non-Western lens for conducting research into Chinese international students' enduring traits (Siegel, 2017) in learning, which may likely account for their learning achievements.

Different frameworks of learning dispositions were reviewed. Perkins, et al.'s (1993) thinking dispositions, Bollnow's (1962/1970) "virtues of a child," and Vandenberg's (1975) "life-feelings" of learning were reviewed in detail because they provided comprehensive and fundamental dispositional perspectives for learning. These theories, however, either reflect the Western conceptualization of learning or, with a natural or culture-free perspective, lack the culturally specific reference points to explain Chinese international students' learning dispositions. Biggs' (1996) docility dispositions and Li's (2010) learning virtues both take the Confucian learning conceptions into consideration. These scholars agreed that dispositions are grounded in beliefs, values, and attitudes of the culture in which one has been growing and learning. Li's (2010) learning virtues specifically illustrate how Chinese beliefs, attitudes and values regarding learning greatly shape the characteristic way Chinese students learn.

Developed from the reviewed literature about the construct of disposition, the frameworks of learning dispositions, as well as the dispositional studies in the context of Confucian learning tradition, I have outlined my conceptualization of Chinese learners' dispositions in the Diagram of Learning Virtues (Table 2.1). Learning virtues (xue-xi-pin-

de, 学习品德) provide a summary of the Chinese learning dispositions. They are morally good and desirable personal qualities and tendencies that promote learning. Each virtue has both inner and outer aspects. The inner aspect, termed as the heart and mind wanting to learn (hao-xue-xin, 好学心), has five subcomponents: Enterprise (jin-qu-xin, 进取心), Resolve (jue-xin, 决心), Perseverance (heng-xin, 恒心), Concentration (zhuan-xin, 专心) and Humility (xu-xin, 虚心). The outer aspect, summarized as learning attitudes (xue-xi-tai-du, 学习态度), also has five corresponding subcomponents: Earnest (ren-zhen, 认真), Diligence (qin-fen 勤奋), Endurance of hardship (ke-ku 刻苦), Self-discipline (zi-jue 自觉) and Humbleness (qian-xu, 谦虚). The “inner” “heart and mind for wanting to learn (hao-xue-xin) and the “outer” learning attitudes make a coherent whole in the learning process. They are the inner drives one needs to develop in order to be willing and ready to learn. They are also the outlook one tends to have for effective learning and achieving satisfying learning outcomes. I use the original conceptions from the Confucian learning tradition in hopes of achieving a more valid and rigorous understanding of Chinese students’ learning dispositions.

In conclusion, the literature review identified a missing answer in the current literature to the question: How are Chinese international students disposed to perform well academically in Western universities? My inquiry into Chinese international students’ learning dispositions attempts to ascertain whether the learning virtues, the Chinese cultural learning dispositions rooted in Confucian learning tradition, still account for their academic success in a non-Chinese educational context. Are there any changes to learning dispositions during the process of integration? Does the international learning experience have an impact on Chinese students’ dispositions for learning? Answers to these questions can provide an in-depth comprehension of learning dispositions, and lead to a more valid and holistic understanding of the academic successes of Chinese international students.

Chapter 3.

Methodology

The extensive reading on the theories of learning dispositions as well as reviewing the limited dispositional studies on Chinese learners' learning led me realize that an inquiry into Chinese students' learning dispositions is needed and can possibly lead to a more valid and holistic understanding of why and how they have been able to excel in learning in their host Western universities. This study seeks to answer the following specific research questions:

- 1) What are the learning characteristics of the Chinese international students who perform well academically at their host Western universities?
- 2) What are the learning dispositions these students ascribe to their good academic performances?
- 3) Do they think that their cross-border experiences result in any changes in their learning dispositions? If yes, what are the changes? And how do these changes happen?

This chapter offers a comprehensive account of the considerations and choices during the design, conduct and analysis of this study. First, I provide a rationale for choosing a qualitative approach that guided the research process. Next, I explain the design of the study, including case selection and participant selection. Third, I describe the data collection (autobiographical descriptions and interviews) and data analysis processes. Finally, I discuss the validation and reliability of the study, followed by a summary of the methodology.

3.1. Rationale for qualitative research approach

A qualitative approach is most appropriate given that the purpose of this study is to explore the learning dispositions which are learner's tendencies to respond to situations of instruction in certain ways. Qualitative research is particularly well suited to "deciphering the complexity of human behavior" (Darlington & Scott, 2002, p. 3). Through the inquiry into the learning dispositions, my study attempts to explain the paradoxical findings of Chinese international students in the literature focusing either on

the external contextual factors that impede their academic learning, or on the cultural strains that hinder them from active integration (section 1.3.2 and section 2.1). A qualitative method is the only way to address a research intention to “understand an area where little is known or where previously offered understanding appears inadequate (thin, biased, partial)” (Morse & Richards, 2002, p.27).

I explore through participants’ personal experiences and stories how it is that Chinese students are “performing well academically.” Qualitative methods are appropriate to address my research questions, in terms of seeking “to learn from the participants in a setting or process the way *they* experience it, the meaning they put on it, and how they interpret what they experience” (Morse and Richards, 2002, p. 27-28). Furthermore, to deeply understand the phenomena of “performing well academically,” the participants’ articulations as well as the interpretation of their experiences need to be collected, described and presented in detail. A qualitative approach is more advantageous than a quantitative one, for example statistic measures, in this regard (Morse and Richards, 2002; Creswell, 1998).

Creswell (2013) identified several characteristics of qualitative research which should be considered in determining the methodological design of such a study: “natural setting; researcher as a key instrument; multiple methods; complex reasoning through inductive and deductive logic; participants’ meanings; emergent design; reflectivity and holistic account” (p. 45-47). This study gathers information at the actual site where the learning dispositions are in evidence. In other words, the researcher has collected data at a Canadian university where the Chinese student participants study and achieve good academic performances. The qualitative research design allows me as the researcher to play an active role in using multiple methods for collecting data from the participants. Also, because an in-depth and holistic understanding of Chinese students’ learning dispositions can only be achieved through listening to their voices carefully, identifying significant phrases thoroughly, and formulating the essential meanings accurately, it is important that I have first-hand knowledge of the research setting. The research process is recursive with analysis working back and forth between the abstract meanings and descriptive data until common themes are identified to encapsulate the experiences of the participants. Reflectivity is an important characteristic of this study. My Chinese cultural background as well as my experience as an international student at a Western university twenty years ago is imbedded in this study, from provoking me to this specific

inquiry, understanding and illustrating the original meanings of culturally-specific expressions from the literature and data, to analysing and interpreting the nuances of the data. With reflexivity, it is possible for me to offer an “insider” perspective, and at the same time be aware of the bias and assumptions that may impact this study, which I will discuss in detail in section 3.3.3 on the qualitative research validation.

3.1.1. A case study

I considered various qualitative methods and decided that a case study approach offered an appropriate vehicle for this research inquiry. According to Yin (2009), a case study is an empirical inquiry that “investigates a contemporary phenomenon in depth and within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident” (p. 18). Yin’s definition emphasizes the close connection between a phenomenon and its context. A holistic and meaningful understanding of the phenomenon encompasses its important contextual conditions, because in real-life situations, phenomenon and context are not always distinguishable. Although Stake (2005) does not perceive case study as a methodological choice but a choice of what is to be studied as defined by the researcher’s interest, he still agrees on the importance of context in case study. Qualitative case study, according to Stake (2005), “concentrates on experiential knowledge of the case and close attention to the influence of its social, political and other contexts” (p. 444). This study explores how Chinese students are disposed to perform well academically in the Western educational contexts. An undergraduate degree program at a Canadian university is chosen as the specific research site (the reasons for the choice will be explained in the case selection section below). It is of great importance to take contexts, that is, the social, cultural and linguistic contexts of education in China and Canada, and the institutional contexts of the Chinese and Canadian universities in which the Chinese students have been studying, into account when exploring these Chinese students’ learning dispositions because no learner is free of cultural influence. Students’ learning is shaped gradually and greatly through their prior learning experiences and enculturation within the specific culture in which they grow up (Li, 2010). While these Chinese students study in a non-Chinese learning context, they also gain experiences of mobility and go through a process of integration within the Canadian educational environment. The examination and

description of the contexts and the change of the contexts provide a background as well as evidence of the forces shaping the learning dispositions.

There is a large array of approaches to choose for a case study. A case study can be quantitative or qualitative. It can be explanatory, exploratory or descriptive (Yin, 2009). Stake (2005) distinguished three types of case study according to the intent of the analysis: intrinsic case study, instrumental case study and collective case study (or multiple case study). If the primary interest is to better understand the particular case itself, e.g. a particular student, a program or a university, it is an intrinsic case study. When a particular case is examined mainly to provide insight into an issue, and/or to facilitate the understanding of some abstract construct or generic phenomenon, it is an instrumental case study. When a number of cases are selected and studied in order to investigate an issue deeply, often including different perspectives on the issue, it is a collective case study (or multiple case study).

The intent of this study is to seek a holistic and in-depth understanding of Chinese students' learning dispositions through investigating the experiences of a group of Chinese undergraduate students who are performing well in a Canadian university. On a personal level, I have an interest in this particular group of Chinese students and how they achieve great academic success in the Canadian university. On a broader level, however, my agenda is to explore the learning dispositions of the Chinese students. Learning disposition is an abstract and complex construct (section 2.2.2). The first step of this research is to listen to these students, to detail their stories and to describe the contexts in which they study, in order to understand what they experienced in moving from the cultural context in which they have grown up to a Western learning environment. Therefore, the immediate interest is intrinsic. With a good understanding of this group of Chinese students, it then become possible to advance an understanding of the abstract concept of learning dispositions, with a potential for making a contribution to the literature on the issue under study, given the scarcity of literature on learning dispositions and contradictory viewpoints on Chinese students' learning. Therefore, my study fits the category of an instrumental case study.

3.1.2. A phenomenological case study

This study seeks to understand Chinese students' learning dispositions through investigating their successful learning experiences. In other words, it explores the essential meanings of these students' experiences in performing well academically. A phenomenological approach is chosen for this qualitative case study because phenomenological research is the study of lived experience and it seeks "a grasp of the very nature of the thing" (van Manen, 1990, p.177), and this approach involves rich description, thematic framing, and systematic interpretation of the research data, in order to reveal both "what" and "how" the research participants experienced.

"Phenomenology is the study of essences" (Merleau-Ponty, 1962, p. vii, cited in van Manen, 1990, p. 39). Through individuals' lived experiences, a phenomenological study seeks the very nature of the phenomenon; in other words, it strives to "see" into "the heart of things" (Rilke, 1987, p.77, cited in van Manen, 2014, p.68). The interest in the very nature or essence of a phenomenon makes the phenomenological approach appropriate to be used in this study to explore the significance of Chinese students' learning dispositions. The interest and the focus of this study are not on any particular (linguistic, disciplinary) competencies, (learning) behaviors, and (coping) strategies, or contextual factors that lead to academic success. Rather, the study attempts to explore the significance of performing well academically in terms of learning within an ethnic group with a complex and deeply-held set of shared beliefs and values on learning. What, in the very first place, makes the students ready and willing to acquire the necessary competencies, adopt certain behaviors and strategies, and excel in learning? What do the members of this group of Chinese students have in common as they go through an international undergraduate degree program together? What are the meanings of the experience they ascribe to performing well academically? In other words, this study seeks to look at the "core" nature of Chinese students' academic performance. Interestingly, in Chinese, the learning virtues are expressed with words containing the character for "heart" (xin, 心), which means also "center," "core" as well as "mind," "affection," and "intention" (Modern Chinese-English Dictionary, 1988, Foreign Language Teaching and Research Press, p.984). A phenomenological study fits well in studying the "heart" of students' learning experiences. The learning virtues are "morally good and desirable dispositional qualities" that are regarded as qualities essential to

successful learning in Chinese culture (Li, 2010, p. 52). In my Diagram of Learning Virtues (Table 2.1), the heart and mind wanting to learn (hao-xue-xin, 好学心) is the summary of the internalized dispositions for learning. There are five subcomponents to this concept of the heart and mind wanting to learn (hao-xue-xin, 好学心), namely, Enterprise (jin-pu-xin, 进取心), Resolve (jue-xin, 决心), Perseverance (heng-xin, 恒心), Concentration (zhuan-xin, 专心) and Humility (xu-xin, 虚心), which all have the “heart” (xin, 心) character. In sum, phenomenology is a method as well as “an attitude” for this case study, which will seek the very nature, the essence, the significance and the “heart” of why and how Chinese students' perform well academically.

The philosophical underpinnings of phenomenology explain why it seeks the essence of the lived experiences for individuals: what they have experienced and how they experienced it. The work “phenomenology” is derived from the phenomenological philosophers of the 20th century, such as Husserl, Heidegger, Sartre and Merleau-Ponty. These philosophers and their followers share a common philosophical perspective that the reality of an object is inextricably related to one’s consciousness of it, so it can only be perceived within the experience of an individual (Steward and Mickunas, 1990; Creswell, 2013). Phenomenological studies, therefore, orient to the meanings that “arise in experiences” (van Manen, 2014, p.38). This philosophical tenet falls in line with my beliefs about the world and how to understand the world. The lived experiences of the Chinese students are where I seek an authentic understanding of their learning dispositions.

Phenomenology has a strong philosophical component to it, meanwhile, methodologically, it offers systematic methods for data description, analysis and interpretation. I choose phenomenological approach for this case study because both the philosophy and the methodology are appropriate for the research purpose and question. Phenomenology has a systematic procedure, from identifying units of analysis (e.g. significant statements), framing themes (or meaning units), to developing a descriptive summary of the phenomenon. These methodological procedures will guide me in understanding what the Chinese students have experienced while learning

effectively in a Canadian university. In particular, a hermeneutic phenomenological analysis procedure is chosen for this study.

Phenomenology is “always descriptive and interpretive, linguistic and hermeneutic” (van Manen, 2014, p.26). Hermeneutic is the theory and practice of interpretation, while phenomenology, according to Husserl, is the science of describing how the world is constituted and experienced through conscious acts. In hermeneutic phenomenology, one “describes how one orients to lived experience, hermeneutics describes how one interprets the ‘texts’ of life (van Manen, 1990, p. 4). The coexistence or integration of description and interpretation is proposed in the recognition that the “(phenomenological) ‘facts’ of lived experience are always already meaningfully (hermeneutically) experienced” (van Manen, 1990, p. 181). An interpretive process is inevitable. In this process, the researcher explores a realm of experience that captures his or her attention, investigates the nature of the experience, reflects on its essential themes, and crafts a description of the experience, while maintaining a strong connection to the phenomenon. Van Manen used an example of “parenting” research to illustrate that the majority of literature in that field discuss parenting as a “how to do” skill for parents, instead of addressing the meaning of parenting. In studies of how Chinese students learn well, the majority of the literature focuses on the skills and strategies which may assist students’ learning; but this type of information does not necessarily bring us an understanding of how and why these students can achieve academic success.

In sum, the choice of phenomenology is based on my belief that: a) the essential meaning of Chinese students’ learning dispositions can be described and interpreted through the lived experiences of the Chinese students who are disposed to perform well in learning, and b) pre-understandings and assumptions, either from existing bodies of knowledge or from the researcher’s personal experience do exist, however it is necessary and applicable that the researcher become aware of his or her own beliefs, biases, and experiences of the phenomenon during the investigation.

In conclusion, a phenomenological case study approach is chosen for this study because it fits well with the purpose of this research which is to explore a particular group of Chinese students’ learning dispositions through their experiences in excelling in learning in a non-Chinese educational context. A phenomenological “attitude” is adopted

to assure that this study will strive for the fuller significance of the Chinese students' learning dispositions. In order to retain a holistic and meaningful understanding of Chinese students' learning dispositions, the contextual conditions will be considered in the investigation. This coherent methodology, which involves "accurate description and subjective, yet disciplined interpretation," with "a respect for and curiosity about culturally different perceptions of phenomena and empathic representation of local settings" (Stake, 2005, p. 459), will enable me to understand fully how a particular group of Chinese undergraduate students in a Canadian university is disposed to learn well. These methodological principles guide the design of the research, as described in detail in the following section.

3.2. Research design

I now provide details about the selection of the participants in the study.

3.2.1. Case selection

Case study research begins with identifying one or several appropriate units of analysis, also called the "case(s)" (Yin, 2009). A particular case is a specific, unique system bounded by time and place (Stake, 2005; Creswell, 2013). Furthermore, a well-selected case not only represents the phenomenon under study (Creswell, 2013; Yin, 2009), but also offers opportunity to learn (Stake, 2005). The cases chosen for this study are of a group of Chinese international students from an undergraduate program at a Canadian university. I will describe the case first and then provide a rationale for choosing this particular examples.

The case

Simon Fraser University (SFU) is a public middle-size comprehensive university in Western Canada with over 100 undergraduate programs and more than 45 graduate programs. Like other major universities in Canada and Anglophone countries, there is an increasing international student body on campus. There were over 25,425 undergraduate students registered at SFU in fall 2019, of which 5,325 are international students. International students represent 20.9% of the total undergraduate population (SFU fall 2019 Undergraduate Enrolment Report). The university is facing "the challenge of meeting the expectation of an especially diverse student population" and "refocusing

the efforts to better suit the changing demographics of the student body” (SFU Engaging Students, Research and Community 2013-2018: Five Year Academic Plan of the Vice President Academic, p. 1).

Chinese students have made up the biggest headcount of the international student body at SFU for the past ten years. In 2012-2013, “over 65% of all international undergraduate students and 25% of all international graduate students were from China” (International Engagement Strategy, SFU 2013-2016, p. 13). In 2015-2016, and again in 2016-2017, Chinese students represented 56% and 54.6% respectively of the undergraduate international students (Fall 2017 International Student Report). It is recognized that this concentration presents challenges and opportunities for the university to develop intercultural connections and student support programs.

The School of Computing Science at Simon Fraser University has offered an undergraduate Dual Degree Program (DDP) with Zhejiang University (ZJU) since Fall 2005. The partner university Zhejiang University is a prestigious institution of higher education in China with a long, 120 year history. It has 140 undergraduate programs, over 300 Master’s programs, and over 300 Doctoral programs. As of December 2018, ZJU had 25,425 undergraduate students registered and 4, 409 international degree (including both undergraduate and graduate) students. The Dual Degree program is conducted at both universities with students spending approximately two years at ZJU in China for lower division courses and two years at SFU in Canada for upper division courses. (Canadian DDP students may need an extra year for Chinese language preparation before going to China, depending on their Chinese language proficiency upon joining the program.) Each year, about twenty Chinese students from ZJU come to SFU. They follow the same upper division undergraduate curriculum as all the other students in the school of Computing Science. This group of Chinese students has been chosen for the present investigation of how Chinese students are disposed to learn well in a Canadian undergraduate program. I have limited the study to the students who are studying at the SFU campus during the data collection period. Those Chinese students who have either already completed their studies in the DDP program or not yet arrived in Canada have not been included in this case study.

With the choice of the case, the first research question can be formed more specifically as the following:

- 1) What are the learning characteristics of this group of Chinese DDP students who perform well academically at Simon Fraser University?

Rationale for the case selection

It is of great importance to make a representative selection of cases (Huberman & Milies, 1994; Ryan & Bernard, 2000; Yin, 2009). The focus of interest in this case, which is the achievement of good academic performance among this group in their study in Canada, is intended to represent the larger case of culturally informed academic achievement. Certainly the Chinese students in the DDP program are regarded as students who consistently perform well academically in their study at SFU, as described below.

SFU has been receiving Chinese students in the DDP program since 2008. There have been 245 DDP Chinese students (as of Fall 2019) enrolled at SFU, with the majority demonstrating strong academic performance in Canada. According to the DDP 10th Anniversary Brochure, over 50% of the DDP Chinese students have achieved a graduation GPA (Grade Point Average) of 3.5 or higher. In other words, more than half of this group of students graduated from SFU with an Honours degree with distinction (SFU grading policy). Over 50% of the DDP Chinese students from each cohort are placed on Dean's Honour Roll. Quite a few also have won the President's Honour Roll during their study at SFU. This group of students has impressed the faculty members and staff at SFU, especially in the School of Computing Science, with their outstanding academic performances, just as described by Computing Science faculty member Ray:

I would often attend the SFU's Honour Roll ceremonies. The president's Honour Roll is an event every semester for the 4.0 GPA students. So, there are students from all programs across campus. But in Computing Science, we tend to find that our group of Honour Roll students is dominated by the DDP Chinese students. I would say that I would see one to three DDP Chinese students at every Honour Roll ceremony, and three to six Computing Science students in total in the Honour Roll. So, about half of the Honor Roll students would be the DDP Chinese students every time I went there. Pretty strong numbers.

Upon graduation, some DDP Chinese students secured jobs in leading tech companies, such as Google, Apple, Amazon, Facebook, SAP, just to mention a few, others (about 50%) have continued their graduate studies in world-class universities in North America and China, for example, Harvard University, Stanford University,

Carnegie Mellon University, University of California-Berkeley, Yale University, University of Toronto, University of British Columbia, and Peking University (information from DDP 10th Anniversary brochure as well as the DDP webpage at Zhejiang University).

This study also seeks answer(s) to the question of whether the students' experiences in Canada cause any changes in their learning dispositions. It is therefore important to consider the extent to which the students are performing well academically before they move to a different educational context and experience tertiary education in Canada. The Chinese students in the DDP program do excel academically before they come to SFU, as is demonstrated by their success in being admitted to Zhejiang University. As Zhejiang University (ZJU) is one of the top three universities in China, students must excel in China's National College Entrance Exam (Gao Kao) in order to get a seat at ZJU. These DDP Chinese students, in general, are high achievers in the Chinese pre-university schooling system. In addition, after a year of study at ZJU, the successful candidates for the DDP program must have excellent academic standing at ZJU and good English proficiency (IELTS 6.5 or above), besides their interest in studying in Canada. This group of students has consistently outstanding academic performance both in China and Canada, and so comprises an appropriate cohort among which to explore Chinese students' learning dispositions and their possible dynamics with the experiences of mobility.

The secondary reason for choosing this group of Chinese DDP students to include in this case study is that it offers an opportunity to learn, for example, about these students' perspectives on why and how they have been able to achieve scholarly success in China and Canada? what are their trajectories of learning and the impacts on their learning dispositions? Stake (2005) wrote:

The researcher examines various interests in the phenomenon, selecting a case of some typicality but leaning toward those cases that seem to offer opportunity to learn. My choice would be to choose that case from which we feel we can learn the most. That may mean taking the one most accessible or the one we can spend the most time with. Potential for learning is a different and sometimes superior criterion to representativeness. Sometimes it is better to learn a lot from an atypical case than a little from a seemingly typical case. (p. 451)

I have been working as the Mandarin Chinese instructor for the Canadian DDP students since the inception of the DDP program at SFU in 2005. I have also been

involved in the work of curriculum development and recruitment for the program and, therefore, I have access to information about the program on an ongoing basis. The support I get from colleagues in the school of Computing Science at SFU allows me greater access to conduct this study in terms of recruiting students and faculty member participants. Furthermore, I was a faculty member at ZJU from 1992-1995 and have visited ZJU on DDP work trips once a year from 2006 to 2013. Though the case study took place only at SFU's campus (bounded space), a good understanding of the institution where the Chinese students have been studying before coming to Canada is an advantage in understanding dispositional development.

3.2.2. Participant selection

The most appropriate sampling strategy is purposive or purposeful (Patton, 2002), meaning that “the inquirer selects individuals and sites for study because they can purposefully inform an understanding of the research problem and central phenomenon” (Creswell, 2013, p. 156). The decision about sample size is also related to the intent of qualitative research which is not to generalize the information but to elucidate the particular and specific features of the data sample. I chose, therefore, a small number of information-rich participants who can provide particular and specific information on how the DDP Chinese students study and perform well academically at Simon Fraser University. The majority of the participants are students from the Chinese DDP student group. Two faculty members were also chosen to provide an instructional perspective.

Among the available qualitative sampling strategies, I used criterion sampling and stratified purposeful sampling in order to select student participants from among the Chinese DDP students. Criterion sampling assures that the chosen participants meet certain criteria (Patton, 2002). These criteria for choosing the student participants were: 1) Chinese DDP students who were studying at SFU during the data collection period of this study; and 2) those who achieved above-average CGPA (Cumulative Grade Point average) in the School of Computing Science at SFU. The first criterion echoed the requirements of the case study as identifiable with time (six months of data collection period) and place (SFU campus) boundaries. Those Chinese students who had either already completed their study in the DDP program or not yet arrived in Canada were not

included in the study. The second criterion ensured that all the participants were performing well academically.

The sampling for stratification was according to gender and length of stay at Simon Fraser University. This selection strategy delineates subgroups and facilitates comparisons. In particular, it allows me to explore whether a longer experience in a non-Chinese learning context will have greater impact on the students' learning dispositions.

A number of factors were considered in selecting two faculty participants to contribute teacher perspectives as well as provide contextual information for the study. In particular, I selected the faculty participants according to their familiarity with the Dual Degree program and its Chinese students, their own cultural backgrounds, and availability for the purposes of this study.

Student participants

After receiving the Minimal Risk Approval (Ethics Statement p. iii) from the Office of Research Ethics at SFU, the recruitment of participants started in April 2014. There were altogether fifty-four DDP Chinese students registered at SFU at that time. Eleven students started their study at SFU in Fall 2011 (2011 cohort). The year 2014 was this cohorts' third year. Most of the students in this cohort had either graduated or about to graduate in April 2014, or were doing their Co-op (Co-operative Education, an optional program where students explore their career options by paid working semester) outside the SFU campus. Twenty-two students started their study at SFU in Fall 2012 and Twenty-one students were from the 2013 cohort. I used criterion sampling to select potential study participants out of the fifty-four DDP Chinese students. With the Permission to Access Information for Study Use (Appendix A), I received an email list from the coordinator of the DDP Program which included the registered DDP Chinese students whose CGPA (as of fall 2013) was above the average CGPA of the undergraduate students in the School of Computing Science. There were altogether thirty-four students on the list. I was provided with the names of the students and when they started at SFU. I was not informed about the average CGPA (as of fall 2013) of the undergraduate students in the School of Computing Science or of the CGPA of each student on the list.

I sent out the Student Participant Recruitment Letter (Appendix B) to the students on the provided email list. Eighteen students responded to my letter. Four students declined my request because of graduation or out-of-town status. Fourteen students agreed to participate in the study. I then used the stratified purposeful sampling, based on gender and the length of study at SFU, to narrow the list down to eleven participants. Table 3.1 illustrates the fourteen positive respondents and the considerations for not keeping some of them as participants in the study. The selected participants represented the maximum range of gender and length of study at SFU. The bold text indicates the eleven participants (with pseudonyms) who participated in the study. After identifying the participants, I distributed the consent forms (Appendix C) for their signatures.

Table 3.1. Potential Student Participants and Considerations of Recruitment

Potential participants (pseudonyms for ethical reasons)	Gender	When started study at SFU	Reason
Zoe	Female	2011	
Randi	Female	2011	
Echo	Female	2012	
Wendy	Female	2012	
Mike	Male	2012	
Z	Female	2012	Availability not guaranteed
Y	Female	2012	Availability not guaranteed
X	Female	2012	In USA
Frank	Male	2013	
Neal	Male	2013	
Suzanne	Female	2013	
Kay	Female	2013	
Freddy	Male	2013	
Zach	Male	2013	

Faculty participants

The recruitment of faculty participants started in December 2014, after the primary data collection from the student participants was completed. I used the stratified purposeful sampling technique to select the two SFU faculty participants from the School of Computing Science.

Prof. Glenn (pseudonym is used here for ethical reasons) was the first faculty member I contacted. He knew the DDP program very well since he had both administrative and teaching experiences with DDP and DDP students. Prof. Glenn is ethnic Chinese. He received his Bachelor of Science degree from a Chinese university;

as a result, he is quite familiar with the Chinese education system. Prof. Glenn has also studied and worked in non-Chinese universities for decades. He is therefore able to provide perspectives as a teacher of the DDP Chinese students and as a “former” student who experienced the phenomenon of “performing well academically” in both Chinese and non-Chinese universities. Prof. Glenn responded to my invitation email positively.

I then invited Prof. Ray (pseudonym is used here for ethical reasons) to participate in the study. Prof. Ray taught computing science undergraduate courses at SFU, which had both Chinese and Canadian DDP students. At the time of faculty participant recruitment, Prof. Ray was just back from a six-month faculty exchange at Zhejiang University. He taught one course to the undergraduate students there, among whom were the DDP Chinese students who were about to come to SFU for the upper division studies. His fresh experience of teaching and living at ZJU is valuable to the study. Prof. Ray is ethnic Canadian. He gladly agreed to participate in the study.

The stratified purposeful sampling technique used in the selection of the faculty participants fits the research suggestion that chosen participants should share characteristics of the particular subgroups of interest in order to facilitate comparisons (Creswell, 1998; Patton, 2002). The selected faculty participants were able to contribute teacher perspectives on DDP Chinese students’ learning performances and the contributing and mitigating factors that result from the students’ experiences of mobility. They can also provide contextual information for the study as both of them are experienced in Chinese and Canadian educational environments. Table 3.2 illustrates the two faculty participants and the considerations for selecting them as participants in the study. After identifying the participants, I distributed the consent forms (Appendix D) for their signatures.

Table 3.2. Faculty Participants and Considerations of Recruitment

Faculty Participants (with pseudonyms for ethical reasons)	Ethnic background	Familiarity with DDP and DDP Chinese students	Availability
Prof. Glenn	Chinese	Taught DDP Chinese students computing science courses at SFU Supervised DDP Chinese students for individual Capstone projects	Yes

		Administered DDP program as the program director for six years	
Prof. Ray	Canadian	Taught DDP Chinese students computing science courses at both ZJU and SFU Worked at ZJU as exchange faculty from SFU for six months shortly before the study was conducted	Yes

3.3. Data collection and analysis

There is a wide array of data collection methods, such as reviewing documents (e.g. biography, diaries, journals), literature, archival records, interviews, observations and physical artifacts in case studies and phenomenology studies (Yin , 2009; van Manen, 2014; Creswell, 2013). The foremost task for me is to collect and identify data that provide the possibility of locating the meaning people place on the events, processes and structures of their lives, with the general outcome being that of revealing the complexity of the phenomenon under study (Miles & Huberman, 1994). Yin (2009) encouraged the use of multiple sources of evidence for the same fact or phenomenon that can be developed as “converging lines of inquiry” and in “a process of triangulation and corroboration” (p. 116) of the data. The multiple sources of evidence also provide multiple indications of the same phenomenon. The conclusions drawn from multiple sources of evidence are thus regarded to be more accurate and reliable than those pertaining to a singular data source (Yin, 2009). Two primary data collection methods were used in this study, namely, autobiographical descriptions and interviews. Rich and detailed data were carefully collected in order to reach a holistic understanding of the very nature of the lived experience of the DDP Chinese students who perform well in learning.

3.3.1. Data collection procedures and types of data

The data collection for this study lasted eight months, of which six months were spent collecting data from the student participants, and two months collecting data from the faculty participants. It started with collecting student participants’ autobiographical descriptions of their individual learning experiences before coming to Canada. This was

followed by face-to-face interviews with each of the student participants. Email or telephone follow-up calls were made when further clarifications were needed. Data collection from the faculty participants was through face-to-face interviews. Email follow-up calls were similarly made when further clarifications were needed. The specific data types and procedures of collection are as follows:

Autobiographical descriptions

This phenomenological case study seeks to understand the dispositional nature of the DDP Chinese students' experiences in performing well academically. "Biographies, autobiographies, personal life histories are all potential sources for experiential material" (van Manen, 1990, p. 71). Consequently, autobiographical descriptions of student participants' learning before coming to Canada were collected to provide information on their personal learning histories. "Educators have a professional interest in (auto)biographies because from description of lives of individuals they are able to learn about the nature of educational experiences and individual developments" (van Manen, 1990, p. 72). I share the same interest in the present study. More precisely, the interest I hold for this study reaches beyond each individual's personal learning to broader "existential" meanings which are possibly shared by other Chinese students.

According to van Manen (2014), one possible way to assist the phenomenological reflective inquiry process is to "employ the existentials of lived relation (relationality), lived body (corporeality), lived space (spatiality), lived time (temporality) and lived things and technology (materiality) to explore phenomena in a hermeneutic manner" (p. 302). Therefore, a set of open-ended questions (Appendix E) was designed according to these existentials to guide the autobiographical description of personal learning history. The details, such as time, space, relation, and events in student participants' previous learning experiences, provided significant information as to how these students learned in the past, and facilitated awareness of how they are learning at present. The guiding questions are in both English and Chinese languages. The students also had the option of using English or Chinese to write their personal learning history. Three student participants chose to write in English, while eight of them wrote in Chinese.

Interviews

Face-to-face interviews, which are commonly associated with qualitative research (Creswell, 2013), were used as the other data source for this study. Interviewing is the most common and efficient tool to collect personal life stories in phenomenological studies. Van Manen (1990) specifies the purposes of the interview in hermeneutic phenomenological as a “means for exploring and gathering experiential narrative material that may serve as a resource for developing a richer and deeper understanding of a human phenomenon,” and as a “vehicle to develop a conversational relation with a partner about the meaning of an experience” (p. 66).

There are several types of interview for qualitative investigations such as, for example, telephone interviews, focus group interviews and web-based interviews. In this study, one-on-one, face-to-face interviews were used because they can yield rich information, clarify ambiguous answers and enable rapport-building with the participants. Each of the eleven student participants were interviewed regarding their lived experiences of performing well academically in the DDP program at Simon Fraser University. The initial interviews with the student participants took about 90 minutes, which was longer than what I had planned, because the participants were eager to share their stories about learning. Follow-up telephone conversation or email correspondence were made to clarify ambiguities, if any, and to assure that concreteness is achieved. After the data collection from the student participants was completed, interviews with faculty participants were held, followed by email correspondence for clarification.

Interviewing has a series of steps in a logical sequence (Kvale & Brinkmann, 2009; Rubin & Rubin, 2012, cited in Creswell, 2013). I used an interview protocol (Appendix F) to help me organize the recording of practical information such as when, where and who, as well as providing in advance the opening statements and closing remarks of the interviews. In addition, I pilot-tested the interview with one non-DDP Chinese student. The purpose of the pilot testing was to gauge the language of the instrument and to eliminate any ambiguity and thus ensure its comprehensibility.

Semi-structured questions were formulated for the interviews with the participants. These semi-structured interviews allowed the respondents the flexibility necessary to share their lived experiences (Creswell, 2003). The following questions were used to elicit the experiential narratives from the student participants:

- 1) What is your experience of studying at Simon Fraser University? Do you have challenges in your learning? What are the challenges? How did you deal with them?
- 2) You achieved good academic performance at SFU. Could you describe how you achieved it? What made you choose to do so? What does it mean to you?
- 3) In your opinion, what are the personal characteristics that make you successful in learning at SFU? Can you provide some examples? What experiences have you had that you think facilitated the development of your characteristics?
- 4) How long have you been studying at SFU? Are there any changes in your way of learning now, compared with your study at Zhejiang University or your secondary schools in China? What is/are the change(s)? What made you decide to change? What do you feel about the change(s)? Has it been difficult or easy to make the change(s)?

Similar steps were followed to that of student participant interviews when preparing for the faculty interviews. The open-ended interview questions for faculty participants were:

- 1) What is your teaching/supervising experience with the Chinese DDP students?
- 2) How well do they learn in your class/project?
- 3) What do you think are the reasons for their good performance in your class/project?
- 4) Compared with other students, what are the special characteristics you perceived from these students?

Probing questions asked during the interviews were detail-oriented with participants encouraged to elaborate or to clarify their responses. I also used some contrast probes such as “how does X compare to Y” (Patton, 2002, p. 374) to define the boundaries of some reported experiences. These questions allowed me to delve deeply into the participants’ minds and lives.

An audio digital recorder was used to capture the interviews for later transcription since “taping is considered to be an important part of data collection because it provides a source for analyzing the participant’s exact words, and not the paraphrases made by the researcher” (Kvale, 1996, p.162). Notes were also taken during the interview for the

purpose of capturing tone, inflection and non-verbal communications such as silences, facial expressions, postures and gestures. After each interview, the audio records were properly labeled with the name of the interviewee, the date and place, and kept in computer files in my office.

I am fluent in both Mandarin Chinese and English which allowed me to conduct the interviews in both languages. When given the choice of language for the interviews, all the student participants chose their native language, Mandarin Chinese. Student participants enjoyed the freedom of using their mother tongue to describe their experiences, providing concrete details and discussing in-depth meanings. That might be the reason why most of the student participants extended their voluntary sharing of learning experiences. The language for faculty participant interviews was also chosen according to participants' preferences. Prof. Glenn, who is originally from China chose to speak Mandarin Chinese during the interview while Prof. Ray preferred to use English.

Summing up the above, I started the data collection by locating each student participant's personal and subjective views regarding what learning well means through their autobiographic descriptions of learning before coming to Canada. This collection provided both the background information on the participants and the contextual information about their learning. Furthermore, it achieved the goal of phenomenological research, which aims to find out "what makes something what it is...(and) how they perceive it, describe, feel about it, judge it, remember it, make sense of it, talk about it..." (Patton, 2002, p. 104). The one-on-one, face-to-face interviews were conducted to illuminate why and how the students have been able to excel in learning in a Canadian university. Deep probing aimed to discern the dispositional factors these students ascribe to their successful learning experiences. The in-depth interviews with faculty participants provided data from an instructional perspective on the learning of this group of students. These three types of collected data – student participants' autobiographic descriptions of learning history, one-to-one, face-to-face interview with student participants, and one-to-one, face-to-face interview with faculty participants – enabled me to "search everywhere in the lifeworld for lived-experience material that, upon reflective examination, might yield something of its fundamental nature" (van Manen, 1990, p. 53). The multiple data sources "triangulate" and ensure the same question is addressed with a variety of data (Richards, 2005). Based on the methodological considerations in case study and phenomenology, the data from the above sources were

collected systematically and comprehensively in order to search for lived-experience materials that could be subjected to phenomenological analysis and interpretation.

3.3.2. Data analysis

In general, data analysis for qualitative research consists of “preparing and organizing the data for analysis, then reducing the data into themes through a process of coding and condensing the codes and, finally, representing the data in figures, tables or a discussion” (Creswell, 2013, p.180). Phenomenological studies have more specific guidance and procedures for analyzing and interpreting data. This study follows the specific methods advanced by phenomenology researchers and summarized by Creswell (2013):

- 1) describe personal experiences with the phenomenon under study;
- 2) develop a list of significant statements from the interviews and other data sources;
- 3) group the significant statements into themes;
- 4) write a description of “what” the participants in the study experienced with the phenomenon (textural descriptions);
- 5) write a description of “how” the experience happened (structural descriptions); and
- 6) write a composite description of the phenomenon incorporating both the textural and structural descriptions (essence of the experience). (Ibid, p.193-194, simplified).

The phenomenological description of “what” and “how” the participants experience a phenomenon includes two types of descriptions. One is a description of the “ ‘lived-through’ quality of lived experience,” and the other is a description of “meaning of the *expressions* (original emphasis) of lived experience” (van Manen, 1997, p. 25). The first one is a direct, immediate and pure description, while the second one is “an intermediate (or a mediated) description of the lifeworld as expressed in symbolic form” which seems to have “a stronger element of interpretation” (Ibid, p. 25). Hermeneutic phenomenology uses the term “description” to include both interpretive (hermeneutic) and descriptive (phenomenological) elements. The underpinning notion is Gadamer’s (1986) distinction between two senses of interpretation: “interpretation is a *pointing to* something; and interpretation is *pointing out* the meaning of something” (Gadamer,

1986, p. 68, as cited in van Manen, 1990, p. 26). The description of this study falls into the hermeneutic phenomenology description and interpretation category, which enables me to develop “insights that bring us in more direct contact with the world” (van Manen, 1990, p. 9).

The data in this study include eleven autobiographical descriptions collected from the eleven student participants, eleven audio-recordings of individual student interviews and two audio-recordings of individual faculty interviews. The preliminary data analysis steps of describing personal experiences with the phenomenon under study, developing a list of significant statements from the interviews and other data sources, and grouping the significant statements into themes (Creswell, 2013, p. 193) occurred in three cycles in this study. The initial cycle of analysis was undertaken when I collected autobiographical descriptions from the student participants. I summarized a list of significant statements, emergent issues and questions as well as some theme categories from each autobiographical description. I asked for clarification and elaboration of these statements, issues and questions during the interviews with each of the student participants. I then carefully developed an open-ended coding scheme informed by my theoretical framework and emergent themes from the autobiographical descriptions for the second cycle.

The second cycle started from transcribing and translating the eleven audio-recordings of individual student interviews. As previously explained, all the student interviews were conducted in Mandarin Chinese according to the participants' preference, so that transcribing the audio files became a translating process at the same time. The interview transcripts were then coded by the open-ended coding scheme developed after the first cycle. Color coding was used to code the transcriptions. As in the first cycle, I continued to summarize a list of emergent issues and questions from the interviews which I felt worthy of crosschecking and of further exploring with the faculty participants. I then carefully included these issues and questions in the interviews with faculty participants and kept these in mind for the third cycle of data analysis.

The third cycle started from transcribing and translating the two audio-recordings of the faculty interviews. One interview was conducted in Mandarin Chinese, with the other being in English, as stated previously. The interview transcripts were then coded by the open-ended coding scheme further developed during the second cycle. Emerging

themes were added while the existing ones were further refined during the process. It was a process of going back and forth to scrutinize the words and phrases, making sense of their meanings, and categorizing the meanings.

Coding is about constructing categories (Richards, 2005). It sometimes limits the researcher in developing ideas from all the detailed information and/or cross-examining the data in different categories, especially in the long and “messy” process of data analysis. I kept research memos to minimize such limitations and to facilitate “the theorizing write-up of ideas about codes and their relationships as they strike the analyst while coding” (Glaser, 1978, as cited in Miles & Huberman, 1994, p. 72). My memos include data details that cannot be categorized into any themes and which were of a spur-of-the-moment inspiration, the nuances of which explain why and how I coded some data differently, and with sense-making insights drawn from the significant words and phrases. By keeping these research memos, I was able to see how the ideas grew, and how the data could be categorized and coded in the analysis process. It also made later retrieval easier for refining the coding scheme, and later for the data interpretation.

After all the data were coded, I mapped out, compared and cross-analyzed them with the help of my research memos. Then I moved to the data interpretation phases that required me to write descriptions of “what” the participants experienced with the phenomenon (textural descriptions), “how” the experience happened (structural descriptions), and provide a composite description incorporating both the textural and structural descriptions (essence of the experience) (Creswell, 2013).

Textual descriptions are with minimal interpretation but maximum display of data. Structural descriptions involve theorizing from data in keeping with my theoretical framework and the relevant theories and literature. I organize and present the descriptions according to the research questions. Key quotes are displayed within the descriptions provided in subsequent chapters. In the end, I organize and present the final description of the learning dispositions found in this study.

3.3.3. Validation, delimitations

There are many perspectives regarding the definition of, as well as the procedures for, validation in qualitative research. In this study, I adopted Creswell’s

(2013) stance on validation in the present study as “an attempt to assess the ‘accuracy’ of the findings, as best described by the researcher and the participants. This view also suggests that any report of research is a representation by the author” (p. 249-250).

I applied triangulation, member checking and bracketing (reduction) to validate my research design, as they are the most appropriate and realistic techniques. The details of these validation strategies are discussed below.

Triangulation

Triangulation is one of the most popular validation strategies in qualitative studies (Creswell, 2013). Yin (2009) contended that using multiple sources of evidence, i.e. a process of triangulation and corroboration, is one of the principles for data collection in case study research. Multiple sources of evidence essentially provide multiple methods and address methodological triangulation too (Patton, 2002). In this study, I used the two primary data collection methods of autobiographical descriptions and interviews for the student participants. In addition, I also interviewed faculty members. The in-depth interviews with faculty participants provided data from an instructional perspective on the learning of the students. Triangulating the findings from these different data sources lent validity to the conclusions.

Member checking

Besides collecting data from different sources, it is also critical to assure the credibility of the data collected. Member checking is considered “the most critical technique for establishing credibility” (Lincoln and Guba, 1985, p. 134). As participants “play a major role directing as well as acting in case study” (Stake, 1995, p. 115), it is very important to take interpretations, analysis and findings back to the participants to see whether they are accurate. In this study, I spent some time in the face-to-face, one-on-one interviews in uncovering areas of ambiguity or uncertainty with the student participants in relation to their autobiographic descriptions. During the interview transcriptions, I made follow-up phone calls or sent emails to clarify with the interviewees the expressions that were not clear to me. After finishing my analysis, I sent each participant the emerging themes I developed from their autobiographic descriptions and interview transcripts in order to collect their opinions of the written analyses and conclusions, and to “rule out the possibility of misinterpreting” what they had told me

while also identifying my “own biases and misunderstands of what I observed” (Maxwell, 2005, p. 111).

Since this study offered participants the choice to use Mandarin Chinese in their autobiographic descriptions and interviews, most of the data collected was in Mandarin Chinese. Member checking again helped clarify the original meaning and assure the accuracy of the translation. I sought an expert reviewer to do a quality check on my translation. The expert is a native speaker of Chinese with good knowledge of English, someone has received academic training in Linguistics, and who has experience in translation.

The member-checking technique was also used for interviews with faculty participants. Follow-up emails were sent for clarifications after the interviews. Transcripts in English were sent to the participants to check for the accuracy of the meanings of what they said and the perspectives that they held.

Bracketing (reduction)

Triangulation and member checking are the validation ways adopted in this study. Clarifying researcher bias is another important measure to make both the researcher and the reader aware of the researcher’s biases and assumptions that may impact the research. In phenomenology, especially psychological phenomenology studies, it is often required that the researchers set aside their experience as much as possible in order to take a fresh and potentially transcendental perspective on the phenomenon under investigation (Giorgi, 1985; Moustakas, 1994). This procedure is called bracketing. Van Manen prefers the term of “reduction” to describe a “special reflective method or attitude” (van Manen, 2014, p. 61), which “reduce what prevents us from making primitive or originary contact with the primal concreteness of lived reality” (van Manen, 2014, p.41). It includes “overcome(ing) one’s subjective or private feelings, preferences, inclinations, or expectations that would prevent one from coming to terms with a phenomenon or experience as it is lived through” (van Manen, 1990, p. 185). In this study, I followed the bracketing steps suggested by Denzin that involved locating the key phrases and statements collected from the participants, interpreting the meanings of these phrases and statements as an informed reader, verifying the interpretation with the participants, and inspecting the revealed meanings carefully (Denzin, 1989, p. 55-56; as cited in Patton, 2002, p. 486).

While making efforts to bracket subjective preferences and judgements in the process of data collection and analysis, it is also important to remain self-reflective as a researcher. Hermeneutic phenomenological research studies a “phenomenon which seriously interests us and commits us to the world” (van Manen, 1990, p. 30). This abiding interest (van Manen, 1990) is inevitably related to one’s personal experience and preferences. My interest in exploring the learning dispositions of the Chinese students who perform well academically certainly relates to my personal learning and teaching experiences. To be self-reflective and sensitive to the prejudgments in the whole process of the study is, therefore, vital to increase the trustworthiness of the research. “Reflexivity is the process of reflecting critically on the self as researcher, the human as instrument” (Guba & Lincoln, 2005, p.210). Hence, I reflected on my prior experiences, presuppositions and prejudgments which might be related to the culturally construed learning dispositions and that might subsequently affected my data collection, analysis and interpretation. This constant self-reflection kept me aware of my voice and stance in the study and maintained my efforts to “reduce” (van Manen, 2014) their idiosyncratic affects as much as possible.

Hermeneutic phenomenology admits the pre-understandings and assumptions the researcher holds to “predispose us to interpret the nature of the phenomenon” (van Manen, 1990, p. 46). The solution it provides is to “not try to forget or ignore what we already ‘know’,” but to “hold them deliberately at bay and even to turn this knowledge against itself” (van Manen, 1990, p. 47). My prior experiences as a Chinese culturally-disposed learner are carefully held for “bracketing,” meanwhile, it can be used in understanding and clarifying what the student participants told me and in discerning their learning “existentials”: lived space, body, time, relation and things (van Manen, 2014). For example, when they talked about classroom seating in Chinese elementary and secondary schools, I was able to “picture” a Chinese classroom in my mind immediately according to my own experience and followed promptly with questions to clarify whether my mind picture was accurate. My presuppositions could relate seating to arrangements according to student heights, eye sight and sometimes disciplinary measures for talkative and distracted students. I then was able to clarify and explore in-depth what the impacts and meanings of this “lived space” were on their learning. Keeping myself and the participants aware of my experience and stance is an effective way to delimit researcher’s bias and validate the data collection, interpretation and analysis.

3.4. Summary of methodology

This study, in exploring the Chinese students' learning dispositions in the increasingly internationalized Western educational contexts, attempts to decipher the complexity of why and how the Chinese students achieve learning when facing the transitioning challenges of surmounting the socio-cultural and educational gap between their native and the Western learning cultures and traditions. A qualitative approach is most appropriate to explore this inadequately studied phenomenon through Chinese students' lived experiences. I chose the phenomenological case study method for this study and discussed the rationales and considerations of this choice. I then provided detailed reasons and descriptions of how to select an appropriate case as well how to select information-rich participants. Specifics on data collection procedures and techniques were reported, followed by a description of three cycles of data analysis, which fall into the specific phenomenology methods for data description and interpreting. In order to produce high-quality qualitative data which are "credible, trustworthy, authentic, balanced about the phenomenon under study" (Patton, 2002, p.51), I discussed the cautions applied to the procedures and techniques in term of triangulation, member checking and bracketing (reduction) to validate my research design.

In sum, the methodology discussed in this chapter is a powerful approach to examine how the Chinese international students are disposed to perform well academically in Western educational contexts. Through careful data collection, accurate description, disciplined analysis and continuous clarifying researcher's subjective biases, it is possible to understand the nuances of the Chinese international students' learning in the internationalization of Western higher education, and transform the understanding into significant theoretical and practical contributions and implications. I present the findings in the next two chapters in relation to the research questions defined in this chapter.

Chapter 4.

Findings: Lived experiences

As described in the previous chapter, this is a phenomenological case study which investigates the lived experiences of a group of Chinese undergraduate students who are academically successful in the Dual Degree Program (DDP) in Computing Science at Simon Fraser University (SFU) in Canada. It aims to articulate the students' perspectives regarding how and why they have been able to excel in their host Western universities. I will use two chapters to report my findings for the research questions:

- 1) What are the learning characteristics of this group of Chinese DDP students who perform well academically at Simon Fraser University?
- 2) What are the learning dispositions these students ascribe to their good academic performance?
- 3) Do they think that their educational experiences in a Canadian university result in any changes in their learning dispositions? If yes, what are the changes? And how do the changes happen?

The emerging themes of the lived experiences of Chinese DDP students' excelling in their study and their perceptions of how they achieve their academic success are provided in the findings to the research questions and substantiated with verbatim examples. In Chapter 4, I report the findings to research question one, describing "what" the participants in the study experienced of the phenomenon, i.e. performing well academically at SFU? I include my own experiences of the phenomenon under study, at the same time, in order to take note of what I bring to this study. This effort helps bracket subjective preferences and judgements in the process of data representation in my writing while serving as a reminder for me to remain self-reflective as a researcher through the entire study process. In Chapter 5, I report the findings to research questions two and three in order to provide the answers to "how" this experience happened, and write an exhaustive description "that speaks to the essence of the study and its inspiration" (Moustakas, 1994, p. 184) at the end.

4.1. Lived experience of performing well academically in China

The research question focuses on the Chinese DDP students' lived experiences of excelling academically at Simon Fraser University (SFU). In order to illustrate their lived experiences in Canada more accurately and holistically, however, I start from the participants' learning experiences before coming to Canada. The findings from participants' autobiographical descriptions about their learning in China can inform us about the individual developments as well as the nature of education experiences in the Chinese context which will provide the background and starting point for us to understand how the students experience excelling in their studies in a non-Chinese context.

The student participants in this study had their elementary, secondary as well as the first two years of university education in China. According to the collected data, these students achieved academic success from the very beginning of their school education. I now report the findings of each phase.

4.1.1. Performing well academically in Chinese elementary schools

The emerging themes about the lived experience of performing well academically in Chinese elementary schools are (a) easy schoolwork and abundant extracurricular activities, (b) competition, (c) earnest learners, and (d) respectful to teachers.

Easy schoolwork and abundant extracurricular activities

All the participants reported that the schoolwork was overall very easy during their elementary studies such that they achieved good marks easily. Some of them were always the top students in their class or their school, while others were in the top ten group consistently. Suzanne wrote:

Schoolwork was easy. I spent little time on study. I did not remember that I spent any effort on preparing for examinations. (Suzanne-AB*²)

² AB: Autobiographical Description in Chinese and translated by the author.

Mike had a similar story. He can hardly remember studying but only playing. Some students, however, did study, although they emphasized that they were just following the school curricula and their teachers step by step. As Echo said:

During elementary and secondary years, my normal school day was going to class and following my school schedule. After school, I did homework first and then took a break, resting or having some fun, like watching TV, playing on the computer, or playing basketball.

Because I did my homework quite seriously, when examinations came, I wouldn't be too nervous or spend too much time on preparation. I usually just followed the teachers in reviewing the course work for the finals. I usually didn't spend extra time preparing for the final examinations for the science subjects, like math and physics. For some subjects that require a lot of memorization, I would concentrate on memorizing the necessary content on the day before the exam.(Echo-IV³)

Attending class and doing homework seriously are the key factors to achieve good academic standing at elementary school. The academic achievement without big challenges brought confidence to the students from an early age. Freddy wrote:

I didn't have much of a challenge at that time. My academic performance at that time meant making my parents happy and proud of me, and also proving that I am a clever and diligent student, which are pretty simple for that age. I got positive evaluations at that time which I believe were very important in building up my confidence. (Freddy-AB in English⁴)

Suzanne also recalled:

I didn't very much realize that I was "studying" then. I took my good grades for granted, just like I was able to do a long time ago. (Suzanne-IV)

Because the schoolwork was easy, the students had a lot of free time to spend. They were involved in leisure activities such as reading, watching TV, playing with computers and sports. Kay recalled:

My memory of childhood is burying myself in the sofa and reading Children's Encyclopedia or Science World (a magazine). I think reading is a very good habit and I feel sad I have lost such a habit now (the time writing the autobiography). (Kay-AB)

³ IV: Interview. All the student participants' interviews were in Chinese and translated by the author.

⁴ AB in English: Autobiographical Description written in English by the student participant.

More often they spent their free time attending all sorts of extracurricular classes, such as calligraphy, painting, violin, dancing, choir, Kungfu and Taekwondo. Some students joined competitive sports teams. Most of the students attended some academic skill enrichment classes, including math, writing, journalism, and model-making. Just like Neal reported:

Another memory for elementary education was about extracurricular activities. Since I had a lot of spare time, my parents decided to give me some extra load. I studied writing, math, calligraphy, journalism, trumpet, drawing and Kungfu. Only the first three were serious and lasted for more than three years. Those experiences made me outgoing. (Neal-AB in English)

Some students participated in competitions in mathematics, writing and sports. For example, Suzanne won some prizes in mathematics, which helped her in applying for a good junior high school later.

It is worth noting that parents played an important part in arranging the extracurricular classes for their children. The classes and activities covered a wide range of skills, however sometimes they were not necessarily in accordance with the students' interests. According to Suzanne, she took a lot of classes but she said, "I didn't choose these classes by myself." When there was a potential "negative" impact on academic study, some parents stopped their children from pursuing their interests in these extracurricular activities. For example, Kay wrote:

Other focal points of my life then were sports and music. I played badminton since Grade One and was selected to my school team. I spent two hours every day after school for my training. I went home sweating all over. In my Grade Four my coach recommended me to compete for the provincial team. But my parents had me withdraw from the school team because, according to them, being an athlete is a very risky career and [to keep training and/or going on the provincial team] would have a negative impact on my studies. Similarly, I had a great interest in music then. I was studying violin. But my parents stopped me in music with a similar reason. (Kay-AB)

Besides extracurricular classes, quite a few students also spent time in school activities. Kay was one of them:

I was a student correspondent for a Daily and an Evening local newspapers. I published about 30-40 articles in different newspapers and magazines. I had the opportunity to report on an international photography festival as a student journalist representative. I took part

in a lot of activities, such as attending student conferences, making speeches at the national-flag-raising ceremony, organizing school wide activities, and making speeches as the school representative on other occasions. (Kay-AB)

This is the eleven participants' elementary school years involving easy schoolwork and a lot of extracurricular activities, whether for leisure, interest, or for skill improvements. Their early academic achievements brought them confidence in their studies, while the out-of-school activities also shaped their personalities.

Though the schoolwork was easy for the most part, it did not mean there was no competition. In fact, competition was all the time a factor during the elementary years, although it did not bring a lot pressure on the participants in this study.

Competition

In the autobiographical descriptions and interviews, all the participants mentioned, and most of them remembered, their ranking within their class or school during the elementary years. This indicated that competition was in place in the elementary school system as well as in the participants' daily learning. There are two most notable experiences of competition: 1) students' trajectories from one school to a better or the best school, and 2) students' participation in the math competitions during the elementary years.

The best school

Zoe started her autobiographical description by stating that from "1997 to 2003, I received my elementary education in T Elementary School, one of the best in H city." Freddy was from the same school. Some other students did not start from "the best" school, however they changed to the best or to a better school or class in their later elementary years. For example, Frank, Mike, Neal and Randy all followed such a trajectory. Students had rather positive comments on the change-of-school decision. Neal was one of them:

My parents were not picky about elementary education, nor did they have the resources to send me to some famous schools. So I went to the nearest school which has its fence standing right aside my neighbor's yard. However my parents did make an important decision at that time. There were two different types of classes, one with a large size of about 50 students, another with only 28. I went to the smaller one with an extra fee. And it's worth it. With the same amount of

teaching force for two different sized classes, each class got a different education. One simple fact is that later the small class had 5 students get into the top three junior high schools in H city, but the big class had only 2. (Neal-AB in English)

The success rate for entry to some top secondary schools is the main criterion for determining the best elementary schools. These schools, therefore, are usually more competitive. Newcomers to these schools usually face challenges of making new friends as well as dealing with falling backwards in their academic ranking. Interestingly, the newcomers came up with quite positive comments on their experiences. Mike wrote:

Up to Grade Four, I was always the top student in my school. I had a lot of good friends there. In 2002, I changed to the best elementary school in my city. My ranking fell from the first place in the school to the top 10 in my class. I didn't feel lost, instead I realized that I got into a better learning environment and got to know students who were better at studying. This way my potential could be realized. I was very happy about the change. (Mike-AB)

Randy had a similar and even stronger opinion regarding how a better learning environment could improve her own study. She moved from a middle-sized city in northern province to Beijing when she was in Grade 6. During her secondary school years, she was in a "second tier" junior high school, and then successfully entered a top-ranked senior high school. For these two changes, she said:

I found myself in a totally different but much better study environment. You had a lot of space to improve yourself. It's not like in my previous school, our average level was not high, you could improve, but not much. You couldn't feel there's much space for you to improve. But when you work with peers who all have great potential, you will truly feel you can improve a lot. (Randy-IV)

Just like Randy, most of the students successfully got into highly ranked junior high schools after they graduated from their competitive elementary schools. To thrive in a competitive learning environment is the experience that these students started to have in their elementary years, and from elementary years this sense of thriving continued into their secondary years.

Math competition

There is another event that most of the students experienced during their early learning years: math competition. Most of them studied for math competitions, participated in math competitions, won math competitions and, on occasion, did not win

math competitions. The participants spent a lot of time and effort on them. They became important memories of elementary study. They also affected their perceptions of the subject and of matters beyond the subject.

Zoe said she did not remember a lot about her elementary years except for the math competitions:

Actually, my last two years of elementary school were almost all about preparing for a mathematics competitions. I was successfully enrolled in a class composed of top students in math and we had extra classes on Fridays and weekends. The class was really competitive: we were required to shift our seats every week based on the grade we got in the weekly exam. Sounds tough and unreasonable? It really gave us a lot of pressure as well as motivation to be the best. Even though the math competition was finally cancelled because of the SARS (Severe Acute Respiratory Syndrome) that year, the intensive training really gave me a higher starting point in learning math. (Zoe-IV)

Zach almost echoed Zoe about how much time he spent on the subject as well as how stressful yet helpful the training was in his math study.

When I think about my elementary years, the most memorable thing was studying for the "Ao Shu" (math for International Mathematical Olympiad). I was not very happy then, because other kids could play during the weekends while I had to spend a whole day in school studying math. We learned a lot, for example, basic geometry, number theory and some classic math questions. The learning made me good at math... During my elementary years, I read a lot of novels and cultivated my math mind, which was very helpful for my future study. (Zach-AB)

Neal also talked about math competition during the interview. He said, "I didn't win any prize in the math competition; however I built my math foundation well through my weekend preparation classes."

Why would the participants almost have unanimous positive comments on their math competitions, no matter how stressful and time-consuming the preparations were, and no matter whether they won or not? Freddy gave some answers in the interview when I asked him why in his autobiographic description he wrote: "the most important achievement I made during that time would be winning the first place in the math competition":

Freddy: First of all, Chinese education values science subjects [math, physics and chemistry]. This idea [Math is important] has been instilled in my mind since an early age. Being good at

math means that you are a smart kid and you have a great potential in the future. Therefore, winning in the math contest is an achievement you can be proud of. It encouraged me a lot in my elementary years. The competition was severe.

Qing: When was that?

Freddy: Grade 4 or Grade 5. (...)

Qing: How did you study for the contest?

Freddy: My math was quite good then. I was very interested in math. If I faced some difficulty, I always tried my best to work it out. I would ask my teacher or my classmates for help. The easy questions could not attract me, instead, I liked those hard contest questions very much. I was really interested in math. Working on these hard questions was not a burden for me. I just wanted to work them out. I think, at that time, if my math teacher didn't select me for the competition, I would be very upset.

Qing: Were you "born" to like solve hard math questions?

Freddy: I think it isn't a "born" nature, instead, it is a result of family and social impact. My parents always encouraged me to solve hard questions. If I did, I would receive their commendation and encouragement. As to the social impact, if I did well on hard math questions, other parents and my peers would say "you are super!" Teachers would also praise me by saying things like "you excel in math in the class."

My parents aren't mathematicians. They are both architects. However they are probably influenced by the traditional concepts of Chinese education, i.e. math is the foundation for all the science majors in university, and it is vital to build a solid foundation for math during the elementary years.
(Freddy-IV)

In China numeracy is regarded as a must-master skill which can predict a student's success in his or her future academic endeavours. Therefore, math is the most important learning subject at school. It is regarded as the foundation for all the science subjects. These perceptions are instilled and accepted from generation to generation. Students are encouraged by parents and teachers to spend time on building math foundations from a very early age. As a result, young students attach great importance to math study. Their progresses and achievements in this particular subject are rewarded by parents' and teachers' commendations and peer recognition. Yet, this tradition may also have a negative impact on the young students who were not able to do math well, as Freddy realized during the time of interview:

This is a double-edged sword. I gained my confidence as I was good at solving these math questions. Others might lose their confidence in math as they didn't do well on these questions and they weren't encouraged by the teachers or received recognition from their classmates. It encouraged some students who did well, and discouraged other students who were not that good at that time. (Freddy-IV)

Earnest learners

All the participants reported that the schoolwork was overall quite simple during their elementary study, and they also achieved good marks easily. However it didn't mean that they didn't take their study seriously. In fact, from their autographic descriptions and the interviews with them, the emerging theme of how they studied could be summarized as being "in earnest." These students completed assignments seriously, attended classes attentively, and made efforts to solve unknown or interesting questions.

Echo, Wendy, Randy, Mike and Freddy reported in their autographic descriptions that they always received evaluations about their study as "in earnest," "surefootedly" and "enthusiastic" on their report cards. Mike gave an explanation of what "in earnest" meant to him in the interview:

It means strong self-discipline. For example, you finish your assignments on time or ahead of schedule and understand the lectures. You should set high standard for yourself.

Being enthusiastic about learning at that time meant having interest in study. For example, asking questions in class and after class, discussing with teachers and peers, and finishing exercise sheets on time. (Mike-IV)

Echo had a similar thought about being "earnest" and "sure-footed" in her studies:

I did my study in a simple way. I took homework seriously. During my elementary and secondary school years, the first thing I did after school was to finish my homework before doing anything else. I completed my homework quite seriously. This is what I mean by "being sure-footed". (Echo-IV)

Some students received different evaluations such as "smart, but not diligent enough" from their teachers. For example, Zoe, Frank, Suzanne and Kay mentioned these comments. There are also students who admitted that they did not study hard enough then, for example, Neal and Zach. Though the evaluations were different, each

of these students conducted their studies in a similar fashion as members of the “earnest” group. Kay explained her disagreement with her teacher’s evaluation:

If diligence is not regarded as doing a lot of repeated exercises, I would say I am quite diligent. However, in most people’s perception, if you keep previewing and reviewing the lessons, doing the homework, reading the textbooks and doing a lot of extra exercises, then you would deserve to be regarded as a diligent student. I usually didn’t do these things. Sometimes I didn’t do homework. I prepared for the exams in the very last minute. Therefore, others thought that my good marks were achieved by petty tricks or born talent. Within a short time, I can finish the work on which others might need to spend a lot of time. Some students reviewed the textbook every day and at the end of the semester they could finish the whole book. I could finish the same book in several hours before the exam. So, in fact, we accomplished the same amount of work. We should be appreciated in the same way. However, others just saw you not busy most of the time and assumed that you were not diligent enough. According to my own definition of diligence, I am quite diligent. I accomplished the same amount of work as others. (Kay-IV)

Neal and Zach emphasized that paying full attention in class was the most important aspect to their studies. Zoe preferred working out the difficult questions through self-study to asking help from teachers. Suzanne and Frank were more interest-driven. Suzanne said that she “didn’t encounter any difficulties in my study, although I had difficulty in learning something that I am not very much interested in.” Her passion during the elementary years was helping her classmates work out difficult questions.

I was passionate about explaining exercise questions to my peer students during my elementary years. I carefully analyzed the question and its related knowledge. I also considered carefully how to explain the question to them, taking their current knowledge, interest and other factors into consideration. When the teachers or other students explained some questions, I would listen and think how they made such an explanation and why the listeners got it or didn’t get it. I think the explanation is indeed the understanding of the knowledge. And the process of the explaining is a process of “rumination of the learned knowledge.” The indicator of true and thorough understanding of the knowledge is that you are capable of making others understand it, as long as you know the audience well enough. I believe everything has a reason, an explanation, and a good solution. When facing some “abnormal” things (which either do or do not have a reason or an explanation or a solution), I would think that it was either because of my limited knowledge, or I didn’t really understand the knowledge as thoroughly as I thought. (Suzanne-AB)

Frank wrote about the connection between good performance and learning interest more directly when he concluded his elementary year learning experiences in his autobiographic description:

Academic excellence is because of hard work, not intelligence. However, learning interest determines the effectiveness of your hardworking. (Frank-AB)

In summary, the student participants pursued their studies in different ways. Some followed their teachers step by step; others were inclined to learn at their own pace or according to their own interests. Some liked to interact with teachers for Question and Answer, others preferred self-study. Their different approaches caused different perceptions about their studies from their teachers. They themselves also have different perceptions and standards for diligence. In their actions, however, they were all earnest learners who completed learning tasks seriously and sought thorough understanding of knowledge sincerely.

Respectful to teachers

It is quite understandable that parents played an important role in deciding young pupils' extracurricular activities, as described previously. Similarly, teachers made impacts on students' school lives, especially at the early ages. Their learning interests and performances were greatly affected by their teachers. Some students thought that one of the meanings of achieving academic excellence is to get the teacher's recognition and favour. Wendy admitted that she would learn well if her teacher taught well:

Most of my teachers were great. Some teachers were better at guiding students. I liked reading a lot when I was in elementary school because my Chinese teacher encouraged us to do so. (Wendy-AB)

Mike's studies were also greatly influenced by his teachers. His class teacher had great charisma and teaching methods and made him interested in math and English. His Chinese language teacher, however, was quite somber, therefore he was scared away, and Chinese became his worst subject later on.

The participants wrote and talked about their teachers in elementary and secondary school years a lot but made few comments about professors met at (Zhejiang) university. I will report their perceptions of and expectation for teachers through their reported interactions with their teachers from elementary to secondary

school together in this section because there is not much difference in this regard from elementary age to secondary years.

Perception of teacher: authoritative

In the Confucian tradition, teachers are highly respected as authorities in learning and role models of virtue, as reviewed in Chapter 2 Literature review (section 2.3.1). They deserve respect and are worth learning from with humility (Li, 2010). The participants in this study demonstrated their deep trust and respect towards teachers, too. Zach praised his math coach from Grade 8:

I knew already the coach was great. He went to university at the age of 16. He's very skillful and very smart. I worshiped him. He was also very nice and kind to me. I really felt grateful. I enjoyed the process of preparing for the math contest quite a lot. (Zach-IV)

Students often respected their teachers' authority and never thought about challenging that authority. Echo reported her frustration about Chinese composition since elementary school because she could not be certain about whether her writing was good or bad. Sometimes she thought she wrote a great piece, however the feedback from her teacher was bad.

Qing: What did you do in such a situation?

Echo: I would go through the feedback and try to figure out why I got such a mark.

Qing: Would it be possible that the grading wasn't right ?

Echo: The teachers usually gave feedback in a mild tone and indirectly, which made the comments easy to bear. I would more like to find out the reasons by myself.

Qing: What would you think about your teacher's mark on your writing ?

Echo: Writing is very subjective. Everyone may have different feeling about the same piece of writing. There's no such as a "right-wrong" thing.

Qing: So you did not feel that your teacher might have a wrong feeling about your writing?

Echo: No, I have never thought of it. (Echo-IV)

Because teachers are perceived as authority figures, sometimes there were fear and distance between them and the students. Zoe said that she respected her teachers even though she usually kept a distance from them. Seeking help from teachers for questions was the very last means she would use, after thinking for herself and discussing with her peers. Frank also wrote a story about his fear:

I still remember one afternoon a long, long time ago. It was in my grade 3. I rushed into my classroom on the 6th floor and I was 5 minutes late. The middle-aged male math teacher glowered at me. His sharp eyesight could have me bed-wetting for several days. The class taught multiplication for multi-digit numbers. We were taught and required to write the process of multiplication on paper sheets. During the practice time, the teacher was wandering beside my seat all the time. My blank exercise sheet was about to be lit by his eyesight. Finally, he firmly knocked my desk twice. My mind went blank totally for the rest of the class. The girl who sat beside me kindly passed me the answer key, but I was not even able to copy it to my sheet.

This incident left me with three consequences. First, from then on, I was fearful of any stressful things, such as math and examinations. Second, I formed a habit of getting the result for math questions without putting the process on paper. This habit worked very well in elementary and junior high time. However, it made me suffer a lot during senior high and university math study. Third, I always let the girl who sat beside [sharing the same desk with] me intrude upon my territory. (Frank-AB)

Frank didn't like to follow the teacher's steps during his study in China, from elementary to university. He, in fact, acted rather rebelliously as he put it.

During senior high, other students were busy preparing for competitions or studying hard to improve their rankings, while I was the only one reading philosophy books, such as Hegel, Kant and Marx in the empty library. My teacher criticized me so many times, and I refused to change those many times. (Frank-AB)

Interestingly, after he came to Canada, he was the one who interacted the most with the professors among the participants. He said during the interview:

The most impressive thing [for me] at SFU was that I became friends with a couple of my professors. (Frank-IV)

Similar to Frank, Zoe, who kept a distance from teachers in China, also interacted often with her professors at SFU and spoke of the importance of communication with faculty members.

In communications with professors, you can gradually find out what you really want to do. He or she can help you sort out what you want to do. He or she does know more than you and is able to provide you with help in learning the subject, as well as helping you with professional connections. (Zoe-IV)

It is rather obvious that some students like Frank and Zoe prefer a more equal and friend-like relationship between student and teacher. Their perceptions of the teachers as authority figures as well as their teachers' authoritative teaching styles distanced them from close interactions when they were in China.

Expectation for teacher: responsible

What are the students' expectations of the teachers? What makes a teacher a good teacher in the students' eyes? Mike gave some explanation during the interview:

Qing: Could you give an example of a teacher with charisma?

Mike: Normally young, kind, easy-going teachers who smile. That's what I mean by "charisma." Not necessarily to be very young since my junior high teacher wasn't young at all. But she's very kind.

Qing: What do you mean by "being kind"?

Mike: When you got the answer right in class, he or she would say something to encourage you; when you got the answer wrong, you wouldn't be blamed. (Mike-IV)

Zach felt grateful to his math coach, also because he was treated kindly and nicely:

He was regarded as a very strict teacher. Some students were in tears after his scolding. But he was always very nice to me. I felt very grateful to him. Sometimes I could not figure out some not too hard questions and asked him. He didn't blame me like "how come you didn't know how to do such easy questions?" He always explained the question to me step by step, very patiently. He was very strict with other students, but not to me. Sometimes he would ask me how I felt about the exercises. (Zach-IV)

It isn't hard to understand that being a "nice and kind teacher" is appreciated by the students. Nevertheless, students also reported that sometimes a strict or even a "mean" teacher inspired them to study harder and better. Kay wrote about her math teacher in elementary school:

When I was in kindergarten, I wasn't good at numbers at all. This situation didn't improve after I started my elementary school until I was treated "specially" by my math teacher. She was a teacher with more than 30 years of teaching experience. She was very kind to students. But, she was quite strict and mean to me. If other students got 95 out of 100, she would praise them in front of the whole class. But to me, even if I got 99 out of 100, she would blame me in her office. I was very arrogant then. I wanted revenge. So I studied very hard for math and did my best to achieve full score in all the tests. I didn't want to give her any excuse to blame me. My interest in math was greatly inspired then. Later I got to know that my teacher was using this way to goad me, a smart but lazy student, to study hard. My teacher passed away because of overwork. I got a new math teacher. Probably because I feel grateful for my teacher and also guilty about my behavior, I always treat math the most seriously. (Kay-AB)

When we discussed her math teacher's "mean" and "unfair" treatment of her, Kay further explained her understanding and appreciation for this teacher:

She wanted to polish my personality. When I was young, I often showed off how good I was in public, though, when I'm alone, I am a quiet person. If I got the highest mark in some exams, I would get excited and tell everyone around me.

I also made some other mistakes. So, I suppose, in my teacher's perception, I was too arrogant. Her criticism was about my arrogance and not about my academic performance. Maybe because of my personality, her way is quite effective for me. To the introverts, when they feel wronged, they tend to reject it silently. I have a quite strong personality. When I feel wronged, I do my best to defeat my opponent. I guess my teacher noticed it, so she dared me to changes. She was very nice to other students. I think she used different ways to educate different students. (Kay-IV)

Obviously, Kay's math teacher went beyond knowledge teaching. The Chinese traditional job description for the teacher is to "transmit Dao (the way), pass on knowledge, and resolve doubts" as written by Han Yu (768-824) in his famous article *On Teachers* (师说). Forming students' characters and inspiring them to higher standards of moral living is the "the way." Therefore, teachers' efforts in this regard are accepted and appreciated when even some extreme measures were used. Zach told a similar story during the interview about how his physics teacher's criticism inspired him:

Zach: My Grade 10 teacher is a physics contest coach for the provincial team. He produced a lot of winners. I admired him a lot. He was even more strict than my math coach in junior high. Once he assigned three questions and gave us two weeks to solve them. The first question was to prove an Archimedean principle. Most of the students, including me,

did it in the way we were taught in junior high. He scolded us angrily. He said, "aren't you able to think by yourself? Why you guys only can think of proving it through a cube as told in a textbook, why not a stone? Your thinking is damaged and abnormal!" I was totally shocked. I never thought about it before. What he suggested was a more natural way to think. I admired him. He also often held serious conversations with me, basically criticizing me in private. When he criticized me, he let me feel his criticism is reasonable. That's the most charming part of this teacher.

Qing: How could it happen?

Zach: First of all, I did admire him. He had the experience teaching the smartest students. If he said I was wrong, it must be true. I remembered clearly. Once he asked me: "with your gift, you only reach the current level, don't you feel pity?" I really felt very shamefully at that time. His words slaughtered and cut me up. He said to me "there are thousands of smart people in the world, however only a few really made outstanding achievements. Why? Because they are people like you who wasted their gifts."

Qing: Do you think you wasted your gift?

Zach: I knew I was not diligent enough. I was not as hard working as he expected. I also thought his requirement was reasonable. People should work hard. That is a normal way of learning. My learning was abnormal. I always think learning SHOULD (emphasizing) be that way. I should study harder. (Zach-IV)

Both Kay and Zach's teachers wanted to encourage their students to be more diligent in their studies. Though they used rather "hash" ways, their intention and effort were accepted and appreciated by their students.

Students respect and appreciate their teachers, no matter how they teach, as far as they intend to inspire the students to be better in learning. They also respect and appreciate their teachers, no matter whether they are experts or not in the subjects and insofar as they are the responsible ones. Mike gave some thoughts in this respect.

Mike: Although my school is the best in my city, it isn't on the list of "good" schools in the province. (...) We didn't have very outstanding teachers, but they were all very responsible teachers. I believed that these teachers can produce good students. When applying for senior high, I was thinking about getting to some top school with better teachers in S city [capital of the province]. But I thought being responsible was a more important factor in teaching than teachers'

individual expertise. Responsible teachers encourage you to practice and they are also able to cover the important concepts in the curriculum. Those "expert" teachers do similar things. The "expert" teachers may give you some good sample questions and provide you with better solutions to the questions. But you can figure these out by yourself. I think the key point in senior high learning is to understand the basic concepts thoroughly. So there's no big difference to have an "average" teacher or an "expert" teacher in teaching the basic stuff.

Qing: What do you mean by "being responsible" ?

Mike: You can tell from the details. Responsible teachers make sure you have finished your homework before class. Irresponsible teachers don't care whether you've done your work or not. They just teach as planned. My teachers checked our homework every day and they let the students who didn't finish homework stand in class for a while as a punishment.

(...)

You can also tell from their attitude in class teaching. Responsible teachers will repeat the important concepts and make sure everyone understands them. Irresponsible teachers don't care. They finish talking, and that's it. If you don't understand, it's your own problem. I think the responsible teachers are good. If an "expert" teacher teaches something just once, the good students get it, but the not-so-good students may not be able to comprehend it at all. That's why having an "expert" teacher is not as good as having a responsible teacher.

Qing: Have you met any "expert" teachers?

Mike: We had some "expert" teachers in my school. Their teaching made you admire them. They had a lot of experience, so they would share with you their ways of solving the different questions. Sometimes it's quite inspiring.

Qing: Are the expert teachers always not responsible?

Mike: Not necessarily. But in reality, it is hard to have both qualities. "Expert" teachers were famous. People looked up to them. Therefore, they might not care much about how every student studies. Well, that's my guess. (Mike-IV)

In summary, students expect their teachers to care about their learning, to guide their growth and to discipline their mistakes. According to Mike, that is being responsible.

Respectful to teachers

When students perceive teachers as learning authorities, and when they expect teachers to teach them responsibly, they are ready and willing to be taught. They believe themselves to be inadequate and teachers are worth learning from. Therefore, they humble themselves for improvement and become respectful to teachers. Mike wrote the following in his autobiographic description in answering the question: In your opinion, what were the personal characteristics that make you successful in learning (in China)?

Do not doubt your teacher's expertise. (...) I have never had any doubts about my teacher's capability. I humbled myself and learned from them. If you are suspicious about your teacher's capability, you are doomed. An average teacher can produce excellent students. It depends on your attitude. (Mike-AB)

The teacher-student relationship revealed from the participants' data is aligned with the Confucian tradition of teacher and student roles in learning: teachers devote to cultivate their students with love, care, patience and persistence, while students trust, respect and obey their teachers whole-heartedly.

In sum, it is apparent that these students easily achieved good academic performances in their elementary school years when the work were easy to them. They had plenty of time participating in extracurricular activities, from art, sport to academically-enriching activities. Teachers were perceived as authorities in learning and most students followed their teachers in earnest. Competition is already at play as early as the elementary years. Most participants studied in the top-ranked school or elite programs and participated in math contests at different levels. To thrive in a competitive learning environment is the experience that these students lived in their elementary years and which, from elementary years, continued into their secondary years with the competition just getting more and more severe.

4.1.2. Performing well academically in Chinese secondary schools

The emerging themes about the lived experience of performing well academically in Chinese secondary schools are: (a) stressful schoolwork and (b) strategic learners. These themes appear to be in sharp contrast with what the participants said about their elementary school years.

Stressful schoolwork

Unlike the easy days in elementary school described previously, the key word all the participants used to describe their Chinese secondary school years was “stressful.”

For example, Freddy described his experience as:

Pretty stressed, I would say. My secondary education was full of competition. The stress came from competing for the admission offers of the prestigious high schools and universities. (...) Challenges at this phase came from getting high scores in exams. In China, due to the large population, every offer is determined by the score you get in the exam, therefore we desperately wanted to improve our scores. Even the difference of one point in the ‘Gao Kao’ let you surpass a lot of peers and earn a higher chance of going to the university that you dream of. (Freddy-IV)

The participants spent most of their autobiographic descriptions and much of their interviews talking about their years in secondary schools. In general, their junior high years were focused on getting into top-ranked senior high schools, and their senior high years were centered on getting into top-ranked universities. Though the participants are from different schools in different parts of China, the elite senior high schools across the country and prestigious universities in China have the same method for selection and admission: examinations. Therefore, the secondary school curricula are often aiming at improving students’ score in the high-stake examinations—the Senior High Entrance Exam (usually province-wide, known as Zhong Kao) and the National College Entrance Exam (known as Gao Kao). Students are ranked according to their scores in the exams. Elite schools and prestigious universities decide a cut-off mark for admission based on the seats available that year. For example, Zhejiang University usually admits the top 3000 students in Gao Kao in Zhejiang Province out of 300,000 or so examinees in the province, according to participants from Zhejiang Province. The top two universities of Tsinghua University and Peking University only admit the top 100 students from Zhejiang province. Therefore, ranking the students according to their exam scores has become a common practice in secondary schools. Students are aware of their own ranking in class, school, city and province, for example, Zoe was ranked in top 900, Echo top 800 and Neal top 1000 in their Gao Kao in Zhejiang Province. Ranking is a big part of the participants’ experiences in their secondary learning and a major source of stress.

Ranking

Ranking is regarded as an academic position as well as an indicator of the chance to get into a prestigious senior high school/university in the future. It is of great importance to every secondary school student. Seeking or maintaining a good ranking even becomes a motivation to learn. Echo studied hard to keep a top ten ranking. Zach also said it was his study objective.

I paid a lot attention to [ranking] at that time. Whether you could get into a good school was indicated by the ranking. It gave you a good estimation of which school you could get into. It is very important. Improving my ranking is my study objective. (Zach-IV)

Ranking among the top is an indicator of good academic performance, more importantly, it is a proof that the effort spent is worthwhile. Wendy had such a perception about ranking.

Qing: You used "so so" and "fairly good" to describe your study in your autobiographic description. What do you mean by "so so" and "fairly good"?

Wendy: I was talking about ranking, a relative academic position. In elementary school, you didn't see many differences among students. A lot of students got 100 in both [Chinese and math] subjects. But since I got into junior high, ranking had become important to me. There was no screening for entering the school. There were both good and not so good students in the same class, so my ranking was very high. As I grew up, my ranking was actually dropping, from always top one in junior high, then to top five, then to top ten in senior high. What I mean by "fairly good" or "so-so" were relatively speaking.

Qing: What do you think about being "good"? Do you feel that only the top one is "being good"?

Wendy: Not necessarily. Even in junior high, I was not always the top one in the class. I often ranked the second (smile). But in those big exams, I performed better. I think "being good" means I have put all my efforts into my study which made me not regret the result I got. (Wendy-IV)

Seeking and maintaining a good rank not only brought students the motivation to study, but also a lot of pressure. When their ranking fluctuated, their moods changed accordingly. A good ranking brought confidence, while a bad one brought anxiety. Freddy talked about it in detail during the interview:

Qing: What was the most impressive thing about learning in your senior high?

Freddy: It was quite stressful. We always had rankings after each exam, like most of the schools in China did. We paid great attention to the rankings. You got to know your rank in your own class and in your grade. The students progressed the most in the exam would be praised publicly, for example, someone was no. 18 last time and progressed to no. 12. If you regressed a lot, for example from no. 5 to no. 14, the teacher would come to have a private talk with you. This indeed brought a lot of psychological pressure onto the students.

We were told that if you wanted to get into Zhejiang University you would need to be no lower than top eighty in the grade. Therefore, if your rank today was lower than eighty, you would feel huge pressure. On the contrary, when you got a high rank, you would feel some relief. Well, these exams were not the real Gao Kao, however the ranking based on the marks in these exams served as a reference for your overall performance. So, the ranking did bring a lot of pressure to students. If I drew a graph with all the ranks I got through the senior high years, it wasn't a flat line. It fluctuated. The best I got was top ten in my grade and the worst I got was no.130. There was a big gap in between. When I got a good one, of course I would be very happy. If I got a bad one, I became anxious. As long as you took Gao Kao seriously, you would be affected by the rank you got.

(...)

Qing: What did you do when you got a bad ranking?

Freddy: I focused on my study and stopped doing the miscellaneous things unrelated to study.

Qing: What were so-called miscellaneous things?

Freddy: For example, I usually watched TV after I got home around 9 pm in the evening. When my ranking was not good, I stopped watching TV. I usually didn't study but rested after getting back home and before going to bed at 11 pm. Now I chose to study till 11:30 pm. It wasn't forced by my parents but was all about my own willing.

Qing: What did you do when you got a good ranking?

Freddy: I walked out on a cloud of happiness (laugh). I told myself: "you are good, no worries." I then became more confident. (Freddy-IV)

The majority of the secondary school students in China studied hard to improve their exam scores in order to get into a top ranked senior high school and a prestigious university. Only a small number of students got into these schools and universities without taking the Zhong Kao or Gao Kao. But their exemptions were also earned with high scores in examinations throughout their years in junior and senior high schools. Freddy entered his dream senior high school with the exemption and his story was the following:

I was accepted by my senior high with exemption from taking Zhong Kao. That might be something a bit special. All the marks of the big exams during the junior years were calculated and ranked. The good senior highs gave several spots to our school. The top student got to choose which school he/she wanted to go first. Then the 2nd, the 3rd... Winning some prize in some contest could give some bonus points, however the overall marks were the most decisive factor. The system seemed rigid, yet it was the fairest way. I got to X Senior high, the 2nd best in my city. It was not the best.

We had fifteen classes and about thirty-five students in each class. So altogether, we had about five hundred students in my grade. We got fifteen exam-exemption spots offered by the top three senior highs in my city. So, it's about the top three percent of the students who can get the spots. (Freddy-IV)

The Gao Kao exemption opportunities are usually only given to the elite senior schools. The so-called Foreign Language Schools are among the elite schools. They have province-wide performance-based admission from junior years, and usually are regarded as the best school in the province. Wendy was from one of the Foreign Language Schools and got into Zhejiang University without Gao Kao. However, the exemption was earned through a similar way: examinations.

My school had a qualification exam. If you ranked in the top 20% in the exam, you would be qualified to apply for exemption. The qualified students could apply for exemptions for different universities according to their marks in the exam. Of course, a higher mark would let you apply for exemption to a better university. We had nearly two hundred students in Grade twelve. In the end, there would be about ten to twenty students who could get into Tsinghua and Peking University with exemptions and another ten or so could get into Zhejiang University. (Wendy-IV)

I myself got exam exemption to a top senior high school, and later to the East China Normal University, a first-tier university in 1988. The former was earned through a qualification exam in the last year of junior high, the latter was obtained based on the

sum of all the final scores during the three years in the senior high. I was amazed that after more than twenty years, the selection criteria have remained the same in the Chinese education system. The only difference was there were no Olympiad contests available in my time.

Rankings in exams, which include midterms, finals, qualification exams, Zhong Kao, and Gao Kao are the most important factors that determine whether the students can get into the school or university they want to. Thus, seeking and maintaining a good ranking became participants' objective and motivation to learn. The ups and downs in ranking also brought a lot of pressure on them. Aiming at a top university is a common goal among the participants. Besides working hard for a good ranking, participating in contests is an even more challenging path to realize their dream of going to a top university. Nevertheless, most of the participants tried to take this path, too.

Contest challenge

As described previously in the experiences of Chinese Elementary Schools (section 4.1.1), most of the participants already studied and participated in competitions, especially in the subject of math, and as early as from grade three or four. It is a large part of their elementary school memories. No matter how stressful and time-consuming the preparations were, and no matter whether they won or not in the end, the participants had positive feelings about such experiences because they were rewarded by parents and achieved their teachers' commendations and peer recognitions. The foundational knowledge of math and the interest in this subject were improved. Further, students' confidence in math or in learning in general was enhanced. In the secondary school years, though most of participants attempted or did participate in some contests, the underlying motivation went beyond exploring interests and seeking recognition. Earning a spot in a top ranking senior high school and a prestigious university became the ultimate drive. This is because the winners of contests are granted spots in good schools/universities with exemption from Zhong Kao/Gao Kao. Freddy said during the interview:

When young kids take part in contests in elementary schools, it is usually because of interest. But when we took contests in senior high, it wasn't about interest. It was very utilitarian. If you got a good result in the contest, you could go to a top university without taking the Gao Kao. (Freddy-IV)

Neal echoed Freddy's opinion, stating that he participated in the physics contest in hopes of the Gao Kao exemption. With such a practical objective in mind, some didn't choose to take the path, some quit in the middle, and others embarked on the hard journey. Echo and Wendy didn't choose to participate in any contests because they didn't feel that they could be outstanding in contests and because the regular schoolwork already kept them very busy. Zoe decided to take biology contests to challenge herself, however she made up her mind to quit after a trial for similar reasons. She said:

At first, I decided to pick up my competition life in elementary school and tried the biology contest. In the competition training, we covered material extremely quickly. In the first month we went over all high school topics, and then a university textbook in the second month. After two months' intensive training, I found that, on the one hand, I may not be talented enough to be outstanding in this subject and, on the other hand, it is really hard for me to balance regular schoolwork and contest training. After plenty of struggle, I finally gave up on the contest. Till today, I am still wondering whether it was the right choice, though I will never have a chance to do it the other way. (Zoe-IV)

Zoe was afraid of falling in the situation of neither achieving exemption through contests nor getting good enough results in the Gao Kao. Kay, on the contrary, devoted her three years in senior high to contest preparation, like some other student participants.

I was selected to be on the contest team. The teacher designed a 3-year plan for us already, i.e. [preparing in Grade 10], getting the first prize in Grade 11, securing a spot with Tsinghua or Peking University, and getting into the national team and working for the world contest in Grade 12. (Kay-IV)

For those who chose to participate in the contests, some enjoyed the heavy workload and its results, like Zach and Suzanne, and others tasted the bitterness, like Kay.

The most helpful [thing] for my learning in junior and senior high was participating in contests. I took a math contest in junior high and a physics contest in senior high. The training for these contests has improved my thinking competence. The way of learning was simple: do exercises endlessly, especially during the senior high years. Many people criticize this approach to learning, asserting that it brings a lot of pressure on students. However I actually enjoyed doing the exercises. (Zach-IV)

I was quite outstanding in computer science in my junior high. Therefore, my teacher recommended me to take part in the Computer Science Olympiad. I learned a lot and also won a prize. (Suzanne-AB)

Kay shared her mixed feelings in taking contests from Grade 8 to Grade 12. She decided in Grade 8 to apply for a top senior high school in the provincial capital city. She also found out that in order to be qualified to sit in the entrance examination for that school she had to win two first prizes in the three provincial contests (junior high level), i.e. math, science and computer science.

As you can imagine, the story was simple, boring and time consuming: reading books and doing exercises, day after day. Because my city's level [of contestants] was not high, even the first prize winner at the city level wouldn't be able to get the first prize at the provincial level. My teachers were not able to provide accurate judgement and advice, therefore I had to self-study a lot. Very often I stayed up late to do one question or sat half a day in front of the computer searching for one bug in my program. Fortunately, with my academic foundation, I could complete my daily schoolwork in school. Teachers didn't stop me in class when I was working on the contest questions. After several months self-study and a huge amount of exercises, I got first prizes in both math and computer science contests, and also passed the entrance exam, which only took 20% of the examinees in. I was finally admitted by the H senior school!

(...)

I expected to be as excellent as the other seniors in my school. And I was also expected by my coach to win another gold medal for my school. Because of the heavy workload in senior high, I could not prepare for two contests at the same time. So I decided to withdraw from math and concentrate on the computer science contest. (...) My state of mind wasn't stable then. Pressure and expectations of others also made me worry about the outcomes all the time. I often had the idea of "to conquer or to die." Maybe because of such a vulnerable state of mind, I was out of form and did exceptionally badly in the last round of competition and lost my seat in the provincial team. It was a "goodbye" to my gold medal dream.

Several years of hard working, countless nights of programming and coming to this city and this school to pursue my dream... all were in vain. My morale was at a low point. I was down with the blues. Though I seemed to get myself together quickly and returned to schoolwork and preparation for the Gao Kao, I know the shadow of failure was still in my heart. If my confidence was 100% before the contest, after this "Battle of Waterloo," I would say I only had 50% of my confidence left, though people couldn't tell from my appearance. (Kay-IV)

Kay was hit hard by the failure in the contest. The trauma-like experience continued to negatively impact her Gao Kao later, which will be discussed in the next section “failure”.

In summary, schoolwork in junior and senior high is very demanding, as students prepare intensively for their high-stake examinations, such as the Zhong Kao and Gao Kao. Taking contests provides an even more challenging path towards prestigious schools and universities. No matter which path they chose, the overwhelming and long-lasting challenges made the student participants’ experience stress throughout the junior and senior high years. The motivation to get into some prestigious university drives students to willingly spend huge amounts of time and effort on pursuing their goals. Yet hard work doesn’t always promise fulfilling personal academic goals during the junior and senior high years.

Failure

The learning content and competition increased in difficulty during high school and caused many students to fail some high-stake examinations. Student participants shared how much pressure they experienced, which was both the cause and the effect of their failures. Wendy wrote that she failed a midterm in Grade 11 because she was “not in the right mood” then. So, we had a conversation about it during the interview.

Qing: According to your autobiographic description, you were “not in the right mood” in the first term of Grade 11 and therefore, you didn’t do well in the midterm. Could you tell me what is meant by you being “not in the right mood”?

Wendy: I don’t know how that happened. I don’t know the reason, but I was uneasy. During that time, I did everything as usual; you wouldn’t tell any difference. Still, I was uneasy; in fact I couldn’t focus or stay calm.

Qing: How did you feel uneasy?

Wendy: Maybe I was a bit anxious.

Qing: Anxious about what? About your study?

Wendy: Kind of. We were told that we had to take Gao Kao seriously. It’s the key to future success. It’s a huge source of stress.

Qing: This made you anxious?

Wendy: Maybe. I did really bad in the midterm.

Qing: Did you feel that your mood wasn't right because you didn't do well in the midterm, or because your mood wasn't good therefore you didn't do the exam well?

Wendy: I didn't think I was in a good mood during the examination, however I didn't expect it to turn out that bad. I thought I would fall out of the top ten, but the result was that I ranked 200-ish out of 600 students in my grade.

Qing: Was it the worst mark you ever got?

Wendy: Yes.

Qing: You cannot think of the reason for the "not right mood" comment even now?

Wendy: I think I was anxious about my future. (Wendy-IV)

While Wendy felt anxious and stressful, Zach was just the opposite. He didn't take the early admission entrance exam to a key senior high school seriously because he thought he could get into it anyway, and he failed the exam.

Qing: Why did you fail the early admission entrance exam?

Zach: According to my parents and teachers, my "learning attitude was not good" back then. I did badly in the entrance exam and didn't get into the top class of the school. My parents scolded me really, really angrily. It was like a raging storm.

Qing: So, your parents blamed you for a bad learning attitude?

Zach: Yes.

Qing: Did you agree with them?

Zach: I was really upset about the result, and I thought it's because I didn't study hard enough. There's nobody else to blame. (Zach-IV)

Both Wendy and Zach studied harder and the failure in their exams didn't have a negative impact on their university dream later on. But Kay was hit hard by her "failure" in the Gao Kao after her initial plan of getting into the top university in China through winning a national level contest didn't work out (section 4.1.2).

Though it was impossible any longer for me to get a gold medal in the national contest, I still had the first prize in the provincial contest, which could bring me an exemption to some university and bonus marks in

Gao Kao. I was in a quite advantageous situation, so to speak. Because my goal was Tsinghua University, I gave up the exemption to Fudan University [a first-tier university in China]. I prepared for Gao Kao. It was my unconscious avoidance and uncertainty, maybe, that brought shadow on my seeming-to-be-bright future. After doing well in the first and second mock examinations, I failed my Gao Kao. My mark was unbelievably low and I HAD TO go to Zhejiang University, which I “looked down upon” at that time. The moment that I found out my mark, my world turned dark. I insisted that I wanted to repeat the Grade 12 and didn’t want to go to Zhejiang University. Of course, I finally accepted the reality and started my university life at Zhejiang University. (Kay-IV)

These student participants had been excelling in their previous learning experiences. They wanted to maintain their top-ranking status, or they expected to be admitted to the most prestigious senior high or university. The “failures” reported above are the unfulfillments of their expectations, for example, a ranking or a university that is not up to their standard. In Kay’s case, she got a first prize in provincial level contest, earned an exemption to Fudan University, and was admitted by Zhejiang University, which were usually regarded as outstanding achievements, even among most of the student participants in this study. However, as Kay’s goal was a gold medal in the national Olympiad contest and an admission to Tsinghua University, the top one in China, she felt severely defeated. Therefore, the “failure” encountered during student participants’ junior and senior high years is an emotional frustration toward underperformance according to their previous record or a set goal.

How did such an underperformance happen? “Not in the right mood” was the word used the most by the student participants when they described their “failures.” When they were asked to describe what was “the mood” they had then, the answer was usually “stressful.” There were pressures from the demanding content, competitive peers and expectations of their teachers, parents and most often, from themselves. The pressures made them very “anxious” and/or “distracted.” Furthermore, the pressure lasted for years. Kay described why she failed the contest during her senior high:

I took part in contests in both junior and senior high. My mood was different in these two different stages. I felt exhausted when I was preparing for the contest in my senior high. My mental state was not very stable. During my junior high years, however, I didn’t feel the exhaustion at all. To be able to participate in the contest already meant that you are better than most of your peers and certainly had some edge in some field. I thought it was a great opportunity to prove myself and to show my capability. Besides, I had a very strong motivation to get

into that high school and winning a prize in the contest was the only path through which I could realize this objective. It was about several months, not too long. I enjoyed a lot the experience of working hard in order to achieve a very specific goal. While in the senior high, I was selected to be on the contest team. The teacher designed a 3-year plan for us already, e.g. getting a prize in Grade 11, signing with Tsinghua or Peking University; getting into national team and work for the world contest in Grade 12. You felt it is a must do and lasting the whole 3 years of your senior high. You felt your future is pre-set. Meanwhile, the course load in senior high wasn't a piece of cake. You needed to spend some time on the course work. There was pressure from my family, too. In this long period of time, sometimes I thought of giving up. I asked myself "why on earth am I doing this?" (Kay-IV)

In summary, junior and senior high learning was stressful for most of the student participants, since they needed to handle challenging course work and competition with more competitive peers in order to seek or maintain a top-ranking position for academic standing or winning an even more challenging contest. The overall goal for all of them was to get into a prestigious university. Under these huge and long-lasting pressures during the secondary years, a lot of them had some underperformance according to the previous high-performance record or a set goal, and experienced emotional frustration which they called "failure."

Strategic learners

Even though the student participants reported "stressful" and "failure" during their junior and senior high years, all of them eventually achieved excellent grades and got admitted by Zhejiang University through Gao Kao or other forms of examination. How did they study? How did they learn the challenging content? How did they manage the heavy workload? How did they achieve high scores in the examinations? Being earnest, just attending class and doing homework seriously as in elementary school years, was no longer enough for achieving a top grade for a prestigious university. The answer that emerged from these students' autobiographic descriptions and interviews was: strategic learning. They developed efficient methods to learn different subjects or according to their own learning preferences. They sought thorough understanding of the subject content through analytical and independent thinking. They also managed their time strategically. It is quite apparent that besides putting in a huge amount of time and effort into studying, like most junior and senior high school students in China, these students also learned strategically, and thus achieved high scores in examinations.

Seeking efficient learning methods

Student participants sought efficient methods to learn different subjects as they needed to keep good scores in all the subjects in order to have a high ranking. Zoe told me that looking for a shortcut is a better way of learning than simply spending a lot of time. She believed that everything has a certain “law” behind it, and she has been trying to grasp the “law” first in her study:

I had to keep a good score in all subjects so that the total will be high enough to ensure me a ticket to the best senior high school. So I tried to seek a simple way to make this work, to find a strategy for each subject. I have been keeping this habit since then and I always find it quite effective when exposed to a new subject. I remember I could easily handle math. Literature was also not a problem once I knew the patterns. The challenges were English and Science. English cannot be conquered in a day since it is not about understanding but knowing other people’s rules. Thus, I spared some time for English practice every day, memorizing vocabulary or famous passages in the morning and doing reading comprehension at night. At the end of the school year, I became one of the best students in English. When it came to Science, I found the efficient way was to understand the terms and do only small amounts of practice. Though this approach no longer worked in senior high and university, it did save me a lot of time then and ensured me a good score. (Zoe-IV)

Students developed efficient methods not only according to the requirements and characteristics of different subjects, but also according to their own learning preferences. Wendy liked to set up a framework, sort out the connections and then put details into it. We discussed her learning strategy during the interview:

Wendy: I am not sure how I started to pay attention to learning strategies. What I liked to do was to look at the big picture first, and then look into details.

(...)

Qing: Did you also use this method in other subjects?

Wendy: Yes. But history is more typical, which has a clear timeline. For some subjects which are abstract, you can’t put everything into a timeline. But there’s some logic among the concepts, and I like to find out the logical structure first. I usually made a summary for each course for myself.

Qing: Did you make your summary before the examination?

Wendy: That’s right.

Qing: When did you start to do so, from junior high, senior high or university?

Wendy: From Junior high. The way how to summarize a course or how detailed I would go might vary, however I kept doing it for every course. (Wendy-IV)

There was a lot of homework required and endless supplementary exercises available for the junior and senior high school students. However, quite a few of the student participants chose not to just follow the normal curriculum. Frank skipped his evening self-study sessions and went back home to watch English TV programs. He also listened to English radio programs every morning on the way to school. He thought this was the effective way for him to learn English. As a result, he did not spend as much time on the subject as his peers but achieved the second highest score in English during Gao Kao in his province. Wendy also reported that she sometimes skipped some assigned exercises because there were too many. However she required herself to take full advantage of the exercises that she chose to do. She summarized what she learned from the “classic” questions and the questions that she answered incorrectly at first.

Mike even selected his own homework:

During the senior high years. I didn't do most of the assignments. because the exercise book in school was generic. It was probably suitable for most of the students, but not tailored for me. I selected two exercise collections from the numerous exercise books. I thought these two fit me well. One is called *Analyses on Exam Questions*. It had only few questions, but a lot of analysis and explanation. The selected questions were representative, comprehensive and inspiring. Thorough understanding one of these questions equaled to finishing half of the normal exercise book, in my opinion.

I was very excited when doing some challenging questions, too. That's why I chose the *Math World* as my second exercise book. This book selected the questions that were harder than Gao Kao questions but easier than the Olympiad Contest questions. They were very comprehensive, technical and creative. Lots of questions were about the key concepts learned in senior high. These questions were designed to test whether you've comprehended all the required concepts and whether you were able to connect them together. The questions seemed to be complicated, but if you learned well and had the flexibility to solve problems, then you could easily understand them. (Mike-IV)

These students sought effective ways to learn. Their methods saved time and usually led to thorough understanding of essential concepts.

Seeking thorough understanding

The conventional view of Chinese learners' learning styles supported by a lot of literature is that they are rote learners and prefer passive teaching (Thompson & Gui, 2000; Chow, 1995; Maxwell et al., 2000; Yee, 1989). The student participants in this study showed strong opposition toward rote learning. Zoe, who chose rote learning first, found it was not an effective way in the higher grades:

The Science in junior high school did not need understanding at all. Rote learning was good enough. I could not learn physics well in the senior high and I had a tutor helping me with the subject. We looked for the reason [why I could not learn physics well] and found out that a loose foundation from [rote learning during the junior high school] was probably the reason. Most of the junior high school study did not require understanding. You just learned by rote and got a good mark. But this did not work at all in high school and university. (Zoe-IV)

Instead of memorizing, most student participants appreciated and did "thinking" in order to gain thorough understanding of the learning content. They said:

I think study is a process requiring independent thinking. Through your own thinking, you can understand what the subject is about. (Echo-IV)

I didn't do a lot of exercises, but the exercises I chose to do were the best exercises. Every question I did, I tried to penetrate it, to understand it. This way you could easily find what is essential, and you could handle exams easily. (Mike-IV)

Zach said he didn't have any strategies in his learning, and all he did was to "have a thorough understanding of the questions." We had a discussion about how to achieve "a thorough understanding."

I actively thought of how to solve the questions, for instance, math problems. If I did not think actively, I could listen to the teacher to explain how to solve it step by step. In science, understanding a question by listening to your teacher or by reading the answer key is totally different than thinking it through and working it out by yourself. I usually chose to think it over by myself, even it was not required. (Zach-IV)

Similar to Zach, Zoe also preferred independent thinking. She said:

In my senior high school years, I especially disliked the kind of students who often asked dumb questions. They surround teachers and asked questions after classes. If they had taken a look at their textbooks and gave a little thought, they should have been able to solve the questions

by themselves. I just did not understand why they always surrounded the teachers and asked easy questions.

In fact, I really admired the other kind of students. I met quite a few students of this kind during the preparation for my biology contest. They had a question in mind and kept thinking about it for almost a month and suddenly solved it. They would think it over and over again during the spare time within the month. I myself couldn't keep thinking about one question for a month. But I was willing to spend some effort on problems, at least for a few hours. (Zoe-IV)

Besides independent thinking, quite a few students also took an analytical approach towards their learning. Suzanne is a good example.

From Junior high school, getting to be the top one was no longer a piece of cake. I always thought about "how to explain this question clearly to others" in my elementary school years. And from junior high I started to think about "how to explain it clearly to myself." I thought this was a correct direction to go. I was not sure about whether I was able to explain things clearly to myself. I was also unsure to what degree it was "clear." Later, I started to analyze my train of thoughts when I was working on some questions. I checked the answer key and analyzed why I went wrong. Right after a test or an exam, I reviewed and analyzed the parts that I was not sure about. (Suzanne-AB)

She not only analyzed her own thoughts, but also her teachers' thoughts:

I found the key to handling this kind of question was to put yourself into the author's shoes. You needed to think about what the author wants to express either consciously or unconsciously. When you knew the purpose of the question, then you could get the answer easier. From then on, I believe that every assigned question had an underlying reason or purpose. If I were a teacher, I would assign questions with some learning purposes, too. So, I often analyzed the purposes that my teachers had for the questions. (Suzanne-IV)

Facing the heavy workload and challenging course content, these student participants sought effective strategies in their learning, including using their time strategically, for example, making study plans.

Planning

The schedule in Chinese junior and senior schools, especially during the senior high years, is very tight. Zoe described her school's schedule, which was quite similar across the country.

The schedule in high school was really worth mentioning. It was a well-scheduled timetable. We began a day with an oral reading session for

English or Chinese, followed by five successive classes in the morning, and a 10-minute break between two classes. We had two hours break at noon, and then another four classes in the afternoon. There was a self-study session in the evening. (Zoe-IV)

Living with such a pre-set schedule, some students still planned their study in detail because they wanted to be “prepared”. Suzanne discussed it with me during the interview:

After I got into junior high, I started to have my own timetable for study. In elementary school, I was the best in all the subjects. But things got different after I got into junior high. Some students were extremely good at this subject, others did well in that course. I thought why cannot I be as good as those students. I didn't accept [being not as good as those students] and decided to spend more time studying the courses which I was not good at. I started to actively manage my time. (Suzanne-IV)

Echo had a similar approach, albeit one that was a little more harsh as she described:

Echo: For study, I tended to make very detailed plans, for example, a study plan for a weekend, especially for the weekends before the exams, including the specific get-up time, and work items for a 2-hour period of time or a 3-hour period of time. If I wanted to finish reading my history textbook in two days, my plan would be finishing each chapter in two hours during the two days. With the pressure of an exam, I usually was able to finish the textbook in two days.

Qing: Did you make the plan voluntarily ?

Echo: Yes, nobody required me to set such a tight schedule. I did it voluntarily. My parents did not interfere with my study. Study is my own business and I should be responsible for it. I needed to be responsible for myself. I started [setting goals and making plans] from my junior high years.

Qing: Did it ever happen that you did not finish your plan ?

Echo: Yes, for sure. But as long as I was under pressure, I could fulfill my plan mostly. I normally set my goal much higher than the school's requirements, so even if I didn't fully complete it, my performance [in the examination] would have been good enough.

Qing: What do you mean by “much higher than the school's requirements”?

Echo: If the exam was about a whole textbook, my goal would be not only reviewing the key content, but also looking into every single corner of the book. (...)

For example, I like physics a lot. In the physics textbook, there were some readings available as the supplementary notes. They were not the main text and the teachers did not usually teach them in class. However, these readings provided the derivation process or knowledge beyond the key concepts, which I found very helpful for my understanding and memorizing. So, I loved to read them. When I made my study plan, I included these supplementary readings. Even if I didn't fully finish my plan, meaning I didn't finish reading the supplementary notes, it usually would not affect my marks. (Echo-IV)

Besides making their own study plans and/or schedules, some students also mentioned using time efficiently. Randy talked about her self-study sessions:

During the evening self-study sessions, the classroom was quiet. Some students were sleeping, others were listening to the music. I chose to use my time more efficiently: I read books and did exercises. I always wanted to use my time more efficiently. (Randy-IV)

Evidently these students are strategic learners. They developed efficient methods which matched their learning preferences in tackling different subjects. They strived for thorough understanding of the subject content through analytical and independent thinking. They also managed their time efficiently. The overall purpose was to achieve high scores in examinations or contests, and eventually to get admission to a prestigious university. Most of the students spent huge amounts of time and effort on study. Just as quite a few student participants described, junior and senior high school years "were about doing endless exercises" (Zach). There was "a vast amount of repeating practices to train you for examinations" (Neal). Though the process was very stressful, quite a few students admitted that "it benefited me somehow as I got a high mark and got into a great school" (Neal).

There was only one exception regarding the stressfulness of the junior and senior high years. Suzanne reported much less stress during her senior high years. She and her schoolmates had time to do extracurricular activities, such as writing novels, car racing, run fashion studios, etc. Why? According to Suzanne, it was because of the much better university resources available for local Beijing students than students from other regions.

Students believed that entering a good school or a good university is half-way to success. The path most of the students took was from a good elementary school to a good junior high school, then a good senior high school and finally to a good university.

4.1.3. Performing well academically in a Chinese university

The student participants, through Gao Kao, or earned exemption from Gao Kao, were admitted to Zhejiang University (ZJU) which is one of the very top research universities in China (ZJU website) with a 120-year history and outstanding achievements in teaching and research. It has 18 disciplines ranked among the worlds' top 1% according to ESI (ZJU website) and Computer Science and Technology is one of these disciplines. The student participants applied for the SFU-ZJU Dual Degree Program (DDP) after they started their study at ZJU. The admissions to DDP were based on their academic standing in the first and partial second year at ZJU, English proficiency test scores (TOEFL or IELTS) and in person interviews by the ZJU faculties. All of the participant students were admitted to DDP. It indicated that they kept good academic standing in university study. So, what is the lived experience of performing well academically in a Chinese university? The emerging themes from the autobiographic descriptions and interviews are: (a) extracurricular activities and (b) proactive learners.

Extracurricular activities

As previously discussed, throughout the elementary, junior and senior high school years, all the students had a primary goal for their study: going to a prestigious university. This has been one of the main motivations for their learning. Now as they already entered a good university, they have achieved their 12-year-long goal. Therefore, the biggest difference in university study is that there is no longer a specific goal as in the previous years. Some students felt lost, as Randy described her first semester at ZJU:

In university, it seemed there was nothing to aim for. I lost my goal. I didn't care what the lecture was about, or whether I understood it or not. It's like drifting around from classroom to classroom. I didn't really learn anything. (Randy-IV)

Some students, like Mike, though they didn't feel lost, have changed their views on study:

When at university, high scores can only bring some scholarship money and a reputation of "Xue Ba" [Learning Overlord, meaning high GPA achiever] among peers, with envy and disfavor. "Xue Ba"s are not the people who enjoy the happiest times with friends. "Xue Ba"s are not the people who have the best friendships. I assume, in the years to come, they neither will be the happiest people in life, nor the most successful people in their career. Therefore, I started not to want to be "Xue Ba", and this became my excuse for not studying hard (laugh). (Mike-IV)

Besides no specific goal for study or no longer aiming at high examination scores, there are no pre-set tight schedules and close supervision from teachers in universities. Just like Echo described:

University is totally different from high school. You don't see your teachers every day. Teachers don't always keep an eye on you. You have nothing to do other than finishing the assignments. I also procrastinated in my first couple of semesters at ZJU. (Echo-AB)

Besides Echo, all the other students reported that they procrastinated in the first couple of semesters at ZJU. Zoe said:

When in junior and senior high school, procrastination didn't exist, because all of your time had been scheduled very well [by the school curriculum]. You finished your homework every day and also completed the work a couple of days earlier before the due date. When you went to university, you found that the assignments were due in a month! So I started to slacken off until the very last week. Sometimes, there were two or three assignments due at the same time and you just went crazy. (Zoe-IV)

Most students reported that they were dead-line driven for assignments and prepared for the final examinations in the very last week of the semester. So, what did they do throughout the semesters? The unanimous answer was: extracurricular activities. Learning was no longer the sole activity in their lives. Wendy was still quite attached to the lively university life then when she described her activities at ZJU in the interview held at SFU.

Wendy: I took part in a lot of extracurricular activities at ZJU.

Qing: Why didn't you continue them at SFU?

Wendy: In ZJU, you could feel the liveliness of the university life, for example, club booths were at the square every day. You saw

all kinds of interesting activities every day. But here at SFU, you can only see squirrels on the streets besides a few people (laugh).

Qing: What are the “interesting activities”?

Wendy: I joined two clubs when I was at ZJU. I’ve played violin since I was very young, so I joined the ZJU Orchestra. We put on a show once in a while and we rehearsed every week. The other club I joined was a news media club, since I like writing. My role was like a reporter. Because of this, I always knew the latest events on campus such as club activities and guest lectures. I attended those events and wrote reports about them. (Wendy-IV)

Wendy chose the activities to continue as her hobbies from an early age. Some other students, on the contrary, wanted to explore new territories of life through the extracurricular activities, as was the case for Neal and Mike.

I participated in a lot of social activities. I want to meet different people and experience different things other than my major study. I wanted to improve my social skills, not just academic skills. (Neal-AB in English)

I participated in a lot of extracurricular activities at ZJU, like cultural activities, sports and clubs. I learned social experiences and made quite a lot of connections. The most impressive courses I took at ZJU were: sport dancing, French, data system and other general elective courses like Tea and Health, World Economics and Politics, Introduction to Law, and Digital Photography. The reason why I still remember these courses was because either they let me feel a sense of achievement or they provided me with interesting knowledge or skill. (Mike-AB)

After being concentrated in academic study for years, especially during the junior and senior high school time, students were amazed by and attracted to the rich and colourful extracurricular activities available at university. With the “freedom” in university, they spent a lot of time on these activities which brought them a lot of joy, sense of achievement as well as experiences and skills beyond academics. Although it seemed that university life was full of non-academic endeavours, most students are like what Freddy said: “I spent less time on study, but, I attached the same importance to study as before.” And they are not only earnest, strategic, but also proactive in their studies.

Proactive learners

University study seems not to be as tight as in the junior and senior high schools, because there is no longer a big and specific goal to achieve, a pre-set 7 am- 9 pm

schedule to follow, and close supervisions from the teachers who kept pushing students study harder. Nevertheless, the student participants still felt stressed because of their more competitive peers at ZJU. They were the successful ones from elementary, junior and senior high schools. They wanted to keep their previous status, so they were facing challenges.

ZJU has a great number of excellent students from all over the country. Some of the students were top 5 from their provinces and they are super smart. It's insane. I found myself among the peers with a higher level again. I felt lost that time. I didn't know where I should fit in. "Do I want to be one of the top ones?" or "Do I just want to stay in the middle?" (Randy-AB)

At ZJU, I felt everyone was working so hard. You could see all the classrooms were full of students who were self-studying. Everyone looked upon someone better than themselves and studied hard to catch up with them. (Suzanne-IV)

I didn't have any peer pressure during junior and senior high school years. I started to feel the pressure since I got into ZJU. Besides those students who are super good at learning, I also knew some friends who had clear plans for their future. They knew what they wanted to do in two years, for example, getting an MBA. I didn't have any plan for my future. All this made me feel stressed. (Neal-IV)

Besides competitive peers, the university courses were harder, naturally. The step-by-step guidance from the junior and senior high school teachers was also not in existence. Therefore, it was no longer possible and sufficient to just follow the curriculum or the teachers, as Echo said: "A lot of learning in university is not directed by the teachers, instead, students need to explore for themselves." They needed to be proactive to manage their studies, such as seeking and refining learning strategies to cope with the university level content and learning pace by themselves.

Randy settled down and concentrated in her studies by reading textbooks and seriously preparing for examinations after "drifting from classroom to classroom" for some time. Zach assigned himself extra work for self-study in Calculus and Linear Algebra, which interested him. Echo talked about how she changed her learning habits in university during the interview.

Echo: My learning changed a lot after entering university, because a lot of learning tasks were explored by myself, not assigned by teachers. In university, courses are much more complicated. We need to summarize, reflect and highlight

the key points by ourselves. Personally, I think this was a big change for me in study. I need to think more. You need a good learning attitude first. Every time after required tasks, such as lectures or assignments, I think how to summarize the key points, how to memorize them and how to better conduct my learning in this course.

Homework was much less, comparing with high school. But, your time was occupied by all kinds of activities other than study. You would suddenly realize that you still have a lot you don't understand when the final exam is approaching. You are under great pressure, and you don't have enough time. What I had to get used to was to absorb a fairly big amount of content in a very short period of time. So thinking is important. Each course is different. So, I spent a lot of time figuring out the ways to deal with them. I think it is very necessary.

Qing: How did you figure out the ways to deal with your courses?

Echo: The first and the most traditional way to study is attending the lectures and reading the textbooks. Second, I liked to communicate with my peers. I often asked them how they studied different courses. If there were some strategies new to me, I would try. I don't think I study all the subjects very well. However, I think it is very necessary to find the best way to study each course. This is a very important competence. The university study improved my competence in this regard. (Echo-IV)

The student participants managed their study proactively, when for the first time there were no close supervision and step-by-step guidance from teacher and curriculum. They eventually achieved good academic performance and got admitted by DDP.

4.1.4. A Summary of performing well academically in China

The student participants in this study went through elementary, secondary and two-year post-secondary education in China. They easily achieved excellent academic performances in their elementary years when the schoolwork was not challenging to them. They continued to excel in their learning during their junior and senior high years under the huge and long-lasting pressures of the severe competition for the nation-wide Gao Kao. These students entered Zhejiang University (ZJU), the third most prestigious university in China, with their excellent grades in Gao Kao or similar high-stake examinations among their peers. During their two years at ZJU, they kept good academic standing while enjoying the vibrant university life.

The student participants' trajectory of academic excellence was paralleled by their growth as learners. In the beginning, being earnest was enough, following their teachers and the school curricula. Junior and senior high was the most stressful time for most of the student participants, since they needed to handle challenging course work and compete with more competitive peers in order to get into a top ranked, prestigious university. Besides putting in a huge amount of time and effort into studying like most junior and senior high school students do in China, these students became strategic in their learning. They developed efficient methods to learn different subjects or according to their own learning preferences. They sought thorough understanding of the subject content through analytical and independent thinking. They also managed their time strategically. Thus, they achieved high scores in examinations and earned admission to ZJU . At ZJU, once again, more competitive peers and more challenging courses were awaiting. It was no longer enough to just follow the course curriculum or the teachers to achieve academic excellence. They had to proactively manage their studies, such as seeking and refining learning strategies to cope with the university level content and learning pace.

As described above, to thrive in an increasingly competitive learning environment is the experience that these students lived throughout their elementary, secondary and post-secondary education in China. Their academic performance was consistently good; however the path was not as smooth as it seemed. Actually, it was quite bumpy. Some of the students had to give up the hobbies they developed at an early age for more time for learning. Others had to endure the long hours of repeated exercises in order to excel in examinations. A lot of them experienced what they called "failure," when they were unsuccessful in keeping their top-ranking performance records, or when they were unable to fulfil an ambitious goal of winning a high-level Olympiad Contest. It was not an easy journey at all.

Teachers play an important role in the student participants' learning, especially in the elementary and secondary education. Students regarded their teachers as the authorities in learning and expected teachers to teach them responsibly: to pass on "dao" (i.e. forming students' characters and inspiring them to higher standards of moral conduct), to teach skills, and to answer questions. The participants in this study demonstrated their deep trust and respect towards their teachers. They believe that they

are inadequate and that teachers deserve respect and are worth learning from. Therefore, they humble themselves for continuous improvement.

Besides teachers, family, especially parents, also played an important role in the student participants' learning, in particular, their elementary and secondary education. They were the ones who made decisions about their children's extracurricular activities. They were the ones who supported and/or disciplined their children for academic excellence day by day. Though the students gradually grew out of parental supervision, their perception of learning, studying behavior, as well as educational choices were greatly affected by their parents' valuing of education. The parental influence was often realized later when they looked back on their learning after leaving home and leaving China .

4.2. Lived experience of performing well academically in Canada

The student participants experienced and thrived under continuous competition and stress in their learning journey in China. They were earnest, strategic and proactive learners with excellent academic performances. As they joined the SFU-ZJU Dual Degree Program, their next stop was Canada. They studied at SFU during the 3rd and 4th year of their university education. One of the criteria for selecting the student participants for this study is that they must achieve an above-average CGPA in the School of Computing Science at SFU (section 3.2.2). This ensures that all the participants represent the overall criterion of the present study – that they perform well academically and are successful in a new learning environment. So, what is the lived experience of performing well academically in a Canadian university?

Student participants reported the differences they perceived and experienced between learning and living in China and Canada, when they were invited to talk about their Canadian experiences. I will report the findings in two categories pertaining to both learning and living experiences.

4.2.1. Lived experience of coping with the learning

Simon Fraser University and Zhejiang University do not have the same educational practices, learning environment and instructional languages. To perform well academically at SFU requires coping with the differences between ZJU and SFU. The emerging themes found in the lived experience of dealing with the differences between the two institutions are: (a) coping with the differences in curriculum, (b) coping with teachers and peers, (c) coping with the English language and communication, and (d) DDP advantages.

Coping with the differences in curriculum

All the student participants reported that course load was the biggest difference in the curriculum. They had a much lighter course load at SFU. Suzanne said:

At ZJU, we had more than ten courses for each semester. Classes were from 8 am till evening. We had a whole day of classes for 5 days in a week. But here, if I have three courses in one semester like now, I only have lectures on Monday, Wednesday, and Friday. I don't have any class on Tuesday and Thursday! ... We had too many courses at ZJU. Sometimes we had eight exams in two weeks. We even had situations like two exams per day for three days. It was very exhausting. (Suzanne-IV)

When the course load was almost cut in half, however, student participants like Suzanne still felt that their time was very tight and the total work load was still the same. Why? The reasons lie in the differences in course objectives, course content, assignments and grading systems and how students chose to cope with them.

Course objective and content

According to the student participants, the primary objective of ZJU's courses is to acquire knowledge while at SFU the focus is to improve competence. Frank said in the interview:

In China, the focus is to acquire knowledge. Knowledge is directly linked to your grades. I pay more attention to transform knowledge into competence when I came here, though competence is not necessary linked to my grade. That's probably the main difference. (Frank-IV)

The course contents, therefore, varied accordingly. According to the student participants, courses at ZJU are more theoretical and cover material in greater depth, while courses at SFU are more practical and concrete.

Let me talk about the differences between ZJU and SFU. First, curricula: the courses at ZJU are quite demanding in content. If you are interested in the subject and follow your professor seriously, you can learn the subjects in greater depth at ZJU. However, it is also easier to fail the course there, because you are on your own. Thus, there is a large gap in the final grades. Here at SFU, there is also a gap [in the final grades], but the gap isn't as big. What you learned here is not so deep, but more concrete. At ZJU, only 20% [of the examination] required you to apply [the knowledge], while 80% is about writing from memory. (Zoe-IV)

The major courses [at SFU] are very different from what we took in ZJU. The workload is much heavier in each course and we have a lot to learn. In ZJU, I focused on the lectures. What I learned was what taught in the lectures. But at SFU, what was covered in the lectures is just a fraction of the course -- an even bigger part is in the textbooks, reference books and papers which we need to read by ourselves. I think this is a big difference. (Neal-IV)

Students adjusted their learning to cope with the differences. Neal found it was a big challenge:

It's a big challenge for me. Back then I didn't have the habit of previewing the material or reading textbooks by myself. Now I do. Previewing material and reading textbooks help me understand the content, do my assignments and write the exams. I used to solely follow the teachers' instruction, being attentive in class and finishing the assigned work. This was my way of learning since junior high. Now I tend to take more initiatives in my study. I do a bit more than what is assigned, or I will try to surpass the expectations of the assignment. (Neal-IV)

Wendy found that summarizing the course in detail and reaching thorough understandings seemed to be a good strategy for studying at SFU. In contrast, at ZJU, cramming exercises before exams seemed to be a more efficient way of getting high scores. Besides adjusting learning strategies, Freddy just shifted his own learning objective from getting high marks to grasping the subject well after coming to SFU for a year. As he put:

Now I aim to really learn the subjects well instead of just aiming at getting high marks. They are not contradictory, rather, they are complementary. What I mean by "really learn the subject well" is that I will do my best to obtain a thorough understanding of the content by working out the unclear parts. If you only want a high mark, sometimes

it isn't necessary to understand each concept well. Instead, you probably just need to memorize something. To learn it well, you need to think about "why" and not just take it as is. This is the big difference. (Freddy-IV)

Besides the course objective and content, assignments also require students to adapt.

Assignments

The assignments at ZJU are quite theoretical and mainly from the textbooks or related to what is taught in class. The assignments at SFU are more practical and open ended. Faculty participant Professor Ray from SFU found the difference during his teaching at ZJU. He told me:

I did find that the cultures were quite different with respect to homework—ZJU students were expecting assignments from textbooks. A couple of times, I gave sort of more open-ended problems and that was a little bit surprising for some of them. I assigned some work requiring some internet research, and it was unusual for them as well.

The students didn't quite know what to do with the open-ended questions. You know, I felt that students here at SFU are more used to such kinds of questions. That was a little bit of a surprise for me. (Faculty Ray-IV)

Freddy echoed Professor Ray's observation from a student perspective:

The assignments at SFU are about solving practical problems. The assignments are all more difficult and complicated than those we did at ZJU, but they are not too hard as long as we put time in. The assignments at ZJU are quite theoretical, and included many proving problems. They are different types of work. (Freddy-IV)

Although the assignments at SFU are different and sometimes more demanding, most of the student participants reported very positive feedback on coping with the challenges.

The assignments are always challenging. They may not be directly related to the lectures. I have to spend a lot of time on each assignment. But when I get it done, I enjoy a lot the satisfaction in achieving something. (Echo-IV)

I felt that there were a lot of restrictions in the assignments at ZJU. There were detailed descriptions for each project, step by step. The results from the students were basically the same as you just needed to follow the teacher's manual. I didn't like this type of work. My GPA at

ZJU wasn't too high. My GPA at SFU was much higher. I think this is because the teachers here gave me a lot more freedom. I can develop my own ideas, and I think this fits me better. (Kay-IV)

At SFU, the assignments and projects also have much higher weight in determining the final grade. The different grading system also changed the students' ways of learning.

Grading

As mentioned previously, there are endless quizzes, tests and examinations in the curricula of the Chinese elementary schools and secondary schools. In Chinese universities, however, it seems that there is only one big final examination for each course and it takes up most of the final mark. At SFU, assignments, projects, together with midterm(s) and final examinations are distributed rather evenly in the grading. Zoe explained the difference in grading clearly:

If you are willing to spend a lot of time preparing for the final exam at ZJU, you are probably fine. In China, the final exam takes up 80% of your final grade, and the other things you do during the semester only count for 20%. And this 20% is not totally performance based. The teacher can adjust it a bit if they want. Therefore, as long as you do well in the final exam, you can achieve a good grade. You can do whatever you want during the semester (laugh). But here, the grade is built up by each individual project and assignment you do throughout the semester. (Zoe-IV)

The different grading has affected students' learning a lot and made a change in their study.

I am a person who can do very well in the final. I guess my learning experience made me good at doing so. Now I need to be very serious about every assignment. I was not used to this change in the beginning. I didn't do well in my first assignment for a course, and then realized that I had already lost a lot of marks for the final grade, I felt really shocked (laugh)! (Zach-IV)

The years at ZJU formed some bad habits such as frenzied, last-minute studying for exams. The big difference in learning [between ZJU and SFU] is that the students here work hard throughout the semester. So, I realized that I need to get rid of my bad habits. It wasn't easy in the beginning, but I did change a lot after I came here. (Echo-IV)

The differences in the curriculum have affected students' learning and made some changes in their learning objectives and how they manage their daily study and

prepare for examinations. Besides, the learning environment, especially the teachers and fellow students at SFU could also have some impact on their learning.

Coping with teachers and peers

Chinese students usually perceive teachers as learning authorities. Most student participants, as previously found in section 4.1.1, respected their teachers and step-by-step followed their teachers in learning during their elementary and secondary school years. The traditional authoritative perception of teacher often results in less interaction in the classroom. Faculty participant Professor Ray noticed the difference in classroom interaction between ZJU and SFU:

There was definitely less interaction than what I am used to here [at SFU]. But I kept asking questions of the class. I think... the quizzes actually helped make sure that the students were continuing to engage with the material all the time. When they've done the work and I am going through the solutions, there can be more engagement. So I would say it's about what one would expect, having taught international students here [at SFU] for a long time. (Faculty Ray-IV)

Non-Chinese teachers often found Chinese students quiet in class – they do not ask questions and do not participate in discussions often (Wang & Kreysa, 2006; Bartlett & Fischer, 2011; Liu, 2016; Cao et al., 2017). These observed classroom behaviors led to some stereotypical assumptions of Chinese students such as shy, passive and less engaged (Ward et al., 2005). How about the student participants in this regard? What did they do when encountering questions in study? Did they approach or not approach their professors, and why? Did they participate or not participate in classroom discussions, and why?

Increasing interaction with teachers

After coming to SFU, some student participants, like Zoe and Frank, who respected and at the same time kept a distance from their teachers in China (section 4.2.1) found a “better student-teacher relationship” which attracts them to communicate with their teachers at SFU often.

When I came to SFU, I got into some lab and found it is [probably] better to communicate with your teachers as friends. You can chat with your teacher about the books you recently read, and he/she will recommend some papers. This seems to be a better student-teacher relationship. But I didn't realize it until a bit more than one year ago. (Zoe-IV)

The most impressive thing that happened to Frank at SFU, he said, was becoming friends with a couple of his professors. The other student participants, however, did not develop a friendly relationship with their teachers at SFU. Most of them do not think teachers are as approachable as their friends or Teaching Assistants when they have questions. They either chose to self-study or seek help from their peers or sometimes the Teaching Assistants.

Echo talked about the teaching styles she found confusing and how she dealt with this confusion during the interview.

Qing: Did you have difficulties after coming to SFU?

Echo: Yes, I had some difficulties. I didn't like Professor A's teaching style. His lectures went really random. He kept telling jokes. I couldn't get the key points.

Qing: Was it the jokes or the random teaching that caused you to dislike his style?

Echo: He made too many jokes. And he integrated some points into the jokes, which made me confused. It's frustrating. I sometimes couldn't understand him.

Qing: What did you do about it?

Echo: I talked to my DDP peers about it. We all had the same frustration. Fortunately, the prof's PPTs were good and we ended up studying his PPTs by ourselves. (Echo-IV)

She also talked about a teaching style she liked.

Echo: I liked one professor a lot. He explained the materials very clearly. We didn't have textbooks for this course, so we had to pay close attention in class. I really enjoyed being fully absorbed in the lectures.

Qing: Why did you like his teaching?

Echo: He explained things so clearly.

Qing: Do you mean he articulated clearly or explained with logical flow?

Echo: Logically clear. For example, I always thought the Fourier transform was a difficult concept to understand. The professor taught us every detail about the concept, from its background to its usage. He can make a difficult theory really simple to understand. (Echo-IV)

As evident, Echo and her peer DDP students expected a clear instruction from their teachers. When encountering a problem such as a casual lecture style, she and most of her classmates chose to self-study and help each other, instead of asking for help from the teacher. Besides the teaching style, sometimes students also hesitated to ask questions because they were afraid their questions were too basic. Zach told me about it:

That course was a theory course, but my question was about coding. I felt it was not appropriate to ask a theory prof coding questions. The question wasn't directly related to the course content. It was also a very basic question. I should have known it before taking the course. So, it was not appropriate to ask the prof. (Zach-IV)

Some students worried about their English expression. Neal was one of them:

Neal: In class, native English-speaking students can ask questions easily, but I can't. One of the reasons is that I am afraid that my question cannot be understood. I'm not confident regarding my English expression. The other reason is that I am not used to asking question in class; we don't do that in China. I feel embarrassed to ask questions in public.

Qing: What did you do when you had a question in mind?

Neal: When I have questions, I'll read textbooks or search online for the answer. Sometimes I seek help in the prof's office hours. I prefer to approach a TA rather than a professor. Or sometimes I discuss the questions with my DDP peers. (Neal-IV)

Though the student participants had different reasons to avoid direct interaction with their professors, after studying at SFU for some time, they changed their perspective and behavior in this regard. The question-friendly environment at SFU affected the students a lot. Zach, who worried about his question being too basic in the beginning, asked questions in class later on. He felt it is no longer "weird," but "natural," to ask questions in class. According to him, this is the main change in his learning, compared with at ZJU. Freddy felt the same as Zach:

I think people here are quite tolerant when you are behind other's pace or when you keep asking silly questions. In China, nobody blames you openly, but inside they aren't happy that you wasted their time. The professors in China will ask you to come to them after class for questions. The professors here, however, will explain to you on-the-spot. Now, if someone asked a "silly" question, for example, a question I already knew the answer to, or a question about a very basic concept

that we were supposed to know, I would feel fine. If the explanation to the student echoes what I know, I then would be assured that my understanding is correct. (Freddy-IV)

Further, many students became aware of the benefits of interacting with teachers, and they became more active in asking questions during class, and seeking help during teachers' office hours.

In China, teachers only have Q & A sessions before exams. I was a bit uncertain about the office hours here. It's different from my experience in China. I didn't know how it works. So, when I had questions, I tended to ask my peers for help. But I found out later that if you went to your teachers' office hours, you could not only ask questions, but also discuss your ideas. The teachers got to know you better, which might benefit your marks. (Randy-IV)

In summary, the student participants were not comfortable with the high level of interactivity and the active participation required in the Western classrooms, just as the literature reviewed in section 1.3.2 on the challenges of Chinese students' cross-border learning indicated. After studying at SFU for some time, most student participants opened up to asking questions directly in class or approaching professors during office hours. Faculty members at SFU are perceived as more ready to answer questions versus professors at ZJU. They also gradually felt more accustomed to the classroom discussions. The traditional authoritative perception of teachers as well as the less interactive environment still influence the students' engagements with teachers. However, in general, their interactions with teachers have increased.

Limited interactions with local peers

Besides teachers, student participants also met a lot of SFU students who have different learning experiences from theirs. In their descriptions about their peer non-DDP students they met in different classes, they perceive their peers as hardworking and better at time management.

Frank was amazed by his non-DDP student friends' ability to ask their professors interesting questions. Zach was impressed by some local students' programming skills beyond university student level. Echo saw local students as "better prepared" for discussions in class. Neal praised his non-DDP peers' hardworking attitudes:

They didn't procrastinate until the very last day to do their work, like what I did at ZJU. They worked ahead of the schedule. When they were

stuck on a problem, they would ask if I could explain the process, and not just ask for the answer. I think that's a good learning attitude, very earnest. (Neal-IV)

Besides the positive perceptions of the local students, student participants also realize the differences between themselves and the local peers. Kay elaborated in the interview:

The learning environment is very different. Every international student experienced the difference. I found that Chinese students and local students learn in different ways. In every course, the highest mark achievers are Chinese students. The most proactive students who approach the profs for RA positions, for research projects, and papers are the Chinese students. What do the local students do? They join clubs. They look for local start-up companies for part time positions. They do a lot of Co-ops. These two groups of students endeavor to do different things. It shows their ways of learning are different. Chinese students don't know anything other than study. (Kay-IV)

Though the student participants reported rather positive perceptions of their non-DDP peers, most of them (except Frank) hung out only with their DDP peers. Most of their required teamwork or group projects were done within the DDP group. Teaming up with unknown people seemed to be stressful.

Last semester, I had one course involving group work. We had 4-6 students per group. Six DDP students took this course, so in the end, six of us teamed up together. Yes, we did it voluntarily. At the same time, we also somehow felt that we had no choice. (Suzanne-IV)

The other difficulty [for me] is group projects. Some big projects require us to team up with our classmates. But when you didn't know anyone in your class, it is hard to find people to form a team. It's stressful. I felt embarrassed and a bit intimidated. The only thing I could do was try to talk to the person sitting next to me. (Echo-IV)

It is understandable that students tend to work together with friends and feel stressed when interacting with "strangers." There were other reasons why the student participants tended to team up within the DDP group, for example, academic competence and convenience in communication.

The non-DDP students I met, frankly speaking, don't have the same academic strengths as the DDP students. When you do team work with them, you feel that they depend on you [for good mark]. It wasn't a nice feeling. I'd rather work with DDP students who are at a similar level. (Zoe-IV)

We all worried about our English. We were concerned that if we teamed up with local students, we might face some difficulties in communication. Although we thought our English was good enough to facilitate academic discussions, we still worried about some misunderstandings occurring when we were not able to express some concepts in English accurately. (Suzanne-IV)

Some students realized the pros and cons of teaming up with familiar DDP students or unfamiliar non-DDP students. Randy made a comparison:

If I chose to work with my DDP peers, of course I would know what they are capable of and how much effort they will put into the work. However, we probably would speak Chinese all the time. In order to group up with DDP peers, I had to take the same courses with them all the time. There would not be much time to communicate with non DDP students. However, if I work with local students, it's hard to tell whether it's good to have them as your team member or not, because you don't know them at all. It's a bit risky. But it's good to know more people and make more friends. (Randy-IV)

Most students chose to work with their DDP peers in their group projects. When there were no DDP students in the same class and they had to work together with non-DDP students, their experiences seemed to be positive, according to their reports.

My group projects were mostly done with my DDP peers. But I also tried to work with local Canadian students or other international students. For example, there were no DDP students in my economy class and I worked together with some local students. It was a pleasant experience. They were all serious and hard-working students. I enjoyed working with them. (Neal-IV)

I thought I'd done a lot of projects with my DDP peers, so I wanted to try working with some new guys. Why not (laugh)? I think it worked out well. In the end, all of us were engaged and worked really hard. We even used our weekends to work on our project. It turned out well in the end. (Randy-IV)

Influenced by SFU's learning environment, student participants tended to have more interaction with their professors at SFU, either asking questions in class, or approaching professors in their office hours. On the other hand, though they had positive perceptions of non-DDP students at SFU, they still tended to work with DDP peers for group projects, as they enjoyed the familiarity and convenience. When talking about their interactions with teachers and non-DDP peers, English is a factor at play. Some of them worried about their English and were hesitant to ask questions in class, or preferred to team up with DDP friends to avoid misunderstandings. Others were more confident and become more comfortable when communicating with faculty members and non-Chinese-

speaking peers in English. So, what are the student participants' experiences of learning in English?

Coping with the English language and communication

Ten out of eleven student participants claimed that they didn't have any problems in studying computing science. But when asked "did you have any difficulties in learning at SFU?" ten out of eleven student participants mentioned some difficulties with the English language. Three students reported having difficulty getting used to the English instruction in class, while seven students emphasized that language difficulties existed only in non-major elective courses such as social science courses. The findings echo the literature reviewed in section 1.3.2 on language barriers faced by Chinese international students when studying abroad. Satisfactory English proficiency test scores do not mean that the students are free from language difficulties (Liu, 2016; Zhou, 2010); instead, they have challenges in all four skills in English (Liu et al., 2014; Roberston, 2000; Wang, 2003; Le et al., 2009; Lipson, 2008). The language barrier is less in their major computing science study (Jinyan, 2005; Zhou, 2010).

Difficulties in English language

Like all international students, the student participants took standardized English proficiency tests, for example TOEFL or IELTS, and reached the required scores before entering SFU. But the high scores achieved in the tests didn't promise adequate skills needed for conducting academic activities in English (Liu, 2016; Zhou, 2010). Zoe has an opinion regarding the standardized test and real-life skills:

TOEFL is just a test about English proficiency. By training, you only learned more techniques to deal with the test. Your real skill level is still not high enough. It's like wearing a speedo. Since the swimming suit doesn't change your real swimming skill, you'll appear fast when you really aren't. (Zoe-IV)

Student participants reported they encountered difficulties in all four skills: listening, speaking, reading and writing. Zoe found listening to English difficult. She said: "when you cannot follow the lecture closely, you feel sleepy. When you are sleepy, you miss the key points." Faculty participant Prof. Ray also realized that his students (DDP students prior to entering SFU) had difficulties in following English instruction when he taught at ZJU.

In my teaching, students mentioned that they had never heard of this word before, and of course there are always issues with usage too. That was a little bit surprising. I did find vocabulary a little bit more challenging for the students than I expected. I thought they would be all well prepared. But I did find that if I compare those students with the ones who took my graduate seminar course [in China], the DDP students were clearly more comfortable with English. After all, they're preparing to come to Canada. Yeah, there's a little bit of a surprise that they didn't have some of the vocabulary, but it wasn't too bad. (Faculty Ray-IV)

Besides unknown vocabulary, Kay was frustrated about the delay in her listening comprehension:

When I listened to the lectures, I couldn't understand immediately. After 5 to 10 minutes, I realized what the prof was talking about. If the lecture was in Chinese, I probably would be able to understand even before the prof finished the sentence. The language slowed down my learning speed. I felt frustrated.

(...)

The language problem I mentioned was mainly from the courses like philosophy, writing, etc. It was hard for me to understand those lectures. Sometimes I knew each of the words, but when they were together in a sentence, I couldn't piece together their meaning. (Kay-IV)

Freddy echoed Kay with his experience in studying a sociology course.

I took a course called Sociology in Computing Science. It is a sociology course. I should have not signed up for this course in my first semester at SFU. It required a lot of reading. We watched a lot of videos in class. My English wasn't good then. It was hard for me to follow the videos. (...) At that time, I didn't have the competence to understand the content and summarize its main points just by watching the videos once. (Freddy-IV)

Non-computing science courses contain more unknown vocabulary and unfamiliar content for these students. These courses are, therefore, harder to understand. A lot of students also mentioned that they found the jokes told in class incomprehensible.

I had a professor. He liked to tell jokes but didn't talk about the course content. I could understand the academic part of the course, but not the jokes. I didn't know what to laugh about (laugh). (Wendy-IV)

Sometimes, the instructor told some jokes and the native speakers were laughing. I had to laugh, though I didn't really get the jokes. I think it is about getting integrated into Western culture. (Kay-IV)

When encountering difficulties following the lectures, most students chose to preview and/or review the content by reading the textbooks and other learning materials. Reading was comparably easier; however, students felt their reading speed was slow.

I don't have big problems with reading the textbooks in English, because I can read the texts over and over again. But my English reading speed is slow, comparing with my speed reading Chinese. I can grasp the key points by taking a quick glance at the Chinese text; however, in English, I have to read sentence by sentence. I also often forget what I just read, so I need to go back and read it over again. This is a learning process; I believe I can reach a higher level after going through this process. (Neal-IV)

Compared with listening and reading, speaking and writing are more challenging. As previously discussed, some students found speaking difficult and therefore they didn't ask questions, participate in discussions or team up with non-Chinese speaking peers for group work. Neal was one of these students.

I don't have trouble with listening, but I have difficulty speaking. I think most [DDP] students feel this way, since we don't have that many opportunities to speak English. In class, native English-speaking students can ask questions easily, but I can't. One of the reasons is that I am afraid that my question cannot be understood. (Neal-IV)

Students also found that casual talk is sometimes harder than having academic discussions. Suzanne thought her speaking was not good. She couldn't find the exact word for what she wanted to express. Sometimes she knew the word but couldn't speak it fluently. These kinds of situations "happened more often in casual communications" because she's more familiar with the vocabulary used in class. Zoe had some similar feelings about casual chatting.

I travelled a lot during holidays by myself. I often met people in the youth hostel. When I chatted with them, our conversation easily became an awkward silence. I don't know why. It just turned into silence. We had some mechanical Q & A only, for example, 'where have you been? what do you study? what do you want as a career?' If another English-speaker joined, they chatted about the similar topics. But they got excited while chatting. I understood all that they were talking about. But (pause), I just don't know why [the conversation I had went silent.] (Zoe-IV)

Zoe did not figure out why her conversations with others often went into silence. Nevertheless, she vaguely felt it had something to do with their different cultures and experiences, which caused “the way we express our thoughts and the logic we employed for our expressions [to be] so different.” Mike encountered the same problem, but in writing.

I didn't experience any difficulty in understanding the lectures, since we had English lectures when we were at ZJU. But the English writing course was a big challenge for me. My writing did not meet the expectations of the Western or English logic. We were required to make arguments in our writing. You needed several arguments to make an opinion. My arguments were not regarded as arguments. Their logic wasn't clear enough. I feel that it's really hard to change the way you think. It might also be because of my expression. The teacher's comments were like “your arguments cannot support your opinion.” I was confused. (Mike-IV)

Students found writing challenging. Faculty participant Prof. Glenn had witnessed their comparatively not-good-enough performance in English writing when he taught writing-intensive courses to DDP students at SFU.

In general, I would say that the DDP Chinese students are enthusiastic in developing their programming skills. They are good at and smart on the technical stuff. However, compared with the local Canadian students, their writing skills aren't good enough. (Faculty Glenn-IV)

Student participants faced difficulties in all four English skills in English. The challenges exist at a linguistic level, such as unknown vocabulary and unfamiliar expressions, and also at a cultural level, such as different approaches in reasoning and arguments. How did the student participants cope with these challenges?

Coping with the difficulties in English language

Most student participants reported that their English has improved after studying at SFU for some time. Note that the student participants have studied at SFU for at least two semesters at the time they participated in this study. The English-speaking learning environment at SFU is the main reason for the improvement, according to the students. Studying at SFU requires them to listen to English instruction in class, to read English textbooks and papers, to write assignments in English, and to speak English for learning tasks. Their efforts to satisfy the curriculum requirements also improved their language

skills, just as Zoe concluded “learning English is a process of improving over the time, step-by-step.”

In addition, some students also took initiatives to improve their English. Zoe went to the Student Learning Center at SFU library for help. She took full advantage of the weekly two appointments allowance. Kay watched TV and studied the Graduate Record Examination (GRE) vocabulary to improve her English. Neal purposely took a social science course because he believed that the reading and paraphrasing exercises in the course could improve his English. Suzanne took the initiative to speak English often, such as talking to the student sitting next to her and actively participating in class discussions. The student participants came to SFU as a group. They enjoyed the friendship as well as the convenience of speaking Chinese among group members. Meanwhile, they also wanted to speak English more. Frank told me the story about speaking English among DDP peers.

Frank: I came here with my DDP peers. We are all from China. In the beginning, we didn't know whether we should speak English amongst ourselves. We tried to speak English when we were discussing school matters. But we found it was too weird to do so. We all talk in Chinese now. I think the previous cohorts probably had the same experience as us.

Qing: Whose idea was it to speak English within the group?

Frank: All of us thought that [speaking English] would be good, and we tried. But it's too awkward and very embarrassing. Those who share rooms together also changed to speak Chinese after trying to speak English for daily communication for a while. Very awkward.

Qing: How long did you keep speaking English in your cohort?

Frank: We tried for about one semester with some sort of tacit agreement among us. We all found that Chinese is a better way for us to communicate. (Frank-IV)

Despite students' efforts to improve their English skills, Prof. Glenn remarked that their efforts were not enough, especially compared with the effort they put into their major:

The capstone course focuses on helping students write a formal academic thesis on their technical project. It is very clear that these students are enthusiastic in doing their projects, and they can do them very well. But when they are required to turn the project into a good

document, they become reluctant. For example, some students can spend more than ten hours per day on a project and quickly complete the task, but if you ask them to write a draft on what they did for the project, they won't spend ten hours per day on it. Instead, some of them just attempt to rush it (laugh). I don't mean that their writing is poor. Near the end of the semester, after you pushed and urged, they did write some stuff and they didn't fail the course. However, there is some difference in their enthusiasm and devotion between doing the project and writing a thesis about the project. Their final theses aren't as outstanding as their project work or course work. (Faculty Glenn-IV)

Most of the student participants faced the challenges of English language, especially in the beginning of their study at SFU. Their English skills then improved gradually by following their curriculum in English and some extra efforts. Zoe gave a “quantified” example of her improvement in English after studying two years at SFU.

My English was not very good. When we came here, we needed to pass the TOEFL with a mark of 88, and I got 92. This was the score [I achieved] after a semester's training in Xin Dongfang School, [the most famous English training institution in China, specialized in preparing students for taking English standardized tests, such as the TOEFL and IELTS.] Recently I took the TOEFL again for my graduate school application. I didn't prepare for the test at all, not even browsing the exercise pool for composition and speaking. I took the test and got over 100. I found my study gradually become easier along with my improvement in English. (Zoe-IV)

Though the language barriers did exist, compared to other international students at SFU, DDP Chinese students, as a group, have a better command of the English language and also a stronger performance in their study. Both the student and faculty participants think that the Dual Degree Program helped them prepare for their study in Canada.

DDP advantages

DDP has a cohort system with one cohort each year. Students move as a cohort through the program. DDP Chinese students spend their first and second years at ZJU and then come to SFU for their third and fourth years of study. The program also includes faculty exchange, so every year there is one SFU faculty member visiting ZJU and vice versa. The visiting SFU faculty member teaches two courses at ZJU, which are usually the courses the DDP students are required to take before coming to SFU. The structure and the curriculum of the DDP program offers students a smooth transition from China to Canada.

Academic preparation

Student participants appreciated the advantage the DDP curriculum gave them for studying in Canada.

DDP has an advantage. Quite a few courses are for DDP exclusively, and they are quite similar to the courses here at SFU. So our transition to SFU was made easier. Those courses were very good. (Zoe-IV)

The first two years at ZJU, our textbooks were all in English, and some lectures were in English. That was a transition period for us. Thus, I did not experience much difficulty following the lectures in English here. (Wendy-IV)

Faculty participant Prof. Ray gave a quite comprehensive comment on the academic preparation provided by the DDP, which helped the student participants' learning at SFU.

I think DDP is a well-structured program. It's consistent with the 4-year degree program at Zhejiang University. The curriculum is planned out efficiently term-by-term, thus the students move through it briskly. They are well equipped to complete their degree in the two years they are at SFU.

Year one and two are helpful. They are learning about taking courses from Canadian professors while still in their home environment. I think that helps prepare them for study at SFU. I think the transition for these students is much more seamless versus for other international students. DDP has a natural flow of transition from high school to university. They specialize in their subject, and they begin taking courses instructed in English. It is part of the program to prepare the students for coming to Canada. After two years they are accustomed to university studies in their discipline and to take courses in English. They are in a very good position once they arrive here [at SFU].

At the undergraduate level, I do want to say that the DDP group is stronger than the international students we have. We do have many international students who want to take computing science programs. In our classes we do find that international students struggle more than we expected. A significant number of them struggle. (Faculty Ray-IV)

Besides academic preparation, both student and faculty participants also think the close bonding and support among the DDP students also aid their study at SFU.

Cohort bond and support

The student participants often studied together and hung out together. They helped and supported each other a great deal.

I didn't have many difficulties [coming to SFU] because I came together with my cohort. We lived together. We didn't experience much loneliness and helplessness, as most international students may have experienced. We have each other. Life here is quite like what we had at ZJU. (Mike-IV)

Every assignment is more difficult and complicated than those we did at ZJU. But we have an advantage as DDP students. We came here as a cohort. So we have peers to discuss with. Therefore, we are able to solve even more difficult questions. Yeah, I didn't have many difficulties with my major study. (Freddy-IV)

Prof. Ray compares DDP students with other international students at SFU. He had a sense that the strong bond with peers was one reason why the DDP students performed better than the other international students. Furthermore, Prof. Glenn also noticed that the DDP students shared a collective "pride," which encouraged them to be the best.

As a group, these students share a "pride." They believe that they "should be the best as a group" in SFU's School of Computing Science and even in the bigger sense of society. This didn't exist at the very beginning when the program started. Throughout the years, one cohort after another came to SFU and gradually the "pride" shaped up. Most of the students want to be the best. This is a notable characteristic of this group. After they came here, quite a lot of them were top achievers, receiving Dean's Honour Roll and President's Honour Roll, and landed jobs in large, renowned companies after graduation. (Faculty Glenn-IV)

This finding is consistent with the literature reviewed in section 1.3.2 regarding the social connectedness challenges that Chinese international students experience in their cross-border learning. Students often seek social support and emotional fulfillment from co-national students (Bertram et al., 2014; Cao et al., 2018). The cohort bond among the DDP Chinese students may be even stronger as they have studied together at one university for two years before coming to SFU. The close feel among DDP Chinese students helped them overcome the difficulties arising from studying in a new learning environment. They shared DDP's group "pride" in striving to be the best. They helped one another when facing academic challenges. They were also companions in everyday life. On the other hand, the strong connection within the group hindered them from interacting with non-DDP peers at school, as previously stated. The comfort zone of the DDP group also affected their life outside of campus.

4.2.2. Lived experience beyond university learning

Besides coping with the academic learning at SFU, the student participants also experienced everyday life in Canada, away from family and home country. All the student participants had their very first working experience through the Co-operative Education program (Co-op) at SFU. The emerging themes for the lived experience beyond university learning were (a) loneliness and (b) doing Co-op.

Loneliness

Student participants supported each other not only academically, but also in everyday life, as has been noted previously. Upon arriving in Canada, most of them rented together near the SFU campus. After one or two semesters, some moved to different places for the Co-operative Education semester (Co-op), others still stayed together. Frank and Randy told me about their accommodation situations.

When we first arrived in a foreign country, we tended to stay together. We lived together as groups of 4 or 7 people. Now, after a semester, quite a few of us are moving to some new places. I do not plan to move. I am okay with my living condition. (Frank-IV)

At the beginning, I rented a room with my DDP friends who came here with me in a single house close to SFU. Our landlord was Chinese. There were not many difficulties living there. I lived there for a year. Last year, I moved out since I got a Co-op position in Vancouver for which I rented another place. (Randy-IV)

The close bond among DDP Chinese students satisfied some student participants' companionship needs. They didn't experience much loneliness and helplessness as other international students who came alone. A few other student participants, to a certain degree, still experienced some loneliness and homesickness since they were away from their family and home country, especially in the first semester. Wendy was missing the liveliness of city life in China and the close relationship between roommates back in Zhejiang University.

Wendy: When I just arrived here (at SFU) in the first semester, I wasn't used to the local environment. I suddenly came to a lonely place from a busy city. I lived with three other girls in Coquitlam. Coquitlam is a nice place, but it is too quiet. You didn't see many people on the street. It also takes a really long time to get to downtown from Coquitlam. It kind-of made me feel like I lived in the countryside (laugh). It was

my first semester here. I was a bit homesick, and a bit confused. So my condition was not very good.

Qing: So, you were not used to the local environment.

Wendy: The lifestyle was also so different. I lived with my roommates, but I had my own room. I'm not saying sharing a bedroom with roommates is better. If you put me into a four-people room now, I would feel uncomfortable. But at that time, I just moved from a densely packed dormitory environment to a very independent and isolated environment. I had to manage so many things by myself, e.g. opening bank accounts, paying phone bills and rent, etc. I even had to buy toilet paper myself. Yeah, we often did grocery shopping together. But we were not as close as my roommates and I were at ZJU. I really missed the intimate relationship with roommates very much at that time.

Qing: When you studied at ZJU, you were already away from your family. Why did you feel homesick here?

Wendy: Maybe it was because Hangzhou is still in China, there are no big differences in lifestyles between cities. The distance is about a two-hour flight. But here is on the other side of the ocean. You feel you are far, far away from your family, psychologically. (Wendy-IV)

The psychological distance was not only caused by the real physical distance between China and Canada, but also the "distance" between the two cultures. Most student participants only had interactions with non-Chinese students when they took non-computing science elective courses or when they worked at labs. Some of them took the initiative to communicate with non-Chinese students, however most of the conversations were about academic subjects only. According to most of them, casual communications were harder than academic discussions; in-depth conversations were rare and even harder to facilitate. The lack of social life beyond learning activities and their DDP group was another reason why some student participants felt lonely.

The other problem is about communication with foreigners [non-Chinese]. Probably since we get along too well with one another in the DDP group, I did not have many opportunities to communicate with foreigners. Now I really wish to have some in-depth conversations with foreigners. I chat with them about academic topics, but not about everyday life. (Zoe-IV)

Sometimes I feel lonely, because I can hardly find someone to talk with. Nobody is like-minded with me. That's a big problem when you live abroad. It is a bigger problem than English language. (Kay-IV)

Both Zoe and Kay mentioned that the differences in cultural values caused the difficulties in communication with non-Chinese people. Kay and I discussed it during the interview:

There are some difficulties in communication. In my opinion, the west's cultural values are different from the east's. I might be too much influenced by the Chinese values, so I don't easily accept western values. Freedom, democracy and individual independence, I hold disagreement to these concepts to some degree. I don't like the overall atmosphere in the western society, but not any particular person or behavior. (Kay-IV)

While the comfort zone of DDP helped some student participants live in Canada rather smoothly, quite a few others still felt the loneliness because of the different living environments, lifestyles as well as the cultural beliefs. Only two student participants, Mike and Randy, reported that social involvement with non-Chinese peers was part of their daily life. Mike joined a basketball team at SFU where he found some local friends to enjoy the sports together. Randy got to know and became friend with many non-DDP and non-Chinese people through her involvement in a local church.

I joined their young adults group and participated in their activities like skiing, camping, etc. The church found there were more and more international students joining the church. ... so the church decided to rent its former pastor's residence to the international students after a vote. Now I feel I have a home. Not like the place I lived in last January, which was just a place for sleeping. Now I know someone here cared about me. They get worried when I'm out late. When I'm sick, they will take care of me. I don't feel very lonely. (Randy-IV)

The close interaction with church members not only made Randy feel being cared about, but also opened up her social circle and her mind as she described:

We invite international students to our house for dinner every Thursday. We also have bible study after dinner. Every Sunday after service, we arrange for international students to have dinner in Canadian families. We will be the host once a month. Those students will come to our house for dinner. They are from different countries. I get to know other cultures more. We meet people from different countries. It's nice and interesting when you hear different ideas from people with different backgrounds. I used to live with Chinese tenants in a house with a Chinese landlord. We only discussed things related to China. Now my scope is bigger. I discuss international affairs with people from other countries. I see things differently. I have become more open. (Randy-IV)

Though the other students were not as engaged in the local community as Mike and Randy, after living in Canada for some time they gradually got used to the local environment and lifestyle. Wendy, who missed sharing a room with her close roommates, now thought living all by herself was cool. She enjoyed the freedom of being able to play violin at any time and the alone time to ponder her life and future. Living far away from family made them become more independent. Later, doing Co-op also brought working experiences to the student participants, and engaged them more in communication with non-DDP and non-Chinese co-workers.

Doing Co-op

The Co-operative Education (Co-op) program at SFU aims to develop students' skills and grow their network through working experiences (SFU Co-op website). Although Co-op is an optional component of the Computing Science curriculum, all the student participants chose to do it. It is clearly that this group of students was eager to gain experiences outside of the classrooms. A few of them did Co-op in research labs while the majority went to industry for their Co-ops. What did they experience in their Co-ops? The answers from the student participants can be grouped into two aspects.

First, the Co-op experience helped students clarify their learning and career goals. Student participants who worked at labs, such as Zoe and Frank, found their specific area of interest after closely following their supervisors in research. Other students got to understand the IT industry better and found their direction for future careers.

I think Co-op didn't teach me much extra knowledge, but it cracked the mystery of my future. I didn't know what was useful in future jobs. I didn't know what I would do in the future. Now after the Co-op, I finally know what I want to do in the future. (Wendy-IV)

With only four months of Co-op, I experienced the industry and heard a lot of first-hand information. I now have a rather objective and concrete understanding of the industry and how I shall plan for my career. That's what I cannot learn at any school, even at SFU. (Freddy-IV)

According to my conversation with the DDP program coordinator, a lot of DDP Chinese students in the past cohorts wanted to pursue graduate level studies in the beginning and changed their minds after Co-op. They went to work in companies right after they graduated from SFU. Kay witnessed the same change in her cohort:

I found out some of my DDP peers changed their goal after their Co-ops. Some of them originally planned to do MAs and PhDs, and after their Co-op, they wanted to go to work right after graduation. (Kay-IV)

Co-op experience changed some students' plans for the future and consequently also affected their learning goals while they were still in university. Freddy emphasized his change in learning goals after his Co-op, from seeking a high GPA to acquiring practical skills.

Especially after doing a Co-op, I realized that companies look at your real skills. If you didn't go to university, but can develop great software, they will definitely hire you. If you had a 4+ GPA but cannot write code, there's no way for you. Now I pay a lot more attention to learning the practical skills which will be useful in the future. (Freddy-IV)

Second, Co-op experience also helped students enhance their communication competences and improved their intercultural understandings in general. Students participants did their Co-op in different places, for example, in Vancouver, Toronto and Seattle. They did not have their DDP peers nearby at work. They had many more opportunities to interact with people from local and elsewhere, even during the application period. Freddy had some difficulties finding a Co-op position in the beginning. Looking back, he talked about what he did "wrong."

I was not familiar with the Western etiquette in the beginning. For example, when you step in the room, you should shake hands with the interviewer. Your handshake shall be firm. The Chinese handshake is weak, compared to the western one. But you should follow the etiquette here. In my first interview, I did nothing but wait there for questions. When I was given the questions, I just started to answer them. Now, I would have some small talk first with the interviewer. (Freddy-IV)

Freddy also realized that his perceptions of the interview from his Chinese cultural background did not match the practice in Canada. Parents, teachers as well as bosses are regarded as superiors in Chinese society, children, students and subordinates show respect by keeping quiet and showing conformity (Bond, 1995). He successfully got his Co-op after he adjusted his perceptions.

My first interview was with Microsoft last September. I was not used to the communication style. After 2 or 3 interviews, I gradually found the rhythm and started to fit in. If I go to an interview now, I won't be very nervous. It's like a conversation. I won't think of it as talking with an interviewer, instead, I'm talking with a future colleague. I'd like to know whether we'll work together well. I think he/she would think the same way. If he/she thought that I could be a good colleague to work with,

he/she will offer me the position. I have the same right to choose. I now no longer think that I'm lower than the interviewer. But in the past, I felt he/she was testing me and we were not equal. The different perceptions made a big difference in my later interviews. (Freddy-IV)

Some students found that their English skills, especially listening and speaking, improved a lot after being immersed in the English-only working environment in Co-op. Other students noticed some different ways to conduct work and they became adaptive. Echo liked her Co-op experience, especially the clear line between work and leisure.

When I was doing my co-op, I worked 8 hours every day. I needed to finish my tasks efficiently within the 8 hours. The experience was very good. It pushed me to improve my efficiency. When you finish your task, you can do whatever you like. After my Co-op, I tried to keep the same rhythm by studying from 9 to 5 efficiently, and then relaxing after the "working" hours. I think it is a good habit to keep. (Echo-IV)

Echo's preference was not consistent with the traditional Chinese work ethics, which values devoting all effort and time to work. Freddy's story was about another difference between Chinese and western communication styles: being direct or indirect.

When I was assigned some task and I didn't completely understand it, I tended to ask my co-workers again later. When they found that I was repeating the same questions, they told me, "you should have interrupted us in the meeting and said that 'I didn't understand' or 'you guys are speaking too fast, I cannot follow.'" Now, when I'm not sure about whether my understanding is accurate and thorough, I will immediately verify it. I don't pretend to know something that I really don't know. (Freddy-IV)

The pretending comes from a need to protect "face" in communication. Keeping "face," the public image, is highly valued in Chinese communication and making mistakes or showing weakness in public may cause a loss of face and would be avoided (Wang & Greenwood, 2015; Zhou, 2008). Freddy certainly changed his way in this regard in the work and later at school:

I'm no longer afraid of asking questions which may lead others to think I'm dull or I didn't listen carefully. If I left out something in the beginning of the discussion, I needed to get back to it in the follow-up discussion immediately. If I didn't do so, there would be more effort required to ask for clarification later, when the question was no longer timely. (Freddy)

4.2.3. A summary of performing well academically at SFU, Canada

The student participants came to SFU following their fourteen-year excellent academic performance in China. They were certainly the high achievers in the Chinese education system. This time, the challenges that they faced were no longer concentrated on competition for high marks or harder course content. Instead, they encountered the differences of the learning cultures between China and Canada, including curricula, teacher, peer, and language. These students, once again, diligently and strategically, coped with the challenges. They adjusted their learning objectives and modified their learning methods to keep up their excellent academic standing at SFU.

The DDP program offered academic preparation for the students' smooth transition from China to Canada. Most of the student participants had no problem learning their major, however they still faced the challenges of the English language in various ways, especially in the beginning of their study at SFU. Their English skills gradually improved later, by following the curriculum in English and putting in some extra effort.

Compared with linguistic difficulties, student participants actually faced greater challenges in cross-cultural communication on and off campus, such as the lack of common topics for casual conversations and lack of social connectedness in the local community. Quite a few student participants felt lonely because of the different living environments, lifestyles, as well as the difference in cultural values between Canada and China. Most of them gradually got used to the local life and became more independent after some time.

Doing Co-op was optional, but all the student participants chose to do it. The Co-op experience not only helped students understand their discipline better and find their direction for future careers, but also helped students enhance their communication competences and improve their intercultural understandings in general.

It is also worth noting that student participants were more proactive in overcoming the challenges in their academic learning than coping with the language and communication difficulties in everyday life. The strong bond among DDP Chinese students formed a close and comfortable DDP circle, where students could seek help from each other while facing difficulties arising from studying and living in a new learning

environment. At the same time, the DDP circle dissuaded students from interacting with non DDP peers on campus and socializing with the local community off campus.

4.3. Conclusion

This chapter reported the findings of the research question one: what are the learning characteristics of this group of Chinese DDP students who perform well academically at Simon Fraser University?

The student participants' learning experiences in China, described in the section 4.1, informs us about their individual developments as well as the nature of education in the Chinese context. In summary, to thrive in an increasingly competitive learning environment is the experience that these students lived throughout in their elementary, secondary and post-secondary education in China. The trajectory of their academic excellence paralleled their growth as learners: earnest learner, strategic learner and proactive learner. When they arrived in Canada with their 14 years of learning experience from China, they continued trying "to be the best." They studied hard to overcome the new challenges. They adjusted their learning strategies to cope with the different curriculum requirements. They managed their learning proactively to excel over peers. It was quite apparent that these students continued their way of learning from China to Canada: learning earnestly, strategically, and proactively. In Zach's words: "No big difference from how I studied in China. I sometimes feel that I just changed a place to do my own study."

Some changes did happen, though. Influenced by the learning objectives set in SFU's curricula and their Co-op experiences, quite a lot of students have shifted their learning objective from purely seeking high marks to acquiring a thorough understanding of the course content and transforming book knowledge into practical skills and competencies. Furthermore, quite a number of students gradually began to ask questions directly in class, which was a rare behaviour in Chinese classrooms. Some students approached professors more often for questions during office hours. In general, the direct interaction with teachers is increased at SFU, although the traditional authoritative perception of teachers as well as the less interactive classroom environment in China still had an influence on these students.

When examining these students' lived experiences of excelling academically in China and in Canada, we cannot help asking these questions: what are the inner driving forces propelling the students always "to be the best"? How can they keep learning earnestly, strategically and proactively? Why and how did they differentiate high GPA and real competency? Why and how were they so ready to be taught, no matter in an authoritative or a more equal way of teaching? The findings to the research question two, what are the dispositional factors these students ascribe to their good academic performance, will be discussed in the next chapter in an attempt to answer the question.

Chapter 5.

Findings: Learning dispositions

The student participants in this study were not just in good academic standing in China but continued to achieve academic excellence in Canada. As shown in detail in Chapter 4, continuously seeking to thrive in competitive and challenging environments through effort and coping strategies were defining characteristics of this group of Chinese DDP students from elementary school to university and from China to Canada. But if this was “what” the participants experienced while performing well academically, then “how” did such experiences happen? In other words, what are the essential qualities of these students that lead to their successful learning? To answer this “how” question, in this chapter, I will first report the study findings to research questions two and three:

- 2) What are the learning dispositions that these students ascribe to their good academic performance?
- 3) Do they think that their educational experiences in a Canadian university result in any changes in their learning dispositions? If yes, what are the changes? And how do the changes happen?

After addressing these questions, I will write an exhaustive description “that speaks to the essence of the study and its inspiration” (Moustakas, 1994, p. 184)

5.1. Dispositions for academic success

Based on Stuart Hampshire’s (1953) clarification, a disposition is an individual person’s general and settled tendency towards an event and is manifested in some observable behaviors that are repeatedly displayed. Hence, in Chapter 2, I defined learning dispositions as the individual’s tendencies to respond to situations of learning in certain ways. They are cultivated, developed and supported by learners’ social and cultural traditions, including beliefs about learning (Hess and Azuma, 1991; Li, 2010). Therefore, to better reflect the essential features of a disposition, such as “a general trend” and “necessity of display,” in reporting the following dispositional factors gleaned from participants’ autobiographical descriptions and interviews, I will depict them from both the belief (the inner) and behavior (the outer) perspectives.

5.1.1. Enterprise 进取心

Student participants demonstrated a strong desire to “be the best” or to “do better” in their learning. They were wary of complacency when they achieved success and continued to set higher goals for themselves. They sought perfection while completing learning tasks earnestly and thoroughly. This is the disposition of enterprise, a heart for progression and achievement (进取心) in Chinese.

Belief in never-ending pursuit of progress

There was a question that I originally planned for the interview: “You achieved good (优良) academic performance at SFU. Could you describe how you achieved it?” All the immediate responses I received from the participants were like: “I am not good at all”, or “My DDP peers are doing much better than I.” To continue the conversation, I had to rephrase my question to “You did okay/not bad (还可以/不错) in your study at SFU, could you tell me about your study here?” The participants unanimously denied that they had achieved “good” academic performance because they believe that “good” is not yet achieved and it is a never-ending pursuit. My interview with Zoe illustrated such a belief.

Zoe: Nobody would feel that he/she learns well enough.

(...)

Qing: What is "good enough" then?

Zoe: (surprised at my question) I have never thought there's such a thing as a maximum of how well you can achieve. There are a lot of people around me and they are all better than me. How can I think I'm good? If you ask the person who I think is the smartest one I met in my life, he/she won't admit he/she is the smartest. He/she might say, you know, Isaac Newton could already draw a heptadecagon in his early age. I don't think, if you ask a question like "why you are so good" and his/her answer will be "yeah, I'm really good." I don't think there are people like this." (Zoe-IV)

Zoe's words echoed the Chinese proverb “there are always mountains higher than these mountains” (山外有山), therefore, one cannot be good enough as there are always “better” ones in the world. Unlike Zoe, who found herself not sufficiently good

when comparing herself with “others,” she either knew personally or not, Frank compared himself with himself. He got straight A’s and achieved top marks in a few of the courses he took, but he still didn’t think he was “good” because, according to him, he did not push himself to do his best.

I was not pushing myself to do my best. In the end of each semester when I looked at my grades, what came to my mind was not like “oh, I learned a lot this semester,” it’s actually like “I’m so lucky to get such high grades. I don’t think I deserve the grades I received. I should get a “B”. (Frank-IV)

Zoe and Frank sought to do better because they believed that they were not good enough. Randy had another reason for always wanting to do her best in study.

Qing: Why do you always try to do the best as you can?

Randy: If you don’t do your best, you might regret it when the results turn out not as what you expected. You might lose an opportunity. It is better to do your best in the beginning than regretting it later. (Randy-IV)

Randy started her elementary schooling in a small city in Northern China. She then moved to Beijing for a “better” junior high school and worked hard and successfully to get into a top senior high later. Every move brought her into a “better” learning environment, including more competent teachers, peers who are more serious about learning as well as having more resources/opportunities. Obviously, she believed that her continuous pursuit of progress resulted in the opportunities to study in better and better schools. Neal reflected on his “unsuccessful” experiences in the past and drew conclusions similar to Randy’s — that seeking to be the best was the way to achieve academic success.

Because I failed the co-op interviews, I realized that my “just so-so is okay” didn’t meet the requirements in working. I wanted a change. I always knew that I should aim higher or set more ambitious goals. Everyone around me told me so since I was little. If your goal is to get 100, you may end up getting 80. But if your goal is 80, you will probably get 60. I always knew it, but at that time I didn’t take it seriously. I thought it was good enough to just be so-so. Now I know, just being so-so is not going to work. I want to be excellent and I am willing to put in the effort. The attitude of seeking the best is required in work. Being satisfied with a “so-so” harms your study and will harm your future career more. This [seeking perfection] is my motive for my current study. (Neal-IV)

Confucian teaching advocated lifelong striving to become the most genuine, sincere, and humane person that one can be (de Barry, 1983; Tu, 1979). In learning, the pursuit of progress shall never end. The student participants believed in continuously seeking to be better. They viewed themselves as not good enough, as there are always better ones and they shall always do their best. Their successful and unsuccessful endeavors in learning reinforced such a belief. Equally important is the consistency between one's belief and action, in other words, the purposeful and industrious learning behaviors driven by such a belief.

Purposeful and industrious learning behaviors for progress

Enterprise encourages students to set high standards for themselves in learning. Goal-setting was a common practice among the student participants. A big objective for the future, a concrete learning goal, or a detailed study plan all have one purpose which is to be better.

As a third-year undergraduate student, Frank's goals for one semester were to get his work in the research lab published, to maintain a good standing in regular course work, and to write 100 lines of code every day. He also had a long-term goal for his learning and life.

I am now wanting to calm down and do research. I am contributing to the society, putting it in grand terms. In a smaller sense, to introduce your own ideas through your research is more interesting than to express others' ideas through programming. Of course, it requires a lot more effort, as you are doing a lot from scratch. (Frank-IV)

Echo tended to be more specific in goal-setting and planning ever since her junior high years:

I usually set a goal first, and then make a detailed plan about how to achieve it. I am quite harsh on myself. I assign myself a lot of work in the plan. What I mean by "diligence" is finishing all the work in the plan. (Echo-IV)

"Harsh" objectives were followed by industrious actions. The student participants studied in earnest (section 4.1.1) with effective strategies (section 4.1.2), taking learning seriously, completing tasks diligently, and seeking thorough understanding sincerely. They were also proactive learners (section 4.1.3) who employed learning strategies to cope with the university level content and learning pace, and who adjusted learning

approaches to overcome the challenges arising from the differences of the learning cultures between China and Canada. Several participants, like Zoe, Wendy and Randy, described in the interview how they tried their very best to do their assignments or projects.

Zoe: I will keep reviewing my work again and again after a couple of days. You just don't know how much more time you will put on that piece of work. I always feel there's room for improvement.

Qing: Do you tend to seek greater perfection in all of your big projects/assignments?

Zoe: I really do. I always deal with the things that I am able to do well, or that I'm interested in doing well, in the scope that I can control, in such a tendency [toward seeking perfection].

Qing: Could you give me an example of the extent to which you will keep revising you work? To your own satisfaction or until...

Zoe: (interrupting me) until there's no time left for further changing.

Qing: Do you mean that you are never satisfied with you work?

Zoe: I won't be satisfied at all, absolutely no satisfaction. (Zoe-IV)

In learning with enterprise, many students also tend to learn thoroughly. When facing unknown questions, they tried to figure them out and overcome the problem so that they can do better next time, like Randy and Frank.

Having enterprise is like when you get a question wrong, and you'll try to figure out the reason, overcome the problems, so you can do better next time. You don't want to make the same mistake again. Some students are like "exam is over, and that's it". They just didn't care. (Randy-IV)

Many students may be reluctant and lazy to ask teachers questions. Kind of fooling themselves when they are still unclear about something. But I am not that type. If I'd like to learn it, I'll try by all means and ask questions until I totally comprehended it. (Frank-IV)

The students pursued their high standards with great effort and commitment to learning. Their strong desire to be better was the inner driving force. Do they want to be

better than others or better than their previous selves? It is an interesting question arising in the interview and the student participants gave me some answers.

Enterprise and emulation

Competition exists in the Chinese school system all the time, from elementary to secondary levels, and continues at university as reviewed in section 4.1. It gets more and more intense. As the “winners” in the competition for seats in a prestigious university such as Zhejiang University, most of the student participants, however, did not feel “proud” of themselves. It was partly because, in Confucian teaching, one should be wary of complacency because the pursuit of perfection is never-ending. It was also partly because the student participants’ focus was not the end result of the competition.

I don't like to compare with others. I like competing, but don't care much about the result. (Zoe-IV)

I don't think it is necessary to be like “I have to fight for the first or the second place.” Studying for a good mark means you are responsible for your own study. However, if you “have to be the best one,” it is more like you have to “fight” against others. I don't think it is a good mentality. I think it is more important that you truly learned something and also got a reasonable mark. (Echo-IV)

My student peers had a lot that I could learn from. It's not necessary to be as good as they were. I mean it's good to be as good as they were. But I didn't have to beat them, or get the highest mark in the exam. Seeing those great students from different regions of the city, and getting to know their studying strategies did benefit me a lot in terms of my learning. (Randy-IV)

The students did want to be better, however their focus was not on fighting to be considered the very best or defeating any particular competitors; rather, their emphasis was on being a better self or reaching the best of which they were capable.

Although I still didn't get the best result [in this assignment], which was set to the world record, I did my best. My result was way above the course requirement and was only a little lower than the world record. I achieved the best that I was capable of. I worked until the very last minute. I didn't let myself down. (Suzanne-IV)

Enterprise is a strong desire to learn that comes from the Chinese beliefs promoting the pursuit of human self-perfection through personal commitment to learning (Lee, 1996). It emphasizes self-improvement through continuous effort. It is a “vertical” competition against oneself. In contrast, emulation focuses on winning over the

competitors. It is a “horizontal” competition against others. It is rather apparent that most of the participants had enterprise in their learning rather than emulation. Several students told me that the teaching about competition in junior and senior high years was not about defeating peer students but about self-improvement. The rankings during the junior and senior high school years were against the whole student body in the province and not any specific competitors.

Despite the majority of the student participants showing a strong disposition of enterprise, a couple of them, including Kay and Zach were more inclined to be emulative. According to Kay, emulation and confidence kept her seeking to be the best in learning.

In fact, I am sad if I get an “A”. I always want “A+.” I would be sad if I am not the best one. It is hard to know why I think this way. Maybe I want to get a sense of achievement or a sense of satisfaction. I feel that is where I should be and I need to be. I feel failure if I don’t get to be the best one. (Kay-IV)

Zach reported that he had a strong personality of “refusing to admit defeat” which kept him seeking to win in competitions.

Qing: You wrote “emulative (refuse to admit defeat)” and “arrogant” for your personality. Are they the same?

Zach: No. I am only “emulative” to certain people, not everyone. For example, when I admire somebody, I don’t want to lose to him/her. When I dislike someone, I also don’t want to lose to him/her. For others, I don’t care and I don’t compete with them.

Qing: Why?

Zach: I think I’m a little bit smarter than others (hesitation). I learn faster than others. That’s it.

Qing: How did your emulation promote your study?

Zach: I study hard to defeat others. I have a friend. He is very smart, smarter than me (smile), and I just wanted to beat him. He was my best friend, and still is. When I saw him studying, I would definitely go and study too. When I saw him doing exercises, I would definitely also do exercises. I liked to compete with him.

Qing: How did your “arrogance” promote your study?

Zach: I feel I SHOULD (emphasizing) be better than others. I believe I have the capability to do better in study. (Zach-IV)

Both Kay and Zach had a very strong confidence in their capacity for learning, which had been formed from their previous successful learning experiences. They studied hard to beat their competitors and to be the best. The traditional Confucian teaching doesn't promote confrontation and competition against one another, instead, it promotes self-perfection. Though Kay and Zach demonstrated a strong emulative tendency, the majority of the students in this study had the enterprise disposition which emphasized never-ending pursuit of self-improvement with effort and commitment to learning.

5.1.2. Resolve 决心

As the student participants determined to keep being "better" in their studies, they pursued their goals with a strong commitment to learning. This is the disposition of resolve, a heart of determination (决心) in Chinese. They established a passion to learn. They believed in nothing but effort to achieve their goals. Their commitment to learning is manifested by diligence (Li, 2010). Just as student participant Wendy said:

The first thing you need is to be eager to achieve good marks in exams. You need to be determined. Then you need to put effort into studying. (Wendy-AB)

Belief in effort

The student participants demonstrated their strong belief in effort. Effort is perceived as the ultimate way to achieve their academic goals.

No matter what subject, as long as I put enough effort into it, I will reach my goal eventually. (Echo-AB)

I spend more time and energy than before. Because if I want to meet the higher standard I set for myself, I have to spend more time and put in more effort. (Mike-IV)

When underperforming, the students ascribed "lacking effort" or "being lazy" as the reasons. Neal wanted to be the best during his secondary years, however he rarely got into the top three. When looking back, he thought it was because he "set up a high

bar but didn't work hard enough to achieve it." Similarly, Zach reflected upon his study while his teacher criticized him:

I knew I was not diligent enough. I was not as hardworking as he [the teacher] expected. I also thought his requirements were reasonable. People should work hard. That is a normal way of learning. My learning was abnormal. I always think learning SHOULD (emphasizing) be that way. I should study harder. (Zach-IV)

When answering my question of why the DDP students had a strong academic performance, both faculty participants, Prof. Glenn and Prof. Ray, mentioned intelligence as one of the contributing factors. According to Prof. Ray, it is students' intelligence and good preparation that make them excel in learning at SFU. Prof. Glenn spoke about their intelligence level more explicitly:

These students have high IQs in general. Their level of intelligence is high enough. The DDP Chinese students can solve very hard and complicated questions after intensive training in senior high, but not everybody with similar training could achieve that level. That's why these students achieved very high scores in Gao Kao and got admitted to Zhejiang University. Intelligence is an important factor here. It decides whether you can or cannot reach a high level of logical thinking. (Faculty Glenn-IV)

It is quite interesting that, unlike the faculty participants, student participants did not think intelligence was the reason for achieving their academic goals. Most student participants either thought that they are not smart enough, like Zoe and Randy, or admitted that they have "normal" IQs, like Freddy and Neal. But they all emphasized that effort was the key.

I don't think I am smart. My mom said I was not sharp when I was a kid. In grade one and two, some kids in the class understood math really quickly, but I was a slow one. I had to listen to the explanation several times before I could finally grasp it (laugh). I don't know whether that was because I went to school at a younger age. However, I still don't think I have a high IQ. (Randy-IV)

Because she was "slow," Randy chose to be hard-working since her mom told her "the slow one needs to start early" (笨鸟先飞, a Chinese idiom, literally dumb birds (need to) fly first). Randy thinks that diligence is the trait that leads her to her academic goal. Freddy told me about his understanding of "being smart" and "being hardworking":

Qing: What do you think about “being smart” and “being hardworking”?

Freddy: It is good enough to reach a certain level of intelligence. Just the level that most people are. You can double your achievement if your IQ is at that level and you also work hard. However, without hardworking, being smart is useless.

Qing: Do you mean that average IQ is good enough?

Freddy: Let me put it this way: the students in my senior high and ZJU are all smart enough. They were selected through the severe competitions in Zhong Kao and Gao Kao. If they didn’t do well in their studies, in my opinion, it was because they didn’t study hard enough. (Freddy-IV)

Emphasis on the importance of effort was voiced not only by the students who thought they were not smart or just enough smart, Zach and Kay, who thought of themselves as talented, also did not ascribe intelligence as a reason for academic success. These two students had a strong emulative tendency (section 5.1.1). They wanted to beat their competitors and to be the best. Their confidence in their learning capacity made them feel that they “should” be the best. But they didn’t assume that they “should” be the best without effort. Instead, both of them also emphasized the importance of effort.

I never think it is possible to acquire something without learning it. Nothing is made out of thin air. So-called geniuses also need to learn, the only difference is that they may need less time or less resource to acquire the knowledge. I never believe that one can gain something without putting in effort. I might spend less time on the content, compared with average students. I was misperceived as not studying. (Kay-IV)

That’s why Kay thought of herself as diligent. She accomplished the same amount of work as others, but within a shorter period of time or without a lot of repeated exercises. Zach thought that natural talent was related to interest in some learning subject, however diligence is still the normal way of learning, otherwise the talent can be wasted.

Whether intelligence is a reason for these student participants’ academic achievement or not is not the focal question in this study. But it is important to recognize how firmly these students believed in effort. Sometimes they “wanted” themselves to

believe that it was effort that make them successful in learning. Frank was a good example.

Frank: I'm not sure whether people have talent. I am not sure about myself in terms of IQ. Am I smart, or talented, or [not smart but] diligent? Although I say I'm not a diligent person, I want to believe I am willing to be diligent (Laugh). I am quite conflicted on this.

Qing: Do you mean you want to believe that your academic achievement was more due to your diligence, instead of your intelligence?

Frank: I don't think you can tell whether you have talent or not. If you can grasp some opportunities and become very successful in your 30's or 40's, you probably can say that you have the talent to get a hold of the opportunities. I now believe my achievements are results of my diligence. I don't have much entertainment. I read a lot of books.

I want to put effort into my study. If I say my learning achievement is all from my talent, this isn't the truth. I also want to believe that my achievement comes from my diligence. (Frank-IV)

All the student participants strongly believe that effort is the ultimate reason for achieving academic goals, no matter how they perceive themselves in regard to intelligence. Emphasizing effort over intelligence in Chinese learning culture greatly motivates Chinese students to study diligently. The commitment to learning is manifested by diligence (Li, 2010).

Diligent learning behaviors

Diligence usually refers to spending a large quantity of time on the learning tasks. Most student participants used "time" as a parameter to describe diligence.

Echo was awarded the National Scholarship during her first year at ZJU, because she was ranked top twenty out of more than one thousand students in her faculty. Talking about the reason for such an achievement, she thought it was because she started to prepare for the finals earlier than most of her peers: "I think the amount of time you put into the study leads to the outcomes you get."

Frank didn't feel he deserved the high grades received at SFU (section 5.1.1) because he didn't think he had put a lot of effort into his study. When I asked what was "a lot of effort," he answered:

There's a status called "废寝忘食" (stop sleeping and forget eating) in Chinese, meaning someone who focuses on work to the degree that he doesn't eat and sleep. It's not a good habit, but I think it's the good state for learning. I may go through this kind of state for one to two days in each semester. So, I don't think I've put in enough effort. My parents also asked me "are you tired?" Actually, I only put 60% of my time into studying. The 40% left was occupied by confusion, wandering around, and dealing with other aspects of life. (Frank-IV)

Similarly, Zach felt that serious learning meant spending long days on study. He sat in the library from 8 AM until evening with only a quick lunch break in the middle of the day to study linear algebra during the weekends back in ZJU. Randy did the same during senior high years:

I lived in school residence, so weekends were the only time we could leave school. Many of my friends liked to hang out and go shopping during the weekends. I preferred to stay at home. I preferred spending more time on studying. (Randy-AB)

Spending a huge amount of time on learning became a learning habit, or sometimes even a need for some students to feel "I am learning." Zach described such a need during the interview:

Zach: I think I was quite hard-working and diligent for a period of time when I was in Grade 10.

Qing: Could you describe it for me?

Zach: Another time was in my first year at ZJU. I was doing problems for entire days. Now [at SFU] after class, I go to the library. I sometimes ask myself, do I go to the library to study because I am eager to spend some time learning something, or because I just want to let myself feel that I'm learning. In most cases, I go to the library because I just want to comfort myself by feeling that I am learning. Rarely I go there because I really want to figure something out.

Qing: Why do you need to comfort yourself that you are learning?

Zach: I feel I should work more diligently. So this is a way to comfort myself. I kind of feel that I study for the sake of feeling that I'm studying. (Zach-IV)

Besides spending a huge amount of time on learning, diligence also means completing required learning tasks seriously and going beyond the requirements to the limits of personal capability. According to faculty participant Prof. Ray, DDP Chinese students have good study habits, including attending lectures attentively, doing homework seriously and preparing for quizzes and tests sufficiently. Most of the students voluntarily chose to do extra work for their study. Some self-studied extra materials, did extra exercises, while others sought thorough understanding by investing a lot of spare time in thinking, as described in detail in section 4.1.2 and section 4.1.3. To these students, diligence means to trying their best in learning through huge expenditures of time and energy so that they won't regret the results they achieved.

I think "being good" means I have put all my effort into my studying which makes me not regret the result I get. (Wendy-IV)

If you set a goal, for example, achieving a high mark in one course, then you need to work very hard in order to achieve this goal, like spending a lot of time on studying. You will spare no pains to do exercises, to read books, or to seek thorough understanding of what wasn't that clear to you. This is my "state" during my first and second year in university. I canceled quite a few activities, like biking, and spent all the time on my studies until the semester ended. Sometimes I achieved my goal after working so hard. However, sometimes I didn't achieve my goal, but I felt okay because I had tried my best. (Freddy-IV)

Diligence usually produces satisfactory learning results, as students are committed to learning seriously. It is worth noting that the diligence meant by these students is not only spending a huge amount of time and energy, but also going beyond school requirements and seeking the best result right to the limit of personal capacity. At the same time, it is also important to realize that even when faced with undesired results after working very hard, they did not question their belief in effort but, instead, felt no regrets.

Diligence and passion to learn

As diligent learners, the student participants also showed passion or thirst for learning. Some of them had very strong interests in some specific subjects, others like learning new things in general. According to Kay, diligence shall include a "desire to learn."

I want to include the "求知欲" (desire to learn) into the concept of diligence. For someone with a strong desire to learn, when she/he

comes across something interesting, but not required in exams and not taught in class, he/she would take the initiative to spend time and effort researching it. I think that is the "desire to learn." I always admire such a mentality and would like, myself, to be that way. (Kay-IV)

As Kay described, the passion for learning is part of the diligence. Passion propelled students to study hard. Faculty participant Prof. Glenn thought the passion for computing science was one of the reasons that these DDP Chinese students excelled in learning at SFU:

I think there are two reasons [for their excellent academic performance]. First, these students have high IQ in general. Their level of intelligence is high enough. Second, they have a great passion about computing science. They are willing to spend a lot of time on topics related to computing science. Most of the students like this subject, and they like programming. So they would spend extra time reading related books. (Faculty Glenn-IV)

Quite a few student participants also emphasized the direct linkage between interest and diligence.

I found myself more interested in Economics lately. The economics study also requires programming [as in computing science]. However, when you have a huge interest in it, the interest can surpass the tiredness of programming and you can continue programming and keep working in the field. I like the thinking logic [of Economics]. I found it echoes my ways of thinking. Economics tries to construct models and it adopts mathematical ways to do it. I'm good at both. That's why I can learn it easily and get good marks. The more I learn, the more comfortable I feel. (Zoe-IV)

If I am interested in something, I want to understand it thoroughly. (Zach-IV)

If I really like one course, I would expect to get the best mark. I want to get an "A+" on the courses in which I am interested. (Suzanne-IV)

The greater the interest, the higher the standard, therefore, the more the effort. Their passion surpassed the hardships of learning. Further, the passion is so strong that the enjoyment brought by learning can be the same or even greater than the fun from leisure activities such as playing computer games. Zach sometimes played computer games. Yet he said the enjoyment of gaming and solving math questions were the same to him. Suzanne had the same story:

I do play games. Well, maybe because I'm doing a computing science major, I analyzed the game from a professional perspective when I was

playing. I would think about what I need to learn if I design a game. Then I would stop playing the game and start to learn. (Suzanne-IV)

Some students did not have a specific interest in a specific subject; instead, they liked learning in general. Wendy received her teachers' comments of "passionate about learning" in her report cards often during her elementary and secondary years. She explained it to me:

[This was probably because] I was the one sitting there doing homework quietly when the other students were having fun on the playground.

I started to like learning from junior high, maybe because the concepts we learned then were more interesting than what we learned before. For example, math questions became deeper and interesting; history courses led us go through the progress of human civilization; chemistry and physics told us how the world is formed. To learn this knowledge was full of fun.

If learning is, in a broad sense, learning about different things, then I am always fond of it. (Wendy-IV)

Wendy's words echoed one of Bollnow's Emotional States of Child (Bollnow, 1962/1970, translated by Van Manen & Mueller, 1989), namely cheerfulness (Section 2.2.2). It is expressed as an "anticipatory openness" to the world. It showed a great passion to explore the world through learning.

In summary, the student participants believed in effort and lived out that belief through diligent actions toward learning. A large quantity of time and energy was spent on learning tasks for achieving the best or no-regret result. The students demonstrated a resolve for learning: a passion and a commitment to learn.

5.1.3. Perseverance 恒心

A long-lasting passion and a continuous commitment for learning is perseverance, known as a "constant heart" in Chinese: 恒心. No matter how long, how hard or how uninteresting the process might be, one should keep learning diligently to reach the desired goal. Just like Randy said: "Once I set a goal, I will toil away at it. I am this kind of person."

Belief in continuous effort

The enterprise disposition (section 5.1.1) emphasizes a life-long pursuit of self-perfection. Learning is a never-end journey towards the high standards or ambitious goals set by the students themselves. The resolve disposition (section 5.1.2) is a strong passion for and a personal commitment to learning, manifested by the effort put into learning tasks. Therefore, learners with enterprise and resolve dispositions tend to believe in continuous effort. Constant diligence is indispensable for realizing demanding goals during a long journey. Randy ascribed her academic success to her perseverance.

Now when I look back, how did I get into a top school? It wasn't because I put a lot of extra efforts into study, rather, I would say it was because of the accumulated everyday effort, little by little, day after day. At that time, I had a very clear goal of getting into a top school. I didn't want to stay in a second-tier school any longer. I was not sure whether I would be able to achieve that goal. However, I worked hard every day. I didn't realize that I had the potential to make it happen. I didn't know that once I set a goal, and put a great deal of effort into reaching it, I was indeed able to achieve it eventually. My strengths were not apparent, but after a long time, they would make a big difference.

I think both [goals and effort] are important for achievement. I think it's because of my personality. I'm quite perseverant, unlike some people who quit what they do easily and quickly. (Randy-IV)

Continuous effort is also believed to consolidate knowledge and hone skills to perfection. Zach was selected for some math contests during his elementary school years. He studied extra math during weekends for three years. He admitted that though he liked math very much, he wanted to play during weekends like the other kids. He felt exhausted, although soon after he realized the long training was worthwhile because it laid a firm foundation in math for his later study in secondary school and university. Frank made himself a plan to write one hundred lines of code every day, because he believed: practice makes for perfection. To him, computer programming was "all about practising until achieving great fluency and perfection."

Apparently, Zach and Frank, along with other student participants, did not think learning was an easy endeavour. As the famous Chinese proverb goes: "Diligence is the only path to the mountain of knowledge, while enduring hardship is the boat to the endless sea of learning." The student participants anticipated challenges in the journey of learning because they learned from the old Chinese sayings as well as their lived experiences in an increasingly competitive learning environment throughout their

elementary, secondary and post-secondary education in China. Furthermore, they also embraced these challenges with determination and action.

I tend to seek solutions when I realize there are some problems. I would try to figure out "what did I do wrong?" or "in which part do I need to put more effort?" and "which part of the logic I need to sort out more clearly?", etc. I would review what I learned, and usually I was able to find out the answers. (Suzanne-IV)

If I come across a setback, it's okay, I'll try again. I am often trying, bumping into a setback, and trying again. If there is a problem, then you must solve it. That's it. (Zoe-IV)

Some students even appreciated the hardship they experienced in their learning. Wendy failed a midterm in Grade 11 and her ranking dropped from the top 20 to 200-ish out of 600 students (Section 4.1.2). She got back to the top 20 after a lot of effort. Looking back, she said:

I think this was a great experience to have. This kind of defeat makes a difference in your life. The sooner you have it, the better it is for you. (Wendy-IV)

With such a belief in continuous effort, student participants studied diligently day after day, engaging in the learning tasks from the beginning to the very end. They anticipated and embraced challenges while enduring hardships.

Behaviours of enduring the hardship

The challenges for learning can arise from learners' circumstances, such as physical, intellectual and financial conditions, or from learning itself, such as difficult subject matter, competitive learning environments, and boring learning processes. To the student participants, the challenges they faced were mostly from learning itself according to the data collected from their autobiographic descriptions and interviews. As early as elementary school years, competition existed and became more severe in the later years. Ever since the secondary school years, the subject content grew more and more demanding. After coming to SFU, the student participants faced challenges arising from the differences between China and Canada: different curricula, different learning cultures and different working languages. As described in the previous sections, the student participants overcame the challenges through their earnest, strategic and proactive learning. What needs to be emphasized in this section is that the students did

not learn earnestly, strategically and proactively just for a short time, instead, they learned in these ways day by day, year after year.

Zoe had difficulty with English in her first year in junior high school. She talked about how her everyday practice brought success to her English learning:

[My English was not good in the beginning.] My teacher told me that I needed to keep practicing English every day. So I started to recite the book *Listen, Read and Learn*. I memorized the text every morning and did reading comprehension and grammar exercises every evening. Gradually, my English progressed. And suddenly, at the end of the first year, my English mark turned out to be excellent, and it has been good ever since. I uphold my opinion to this day that you need to practice every day. Day by day, gradually you will become better. There is no fast lane to becoming proficient. (Zoe-IV)

Practising day by day, as Zoe did, required students to endure the long, and sometimes also dull learning process. The secondary school years, especially during senior high, were all about doing endless exercises, according to the student participants. Their school days were from 7:30 am to 9:30 pm, and usually school was in session six days a week. It was an exhausting process for most of the students. Zach could finish his required homework with half of his study time, and he chose to do extra exercises to fill in the rest of the time. Freddy told me about why he could endure this long process:

Freddy: The reason why I could get into X senior high school and ZJU was because of my persistence. [I was] not giving up in the middle.

Qing: Did you feel exhausted or bored when you were studying persistently?

Freddy: Of course. It was boring especially as we kept doing lots of exercises, which were repetitive in preparation for Gao Kao. It was the training to make you become very proficient. It was really boring. However, you could ask yourself: why did you do these exercises? If doing such boring exercises could bring the access to a good university and pave a path heading for a good future, then why not? When you had enough motivation, you could handle the dullness.

Qing: The motivation you mentioned is to get into a good university?

Freddy: During senior high time, yes. (Freddy-IV)

Some students, like Freddy, were driven by their learning goals to endure the hardships in learning. Others embraced difficulties because of their strong interest in the subject matter, as discussed in section 5.1.2. No matter if it was because of the drive to achieve a specific goal, or the passion for a subject, there is one thing in common in these students' learning behaviors: they do not quit in the middle. No matter how long the process, how hard the content, or even how bad the result turned out to be, quitting in the middle seemed to be unacceptable. Kay devoted her three years in senior high to prepare for her contests. She experienced a lot of frustrations during the long process and failure in the end (section 4.1.2). When talking about such an experience, however, she still thought that she would rather hold on than giving up in the middle.

Qing: You had quite some frustrations during the preparation time, so what would you like to do, if you had a second choice? Would you like to give up or hold on?

Kay: Probably I would be holding on anyway.

Qing: Why?

Kay: I had to do it, that's one of the reasons... I was the contest class monitor. I was kind of a model for my fellow classmates. Well, in this regard, I had to hang on and do it. On the other hand, I think it is not acceptable for me to quit something in the middle.

Qing: Why?

Kay: I cannot accept myself in being a person who admits defeat and gives up. It is wrong. Some of my classmates did quit in the middle, and they did other things very well. If I quit a contest in the middle and prepared for Gao Kao, I might have another story. But I didn't want to do so. It wasn't because it was right or wrong. I just thought it would be a shame [to quit in the middle]. Maybe others wouldn't think about it in the same way. But I would feel much shame.

Qing: Do you always stake out until the very end?

Kay: Depends on whether I have a clear objective. If I started something without an objective, I might give it up in the middle. If I do something with an objective, I will usually follow through to the very end.

Qing: Why?

Kay: I think it is probably because it is a common notion that having a clear goal and pursuing it persistently is a good thing to do. Most people think so. (Kay-IV)

Unlike Kay, Zoe quit her preparation for the biology contest in the middle, however when looking back she wondered whether she should have been more persistent.

I don't know whether I made the right choice at that time. Maybe if I endured the hardship and had been more persistent, the result might have been better. I don't know. (Zoe-IV)

In summary, the student participants anticipated challenges during learning, and they believed that continuous effort would enable them to overcome the difficulties and achieve their academic goals. With such a belief, they endured the hardships arising from learning and sought out solutions persistently. They demonstrated a disposition of perseverance to embrace the challenges and never quit in partway through.

5.1.4. Concentration 专心

Besides continuous effort, student participants also attached great importance to consistent focus on their learning. According to Mencius, it was not the learning capacity, nor the intelligence, but the full engagement in the study that determines the learning outcome. This is the disposition of concentration, a dedicated and a focused heart 专心 in Chinese. According to the student participants, concentration is vital. Echo said: “we should be 100% focusing on the things at hand. This is a valuable personal quality.”

Belief in full engagement in study

Student participants believed that full engagement can determine learning outcomes. What they said about concentration in their autographic descriptions and during the interviews can be summarized as the following: the full engagement in learning means that one should have: 1) a “calm heart” in Chinese: 静心, to minimize the distractions from the external environment, for example, interruptions brought by extracurricular activities, negative influences from peers, and temptations of the fun of non-academic activities; and 2) a “contented heart” in Chinese: 安心, to purify the

learner's motive and mental state for learning, including a sole pursuit for grades or compliments from teachers, parents and peers, and anxiety from pressure.

Confucian teaching advocated lifelong striving to become the most virtuous person that one can be. A strong commitment to learning is the way for such self-perfection. Therefore, learning is regarded to have a higher importance than any other activities in Chinese traditional values. Young students nowadays may not relate "learning" to seeking moral perfection, however they still believe that learning is what they should and need to do.

I never thought about what study was [when I was young]. I thought it was just what I should do and I just did it. I never thought about why I should study or what it would mean to me. I guess kids would not think that much. Now I think study is a necessary part of being a complete person. (Wendy-IV)

I felt that schoolwork was the most important thing back then. Learning [coursework] and other activities seemed to be two very different entities. (Kay-IV)

Therefore, students should eliminate non-academic involvements in order to be concentrated in this most important activity: learning. That is why a "calm heart" (靜心) is needed to resist the distractions from the external world. Extracurricular activities are regarded as some of the distractors. Though the participant students enjoyed a lot of extracurricular activities during their elementary school (section 4.1.1) and university years (section 4.1.3) in China, when the school work was easy and there were no immanent high-stake examinations. When the busy secondary school years came, they totally gave up these activities, voluntarily or under parental pressure, in order to have more time for focusing on their studies. For example, Kay had to withdraw from her badminton team and violin-playing (section 4.1.1), because her parents thought these activities "would have a negative impact" on her studies. She felt regretful at the time, however when she looked back, she had mixed feelings:

Now I know I cannot be an athlete or a musician. My parents stopped me from doing things not related to my schoolwork. It seemed to have a positive impact on me that they stopped me from playing badminton and music, which are not my real talents. (Kay-IV)

While Kay withdrew her extra-curricular activities under parental pressure, Freddy willingly cut off his leisure activities in order to improve his academic

performance during his preparation for Gao Kao and during his study at ZJU (section 4.1.2 and 4.1.3). No matter how Kay and Freddy responded to the withdrawal from their extracurricular activities then and now, whether the activities interfere their study was the main consideration for whether to continue these activities or not.

Student peers were another external influence. Randy willingly worked hard in order to get into better schools in her elementary and secondary school years, because she thought that better peers could promote her learning, while friends who didn't take study seriously distracted her from learning:

At that time I tried my best to concentrate on the lectures in the noisy classroom. During grade 9, I started to hang out with the students who were also studying hard and wanted to do better. I no longer hung out with some of my old pals who didn't take study seriously. I didn't want to be distracted. (Randy-IV)

Besides external distractions, there are also internal temptations. According to Confucian teaching, the purpose for learning is to become a morally better self. In modern days, the sought-after learning achievement also expands to mastery of knowledge/skills, application of knowledge and unity of knowledge and moral character (Li, 2009). In other words, learning shall be for the sake of learning. Any other motivation, such as learning for grades or recognitions, is perceived as utilitarian or vanity. That's why a "contented heart" (安心) is needed to guard against these impure purposes. Quite a few student participants said that learning for the sake of grades is "a heart of utility" (功利心). It isn't a true search for knowledge. Frank was one of them. He wanted his learning to be driven purely by his passion for mastering the knowledge and not by grades.

I do not and don't want to care too much about my GPA. Grades are "picked up" [on the way while you acquire knowledge]. I think if you care too much about your grades, you wouldn't really learn things. It's not a hard thing for Chinese students to get a high grade in exams after all those years training for Gao Kao. (Frank-IV)

In Frank's opinion, a grade should be a by-product of learning, not the purpose for learning. While Frank didn't want to study for grades, Wendy cautioned herself about learning for peer recognition and the teacher's commendation. According to her, that is

“a heart for vanity” (虚荣心). She failed a midterm in Grade 11 (section 4.1.2) because of the anxiety caused by vanity.

The anxiousness I had at that time was partially from the fear of “if I didn’t do well in exams, I would lose face and become shameful in front of my peers.” Since I was one of the top students in junior high; when I first entered the senior high and seeing so many great students from different cities, I felt a lot of pressure and anxiety. (Wendy-IV)

After she “unloaded her pride” and put in a lot of effort, she got back to her good standing in learning. While Wendy’s pressure was from competitive peers, there were also other sources of pressure to cause distraction. There were pressures from the demanding learning content, expectations from teachers, parents, and most often from learner themselves. For instance, Kay won the contests in which she participated during her junior high, however she failed some contests during her senior high years (section 4.1.2), even with the better supports from her school and longer time for preparation. According to her, the key reason was the pressure and distraction.

The preparation [in junior high school] actually was as challenging as in the senior high. But there were not many distractions then. You could concentrate on the preparation work and feel the joy of the process. In the senior high, you felt too much pressure and too many distractions. (Kay-IV)

In summary, the student participants believed that concentration in learning is of great importance for the right learning outcome. They, therefore, sought for a “calm heart” (静心) to eliminate the external distractions and a “contented heart” (安心) to guard against internal temptations in their learning.

Behaviors of self-discipline

With a belief in full engagement, student participants became self-disciplined in facing external and internal distractions, interruptions and temptations. They worked hard in seeking good learning environments, paying full attention to learning tasks, and resisting impure learning motivations.

In order to concentrate in learning, one shall seek a good learning environment to avoid distractions from the outside. The most famous story regarding seeking a good learning environment is about Mencius’ Mother. She relocated three times to find young

Mencius a good environment for learning. Mencius' Mother is a household name in China and regarded as a role model in educating children. In this the story, Mencius' Mother moved from a neighbourhood near a graveyard, to a place close to the market place, and finally settled nearby a school, because young Mencius was so much influenced and distracted by his surroundings. Only the school environment made him eager to learn. More than two thousand years after Mencius' time, the importance of a good school, which usually implies good quality teaching, competent peers and good facilities, is still widely accepted in China. In their autobiographical descriptions and interviews, all the student participants described their trajectories from one school to a better school or the best school during their elementary and secondary years (section 4.1.1). The competition to get a spot in a good school was severe, and the student participants worked hard towards this objective. Randy, for example, got into a top school in Beijing through a lot of effort. I asked her why she could be one of the very few students of her previous average school who earned the admission.

Randy : I guess it's because I didn't spend as much time for fun as others. They often went to the playground to play after class.

Qing: Did you feel any frustration as you were studying and others were having fun?

Randy: It's okay. I didn't like to play a lot...I preferred spending more time on study. (Randy-IV)

The student participants' self-discipline can be seen from their efforts to seek admission to a good school. They also purposefully chose good learning environments for their daily learning activities. A quiet study space can help minimize distractions. Zach always went to library to study, because he claimed he could not concentrate at his dormitory. Randy had a similar story.

I went to the library more often last semester. If I had free time, I would go there to study. Before that, I went home to do my homework. But last semester [at SFU] I found I could be more efficient at school. Because if I studied at home, I was easily distracted by my bed, my laptop, my snacks, etc. You feel different when you sit in the library. It's quiet, no talking allowed. People around you are studying. You can concentrate on study easily. So I tried to avoid the places that easily distract me. (Randy-IV)

Besides seeking learning-promoting environments, paying full attention to the learning tasks at hand is also a common behaviour among the student participants. They felt wrong when they failed to do so and corrected themselves with self-discipline.

You need to be all ears when the teacher is lecturing. (Mike-AB)

What I mean by “earnest” is doing things whole-heartedly. We should be 100% focusing on the things at hand. This is a valuable personal quality. At ZJU, I had a lot of things to do and sometimes I was distracted, thinking about one thing while doing another. I don’t think that is good. (Echo-IV)

My level of concentration in the lectures has returned to the high level I used to have in senior high. ...We didn’t have textbook for one course [at SFU], so we had to pay a lot of attention in class. I really enjoyed being fully absorbed in the lectures. (Echo-IV)

In order to be fully engaged in learning, sometimes calling off activities not directly related to study was also necessary, according to the student participants. During junior high years, such a decision could be a result of parental supervision. However, since senior high, most of the student participants made such choices voluntarily. For example, Freddy willingly gave up entertainments if he received an unsatisfactory ranking in examinations during his years in high school.

I focused on my studies and stopped doing the miscellaneous things unrelated to study. For example, usually I watched TV after I got home in the evening. When my ranking was not good, I would not watch TV any more. Usually I didn’t study but rested after getting back home and before going to bed at 11 pm. Now I chose to study until 11:30 pm. It wasn’t forced by my parents; it’s all about my own willingness. (Freddy-IV)

Neal reflected on how distracted he was back in ZJU and how determined he was to change when he studied at SFU:

Neal: I was so distracted then. When I faced a difficulty in study, I tended to ask for help, rather than calming down and trying to solve it by myself. I guess my state was what my physics coach described as “uncalm.”

(...)

Being “uncalm” means not willing to do the thinking, as well as getting distracted by lots of things other than study. I wanted to do so many things at the same time. Now I look back, I think it isn’t good. I don’t have the capacity and

energy to handle all the things. I now think I should have some focus. (Neal-IV)

Student participants not only worked hard to earn themselves a good learning environment, to focus on learning tasks at hand, but also shifted their learning motivations from learning for grades or commendations, to learning for acquiring knowledge, fulfilling academic interests and improving competency. Focusing on pure learning is perceived as a way to resist temptations of learning for utility and vanity. Thus, one can concentrate in learning with a contented mind, regardless of the different external conditions.

In the interview discussions regarding learning purposes, four purposes stood out: 1) grades; 2) commendation; 3) academic interest; and 4) skill and competency. Most of the student participants expressed during the interviews that they didn't want to learn for grades and commendations but, instead, to learn for acquiring useful skills for the future and/or their passionate subjects. A trajectory of the change of the motivational focus will be discussed in the following section:

Learning for grades

The Chinese education system evaluates students' learning almost purely by grades. In other words, whether a student could get into a first-tier secondary school or a prestigious university is totally dependent on their grades. So-called first-tier secondary schools are those with the highest admission rates to the prestigious universities. Schools rank each student according to their grades in all the big examinations, such as midterm and finals in each semester. It becomes the main form of student's academic evaluation as well as the indicator of their chance to be admitted to a good school or university in the future. Growing within such a system, seeking high grades, and maintaining a good academic ranking were the student participants' objectives for learning, especially during the secondary school years, as previously discussed in the section 4.1.2 in detail. Freddy admitted that he studied hard for good marks during his schooling in China because he wanted to get into a good high school in his hometown, and then a prestigious university in China, and then a graduate program in a top-ranked North American university.

Qing: As you said, you studied hard for a good mark?

Freddy: Yes. It is a pity that sometimes you studied for the sake of a good GPA, instead of your interest. For example, I would choose a course which was known to be easy to get a high mark. The instructor of another course was a so-called "GPA killer." Even though the course might be interesting to me, I would be afraid that all my accumulated GPA would be killed and I would not to take the course. If one instructor was known to be not very good at teaching, but generous about marks, I might sign up for his/her course. Another instructor might be good at teaching, but a very strict grader, and I would probably avoid him/her. We tended to make our choices for the sake of getting high marks, which now I think, isn't a good choice. But I didn't think of other options then [at ZJU].

(...)

Qing: The motive you mentioned is to get into a good university?

Freddy: During senior high time, yes.

Qing: What about during university?

Freddy: In my first and second years at ZJU, my motive was to pursue graduate study in a good university in North America.

Achieving good marks is the only way to get into a dream school/university in the Chinese education system. Therefore it is quite natural that a lot of young students study diligently and persistently for grades. But some students valued another outcome brought by the good academic standing:

Learning for commendations

In China, a student with good grades is also often a star student in his/her school. He/she would be liked by his/her teachers and peers. Therefore some students also pursue commendation through learning.

Looking back, I think commendation is the biggest driving force for me to study. If you achieved high scores in elementary, junior and senior high schools, you were regarded as a star student in teachers' eyes and a learning model among your peers. I think this commendation kept me studying hard in those years. (Mike-IV)

At that time, grades were the only standard used to evaluate students. Good grades not only implied bright futures, but also translated into teachers' appreciation, peers' respect as well as parents' happiness. (Wendy-AB)

Several student participants voiced stories similar to Wendy's that achieving good grades could also fulfill parents' expectation.

Achieving good grades, to some degree, is my parents' expectation of me. Probably because I was quite diligent ever since elementary school, my parents naturally expected me to do well. Therefore, when there was a big exam coming, I set a high standard for myself unconsciously. This was a pressure, but also an encouragement. (Randy-AB)

Because of the recognitions and appreciations from teachers, peers and parents, some students became confident and even emulative in learning. Low grades cannot be accepted, in their opinion. Kay is the one who had the strongest opinion in this regard.

Normally, the driving force for my learning is my pride and emulation. I cannot accept not being better than others. To quantify "not being better" just means not getting the top grades. Therefore, even for the subjects that I was not interested in, I was driven to study them well.

(...)

My personality was formed by a lot of aspects [of experiences]. First of all, my parents were very strict with me. So I became very eager to do well in everything. Because of my emulative personality, I was doing very well in all the areas. The achievements, as well as the recognitions received from teachers, parents and peers, formed a strong confidence in me. It grew from an early age and is deeply rooted in me. (Kay-AB)

Some students, like Mike, sought commendations through achieving high grades. Others, like Kay, sought self-pride through achieving higher grades than others. Grades, as the only form of academic evaluation, were perceived as the most valuable thing by teachers, parents as well as by the students themselves, especially during the elementary to secondary school years. As a result, High grades and commendations are often coupled.

After getting into Zhejiang University, the student participants achieved their 12-year-long goal of going to a good university. The close supervision from high school teachers was no longer in place. They also lived on campus and became more independent of parental influences. Their purposes for learning also gradually changed to fulfilling academic interests and acquiring competencies, according to the conversation with them during the interview, at least they wanted to learn for interest or/and competencies, and not only for grades.

Learning for interest

Some of the student participants had strong preference for certain learning subjects, such as math, and others didn't, when they were in their elementary and secondary years.

I had no interest in History and Political Studies. These courses only require memorizing stuff. They are not useful, in my opinion. For me, Science courses are more interesting and exciting, and arts courses are kind of boring. I think from that time on I wanted to learn more science in depth. (Randy-IV)

I am quite well-rounded in my study. I don't have any particular interest, so I don't pick courses according to interests. I'm open. I would like to explore a lot of fields. (Echo-IV)

No matter whether you like the subject or not, if it was a subject in the high-stake examinations, students had no choice but to study it hard in order to get good marks.

The three years in C middle school offered me a totally different experience from elementary school. Instead of focusing on one subject, I had to keep good scores in all subjects so that the total will be high enough to ensure me a ticket to the best high school. (Zoe-IV)

I was interested in some subjects, but not all the subjects. For example, my Chinese language wasn't good all the time. I like reading, but I usually didn't get high marks in this subject. I did extra exercises for Chinese, but it didn't work. I disliked those exercises, which were weird to me and I hardly did them correctly. I ended up memorizing a lot of them, however I still didn't do well in Chinese in Gao Kao. (Freddy-IV)

After entering university, and especially after coming to SFU, most student participants enjoyed learning for interest. They set high standards for themselves in subjects of their interests, and they were usually able to achieve their goals through diligence (section 5.1.2). Suzanne wanted to get an A+ for the courses interesting to her, and readily devoted great effort toward these courses. Zoe found her passion in the field of Economics:

I found myself more interested in Economics [than Computing Science], and I really like to study it. The learning was easy. I just went to lectures and did some review before the tests/examinations, then no matter what was tested, I always got A or A+. One should be open-minded in university because there are so many subjects available [for you to try], and you then discover your field. (Zoe-IV)

To follow her passion, Zoe chose to study Financial Engineering for her graduate study. Freddy used to study for marks in order to get into his dream university. After coming to SFU, he preferred to study the courses which interested him. He had cost in consideration when talking about his preference.

I also prefer to study a course because of my interest, instead of for a high mark. The tuition is expensive here [at SFU]. I would not like to spend 2,000 dollars taking a course which I'm not interested in, but just for the sake of getting a high mark. Money is one of the factors. Another more important factor is the time cost. I only have 3 semesters left, so I won't spend my time on something I'm not interested in. It isn't worthwhile. (Frank-IV)

Besides learning for academic interest, most of the student participants also emphasized that they wanted to "truly learn something" as Frank, Suzanne, Wendy and Freddy put. The so-called "true learning," according to their explanations, means to acquire knowledge, improve problem-solving skills, and gain thorough understanding of the subject.

Learning for knowledge, skill and competency

It is quite apparent that most student participants didn't think rote learning is true learning. Quite a number of them didn't like the subjects which required lots of memorization, as shown in the above quotations. Because the examinations usually focused on testing the students' memory on the subject matter, the student participants, therefore, also didn't think high grades equaled to true learning, at least only to a certain degree.

The grades are just some indicators to say that you acquired certain knowledge. Or some people are just good at writing exams. (Frank-IV)

They [high GPA and truly learning the subject well] are not contradictory; instead, they are complementary. What I mean by "truly learn the subject well" is, if I'm interested in the subject, I will do my best to gain a thorough understanding of the content, to work the unclear part out. If you only want a high mark, sometimes it isn't necessary to understand each concept well. Instead, you probably just need to recite something. In order to truly learn it well, you need to think about "why" and not just take it as is. This is a big difference. (Freddy-IV)

To Freddy, true learning is seeking thorough understanding of the course content. Similarly, Frank view true learning as gaining intuition in the field of the subject.

I think the ideal thing to do in the university is try to transform all the learned knowledge into intuition. That's the most important thing, in my opinion.

(...)

Academic subjects are usually very specific. If you don't have the intuition, what you learned is just some specific information introduced in a particular course. However, if you get the intuition, you will find that all the courses are connected. For example, I took 4 courses last semester. In the beginning, I thought they were totally different. However, towards the end of the semester, I found that they were actually very much related. You can easily learn them well when you have the intuition. This is a great feeling. (Frank-IV)

The great feeling made Frank appreciate that he really learned, and became the drive for his learning. Suzanne, similarly, sought the joy of true learning ever since senior high school. She wrote in her autobiographic description:

I truly enjoy every "click" moment in my learning. I experienced the joy brought about by "getting to know it" and "understanding it." From then on, I have been eager to learn. Before, I focused on how to turn "unknown" to "known," but later I started to experience the joy of the process of turning "unknown" to "known." Grades are just a by-product of this process. (Suzanne-AB)

We had some discussion about the above text during the interview.

Suzanne: I want to keep a good mentality, i.e. no matter if it is an exam or an assignment that will be evaluated by marks, I would not be overly concerned about its evaluation, rather, focus on truly learning something.

Qing: What is "truly learning something"?

Suzanne: For example, in my major, the true leaning could mean I can learn how to refine the algorithm; I can develop my own reasoning for solving the problems; or I have further understanding about one language. Things like that. (Suzanne-IV)

Suzanne aimed to improve her skills in the computing science major. Some students wanted to improve more practical skills for their future.

I still define "good academic performance" as high GPA. However, I also look at practical skills. I am no longer paying too much attention to GPA. If my overall competence has improved, I'm fine. (Zach-IV)

The Co-op experience in Canada encouraged more students to shift their learning focus to the practical skills for their future careers as previously discussed in section 4.2.2. Students realized from their Co-op experiences that companies look for real skills, not the 4+ GPA. For some students, acquiring practical skills and working in industry is in the future. For Frank, it is research. He wants to contribute to the society through his research, which also fulfills his career interest.

In summary, grades were the main learning purpose for the student participants during their schooling in China because grades meant admission to a dream school and university, as well as the recognitions of teachers, peers and parents. During their university study, especially after coming to SFU, student participants' learning was more driven by their academic interests. They also wanted to focus on true learning, which includes acquiring knowledge, achieving thorough understanding and improving practical skills. They wanted their learning to contribute to their future careers, whether it is in industry or in research. Some student participants experienced the joy and a sense of achievement when they focused on true learning. Focusing purely on learning itself also let one resist the temptations of aiming just for the utility of grades, or for vanity, such as commendations. Thus, one can concentrated on learning with a contented mind, regardless of how the learning is evaluated or perceived by the external conditions.

5.1.5. Humility 虚心

Student participants expressed their sense of self and others through their writing and talking about their learnings. They felt themselves to be inadequate, therefore there's always room for improvement. They perceived others, both their teachers and peers, deserve respect and are worth learning from. This is the disposition of humility, a heart of emptiness in Chinese: 虚心. When one empties his/her heart, he/her is ready for learning.

Belief in self inadequate and others worth learning from

The student participants believed that learning is a never-ending pursuit of progress, as discussed in the disposition of enterprise in section 5.1.1. One can never be good enough, because there are always “better” ones in the world, and there is always room to do better oneself.

One of my professors said “if you can get an A+ at SFU, you can get an A+ in any of the top universities in the world, like Stanford, Oxford, etc. A+ means outstanding performance.” Did I achieve outstanding performance? I thought I was doing pretty good in one course. I actually got the highest mark in the class. I asked the professor why I didn’t get an A+, and he told me so. He’s very right, and I felt released at such an explanation right away. I know that I didn’t do well in some aspects of the course. (Frank-IV)

I don’t think I did well in my first year [at ZJU], however I ranked the top 20 out of 1000+ students. (Echo-IV)

Frank and Echo certainly excelled in their learning, however they still didn’t think that they were good enough. On the contrary, when the student participants talked about their peers, they tended to easily compliment their achievements.

My grades were not bad in general. Each step towards the top of the pyramid, I met greater peers. Because of them, I also turned from an ugly duckling into a white swan. Therefore, I appreciate every group of excellent students I met. (Wendy-AB)

I joined a Chinese Canadian student basketball team at SFU. We played together every day. Through my observation, I found my teammates had strong capacity to adapt to the different environments. They were also good at exploring new things. Their grades may not be as high as my ZJU friends; but they had the social skills and experiences that ZJU students did not have. They are worth learning from. With the social skills you can live a more fluent and colorful life. (Mike-IV)

The student participants tended to see the better-than-self aspect in their peers, including both academic and social skills. They were willing to learn from others. As for the teachers, they demonstrated a deep trust in their teachers’ authority. They also expected their teachers to teach them responsibly and appreciated their teachers’ efforts to teach them and guide them. As discussed in section 4.1.1, the student participants had great respect for their teachers. Mike said: “Do not doubt your teacher’s expertise... I have never had any doubts about my teacher’s capability. I humbled myself and learned from them.”

Respectful behaviours

The respectful behaviors can be seen in how the student participants learned from their teachers, as well as how they humbled themselves when they achieved well.

Most of the student participants followed their teachers’ instructions seriously from their early elementary school years. They paid full attention in class and did

assigned homework in earnest. Quite a few students studied hard for their teachers' recognition (section 5.1.4). When facing discipline from teachers, they tended to accept it sincerely and appreciated teachers' efforts, like Zach and Kay (section 4.1.1). Students expressed their respect and appreciation through following teachers' instructions and working hard. As Freddy put: "My teachers worked very hard at that time, therefore I respected them and always did what they asked me to do."

Besides being respectful to teachers, humility also means that one should remain humble and not display pride while achieving well. The student participants thrived in the competitive learning environment in China. They continued their academic excellence after they came to Canada through overcoming the new challenges. However, none of them admitted they achieved good performance in learning during the interviews, including Zach and Kay, who claimed to be emulative. To show off self is regarded as arrogance in Chinese values. Confucius advocated "slow to speak and prompt to act." (*The Analects*, Tr. Simon, 2014, 4.24, p.12) as a virtuous gentleman would behave. According to Kay, she was arrogant at an early age, and her math teacher criticized her arrogance in order to polish her personality.

Qing: Do you think of yourself as arrogant?

Kay: Yes, I was quite arrogant. I thought I was better than everyone else in my class. Well, I was often the "star" in my school, and that's probably one of the reasons.

Qing: You did achieve better marks than most if not all of your peers.

Kay: Yes (hesitation), and I showed off. When someone had a question, I enthusiastically offered my help. Partly because I wanted to help. Partly because I wanted to show off that I was capable of working out the problem. I might be not clear about my own mixed motives as I was too young. The teachers had a lot of experiences with students, they could see through you. That's why my teacher wanted to make a change in my personality.

Qing: Have you been changed?

Kay: I think so. I've changed now. I seldom talk in class now (laugh).

Qing: I don't see a direct link between talking less in class and not being arrogant.

Kay: Well, it is about how you think about yourself and how other people perceive you. Anyway, I like my current state more. I don't think it is good to over expose yourself to the public. The older generation usually thinks that being low key is better, according to the traditional values. I might have been instilled with such values, and gradually and eventually changed my "show-off" style. Though I've changed, I don't make judgement on whether being low key is better than being high key, or vice versa. I think keeping a high-profile has its advantages. Well, I am not totally silent. (Kay-IV)

The student participants demonstrated their humility through their perception of self and others, as well as observable respectful behaviours toward their teachers and peers. An interesting question emerged: when the student participants believe that they were not adequate, do they have confidence in learning at the same time?

Humility and confidence

According to student participants' autobiographic descriptions as well as our conversations during the interviews, student participants demonstrated their confidence in learning. Kay and Zach are the ones who had confidence in their learning capacity. They were confident that they were smarter or could learn faster and better than others (section 5.1.1). Zoe and Frank found their confidence in their passion.

I am no longer afraid when thinking of what I'm going to do in the future. My mom worries about me getting a job, but I don't. As I gradually find what I love to do, I'm not afraid of losing my job. I am not afraid about the future. As long as I keep going, I will be fine. (Zoe-IV)

(How did you achieve your current academic standing?) First, passion. I have a lot of interest in what I am studying. (Frank-IV)

Besides capability and passion, the most important element for confidence was the positive learning outcomes the student participants achieved through effort throughout their learning experiences. In another words, they were confident that as long as they put in enough effort, they could reach their academic goals.

I ranked the top 20 out of 1000+ students. And I was awarded the national scholarship. It was encouraging. I felt more confident. Students who can get into ZJU are all very good. I think I am only among the average. It made me feel that, as long as I put in effort, I could get a good outcome. (Echo-IV)

A high GPA means I can study quite well. It proves I have a normal IQ. I can reach the requirements through my effort. It's a proof. That's it. (Neal-IV)

Humility and confidence do not contradict as students believe that although they are not good enough, they can reach their learning objectives through effort. Effort is the ultimate way to academic achievement, not intelligence (section 5.1.2). When one isn't as good as peers, she or he can still be confident of putting in effort and aiming at achieving a better result. When one is better than one's peers, she or he also can be humble with others because there are always better ones in the world or there is always a better self to achieve.

In summary, the student participants had the disposition of humility. They humbled themselves, even when they excelled in learning, for never-ending self-improvement. They trusted their teachers and followed their teachers' guidance sincerely. They respected their peers and were ready to learn from others.

5.1.6. Responsibility 责任心

Besides respecting and learning from teachers and peers, the more influential people in the student participants' learning lives are members of their family, mainly parents. The student participants not only had a sense of self and others, which humbled them in learning, but also had a strong sense of duty towards learning. It is believed that learning is an obligation for young kids, while they are loved, cared and supported whole-heartedly by their family. Living up to parents' expectations is a common way to express gratitude toward parents among Chinese students. This is the disposition of responsibility, a heart for obligation in Chinese: 责任心. While growing up, the sense of being responsible toward parents gradually moved toward self-responsibility.

Belief in family responsibility

Chinese culture values family. Confucius emphasized that the moral training in the family was the basis for general moral training. "Filial piety" is regarded as the "first of all virtues." As Lin Yutang said in *My Country and My People* in 1935:

It teaches our children the first lessons in social obligations between man and man, the necessity of mutual adjustment, self-control, courtesy, a

sense of duty, which is very well defined, a sense of obligation and gratitude toward parents, and respect for elders. It very nearly takes the place of religion by giving man a sense of social survival and family continuity... (2008, p. 261)

Deeply influenced by this belief, Chinese parents tend to have high expectations of their children in learning. They do what they can to support children's learning and, meanwhile, they have great influence on children's learning, especially during the early years. Children, on the other hand, tend to trust and be obedient to their parents. They try to live up to parents' expectations for learning. At the time when conflicts occur between the two generations, mutual adjustments take place. Family bond is more valued than individual independence, after all. Kay held this belief firmly as she said during the interview:

Most kids over 18 are self-supported in the Western society. They pay for their university education. It is regarded as a correct and natural thing. If your parents could help you, that's good. And if they could not, that's it. The bond between family members isn't very close. Individual independence is more emphasized over the family bond. It contradicts with my long-held opinion. That's why I don't feel I can fit in. In my opinion, you need to care about others. The relational bond should be stronger than what they have [in Western society]. (Kay-IV)

Family involvement in learning

The close family bond is a two-way bonding between parents and children. Families cared about, supported and influenced their children's learning, and children responded through living up to their parents' expectations by learning with a sense of obligation and gratitude. I will discuss this two-way bonding separately in this section and the next.

First of all, parents have high expectations of children's learning. Though their expectations could be explicitly expressed, or vaguely conveyed, the children clearly knew their parents' expectations.

My family has an expectation of me. They think I'm good and I don't want to let them down either. I believe I can reach their expectation. (Echo-IV)

(Why I wanted to go to a top university in China?) It's from my parents' influence. They both graduated from Fudan University. So, I thought I should do at least better than them. I felt it's their expectation since I was a little kid. (Neal-IV)

My father was the one who watched over my daily study since my early age. He was good at math when he was a student. So he always told me "you must be outstanding in math" (laugh). His English sucked, but he also told me "you must be outstanding in English" (laugh). (Zach-IV)

I couldn't help laughing with Zach when he talked vividly about his father's expectations for him to do well in the subjects that he himself was good at and not so good at. It is such a natural and firm hope that lots of Chinese parents have: that my child should do better than I.

Secondly, parents have a very strong influence on their children's learning experiences, including academic interests and choices. They had a decisive say over children's extracurricular activities in encouraging them and stopping them in certain case (section 4.1.1). Naturally, there was such an impact on the student participants. For example, Mike's father liked sports and encouraged him to join a lot of sports at early age. He became quite sporty and was one of the few student participants who mentioned sports as their hobby. More importantly, family has a great deal of influence on student participants' academic interests. Quite a few student participants said that they liked math. When I asked whether this was a born interest or an influenced result, they all provided answers like Freddy's:

I do not think it is a "born" nature, instead, a result of family and social impact. My parents always encouraged me to solve hard math questions. If I did, I received complements and encouragements from them. As for the social impact, if I did well on hard math questions, other parents and my peers would say "you are so great!" Teachers would also say "you are a top student in math." (Freddy-IV)

Parents, and other family members also influence student participants' academic choices. Zoe and Echo told me how their family influenced their choices.

I applied for both Financial Engineering and Economics [for my graduate study]. I have a strong background in Economics. But the job market for economics students is not so good. My parents are concerned about it. Therefore, I also applied for the Financial Engineering, as it integrates Economics and Computing Science. I got better offers for Economics. However, I chose Financial Engineering as it provides more job opportunities. (Zoe-IV)

My aunt has been my role model since an early age. She is so outstanding that people around her all admired her. She got admitted to an excellent high school, a prestigious university and later a famous company through her own effort. She lives a happy life now. I always

wanted to be a person like her. Her success inspires me to study hard.
(Echo-AB)

After discussing with her role model aunt, Echo chose to join the Dual Degree Program. Sometimes parents were quite open and let their children make the decisions. Some students chose to follow parents' preference, others didn't.

They [my parents] usually let me decide things by myself. But they have preferences sometimes. For example, when choosing which track to go, science or arts, even though they were saying it's up to me, I could tell they had a preference for science. Because both of them are engineers, and they thought it was a safe play. I was okay with both tracks. Since my parents wanted me to do science, the science track it was. (Wendy-IV)

I had a very clear interest in Computer Science ever since elementary school. I never thought about other options for my future. My parents once tried to persuade me to study medicine, as they thought Computer Science was probably too hard. In fact, I have never felt that Computer Science to be hard. Because I was quite determined, my parents let me make the decision. (Suzanne-IV)

Thirdly, besides academic interests and choices, family also has an impact on students' learning dispositions. Zoe was quite perseverant. When facing difficulties, she seldom became discouraged; instead, she kept trying. She told me this was probably formed because of her parents' encouragements from early age.

When I was young, my parents never blamed me when I did something wrong. They always encouraged me. When my school started to have computers, my father told me go ahead and play with them. My father was in IT business. I was afraid of breaking the computers. He encouraged me. In the case it got broken, he told me, he would pay for the damage. Of course, I realized when I grew up that they shouldn't be responsible for what I did. However, my habit [of persistently trying] was taking its shape back then. (Zoe-IV)

My mom often told me to work hard. When I did something well, she encouraged me. She would also tell others, for example, my grandma: "he did very well this time, because he really studied hard and spent a lot of time on it." She praised me in person, and also praised me behind my back. This made me believe that studying hard for your goal is really a great thing I should do from my early age. Gradually it became my learning habit. (Freddy-IV)

Some parents were not as encouraging as Zoe's father and Freddy's mother, while guiding young children. They were strict and corrective, like Zach's father. However, they still influenced the formation of some learning habits of their children.

If I am interested in something, I always want to understand it thoroughly, (hesitation) maybe because of some family influence. I still remember an incident in my early age. I didn't want to learn something, and I just said "okay, I understand it already." My father gave me a harsh scolding. This made me not pretend in the future. (Zach-IV)

As shown above, family, especially parents, had a great impact on children's learning. They placed high expectations on their children. They were deeply involved in their children's learning, from extracurricular activities to academic choices. They provided guidance and support in their children's learning journey, through encouragement or discipline. None of the student participants needed to pay for their study at ZJU and SFU. Their parents provided financial support. The family bond is obviously very close; therefore it is quite natural that student participants' academic interests, choices as well as the learning dispositions were very much influenced by their families.

Responsible behaviours

Though parents participated a lot in the student participants' learning, their involvement usually decreased as their children grew up. Neal described:

My parents were very strict to me when I was in elementary school. I was sent by them to a lot of after-school classes. My dad was very strict. If I didn't do well in math, he would beat me. But after elementary school, I stopped having those extra classes. They didn't pay as much attention to my study as before. I think what they thought was that elementary kids were playful by nature, so they had to be strict. But after I got into junior high, they knew the school managed the students very strictly. Thus, they didn't need to worry too much. After I got into senior high and I did well in study, they had no reason to worry about me. After I got into university, as they didn't know about my major, they didn't interfere in my study at all. (Neal-IV)

Nevertheless, the sense of being responsible didn't decrease like the parental involvement; instead, it grew from being responsible for family to being responsible for oneself through learning.

Student participants shared a sense of obligation and gratitude toward parents. They appreciated what their family did for them and learning well was a way to express gratitude. Mike put the home-made delicious food as a motivating factor for him to study hard during his elementary and secondary school years in his autographic description. He told me during the interview that he felt so lucky and superior that his grandma and

mother prepared lunch for him then, so he didn't need to eat in dining hall. He didn't want to spoil his family's support for his learning. After coming to SFU, Mike set even higher standards for himself in learning because:

It costs a lot money to study abroad. My parents paid for my tuition. I feel that I have the responsibility to study hard. If I don't, I would feel guilty. (Mike-IV)

Quite a number of the student participants shared the same feeling as Mike when they appreciated the support from their families. On the other hand, they sometimes also had "oppositions" from their families, and they chose to be obedient. Kay said she was quite rebellious at home. She resisted following her parents' advice when she disagreed with them. But in the end, she usually chose to listen to her parents because of three reasons:

First, when you were young, you didn't have the capital [resources] to resist your parents. If you wanted to continue your hobby, without parental support, it was technically impossible. Second, I didn't want to upset them. I cared about their feelings. I didn't want to disappoint them. Third, I respect my parents from the bottom of my heart. They have several decades more experience than I did, so they know a lot more than me. When facing something where I cannot make a judgement, I should trust people who are more experienced. I just told myself to follow their judgement as they were more knowledgeable and experienced. (Kay-IV)

Students, like Kay, trusted their parents. They followed parents' expectations to study hard and excel in learning. Sometimes, the family's expectation became the young child's own wish.

They [my parents] expect me to study well, and it's my own expectation for myself as well. As long as I put in time and effort, I always got the good result. That's my learning experience from an early age. (Randy-AB)

Maybe because I have my aunt as my role model, I tend to set goals for my study. Trying to achieve the goals makes me treat study seriously...Once I choose to take a course, I want to do it well, because I feel it is my responsibility to do it well. In some cases, there is optional work that can be done now or later. When making such choices, I always think that I shall be responsible. It is my responsibility to learn well, therefore I usually choose to get the work done right away. (Echo-IV)

Being responsible to study well gradually became not only to fulfill parents' expectations, but also, and even more importantly, to be appreciated for one's own

future. Suzanne was proud of making her own decisions and being responsible for them during her senior high school years.

There is no right or wrong in the future. The important thing is to make a choice now. I am willing to be responsible for every choice I made. I want to be responsible for my future. I am proud to be responsible. (Suzanne-IV)

Most student participants started considering their future after getting into Zhejiang University, and especially after coming to Simon Fraser University. Neal admired his peers who had a well-developed plan for the future when he entered university. He felt anxious when he was uncertain about his own future. Even though, at the time of the interview he was still not sure about whether he wanted to continue pursuing graduate study or to enter industry, he was quite determined that he needed to set a high goal, stay focused, and study hard towards the goal. Kay became aware that she needed to rely on herself after coming abroad.

After I came here, I had my first-time experience of living by myself and felt I should be responsible for myself. Students should study. So as a student, studying well is a way to be responsible for yourself. So, I tell myself sensibly that it is my responsibility to study well. To study hard is no longer purely to excel over others.

(...)

This is another big change since I came abroad. I am alone here. I do not have any other resource to support me. You are totally self-supported. Looking back, I had quite a few opportunities because of my parents' support. It won't happen here. I have to rely on myself. Therefore, you need to think about your own future. (Kay-IV)

Being responsible for learning for one's own future, for meeting family's expectations, or for fulfilling obligations, demonstrates students' learning disposition of responsibility. Learning is not an individual matter. It is a journey that parents and children walk through together for many years. Responsibility inspires student participants to study hard for their family and themselves.

5.1.7. A summary on learning dispositions

What are the learning dispositions that student participants ascribe to their good academic performance? There are six dispositions found in the research. They are: Enterprise, Resolve, Perseverance, Concentration, Humility and Responsibility. In the

above sections I discussed each of these six dispositions from both the belief and behavior aspects, which can be converged in the following (Table 5.1):

Table 5.1. Learning Dispositions found in This Study

Learning dispositions/virtues	Belief	Behaviors
Enterprise (<i>jin-qu-xin</i> , 进取心)	Never-ending pursuit of progress	Purposeful and industrious learning behaviors for progress
Resolve (<i>jue-xin</i> , 决心)	Effort	Diligence
Perseverance (<i>heng-xin</i> , 恒心)	Continuous effort	Endurance of hardship
Concentration (<i>zhuan-xin</i> , 专心)	Full engagement in learning	Self-discipline
Humility (<i>xu-xin</i> , 虚心)	Self is inadequate, and others deserve respect and worth learning from	Respectful to others Humble self
Responsibility (<i>ze-ren-xin</i> 责任心)	Family responsibility	Live up to family's expectation Responsible for own future

These dispositions are the different aspects of a general tendency toward learning. They form the way the student participants learn and achieve academic excellence. These aspects are closely related, though I discussed them separately above just for clarity and convenience. The following figure (Figure 5.1) illustrates how these dispositions work together in students' learning:

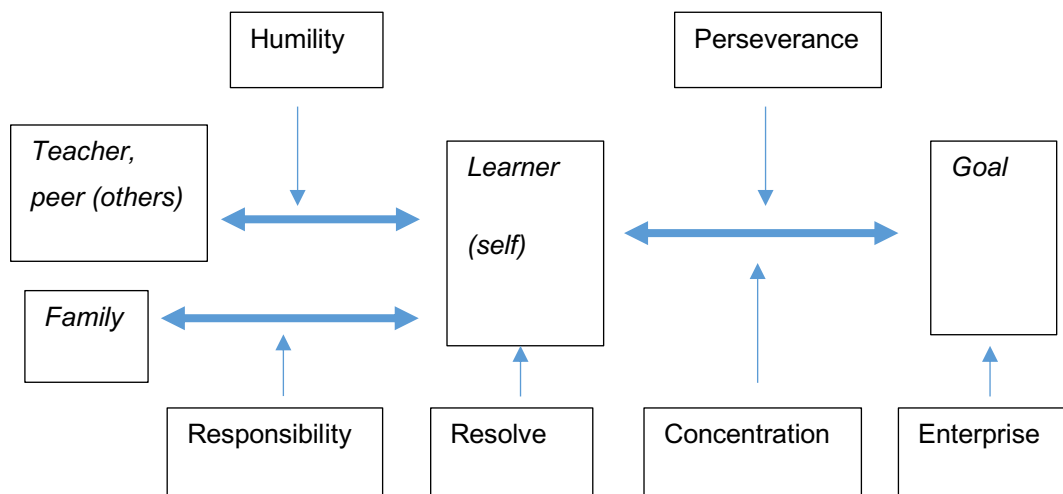


Figure 5.1. Dispositions in learning

Students with Enterprise set high standards or ambitious objectives as their learning goals to achieve. Resolve provides them with determination to pursue the goals through diligence. When they achieve success, higher goals are set. During the process of learning, Concentration assures full engagement in the learning tasks, while Perseverance helps to endure the hardships arising from the learning. Effort is a shared concept in this process, although each disposition emphasizes a different aspect of it. Enterprise is about goal setting. Resolve establishes learner's will to put effort towards the goal. Perseverance assures that the effort is consistent and continuous, while Concentration guards the effort from distraction, interruption and temptation.

Teachers, peers and family all have impact on learning through their interactions with the students. With Humility, they are ready to learn from teacher and peer. With Responsibility, learning well is meaningful since it fulfills family's expectation and connects to the future.

5.2. Changes in dispositions

According to the findings to the research question one, while studying at SFU, the student participants coped with the differences in educational practices between the two institutions. To cope with the different curricula, the student participants treated each assignment more seriously, took more initiative to self-study and paid more attention to practical skills (Section 4.2.1). Besides adjusting their learning attitude and methods to continue performing well academically, they also needed to face the challenges of living away from their home country. Many of them experienced loneliness because of differences in living environments, lifestyles as well as the cultural values between China and Canada (section 4.2.2). Some students engaged in their local communities while others also gradually got used to living in Canada. Therefore, the student participants' learning experiences at SFU and living experiences in Canada did result in some changes in their ways of learning and living.

Research question 3 is not concerned, however, with the changes of the student participants' coping behaviors, rather, it aims to investigate whether their educational experiences at a Canadian university result in any changes to their learning dispositions. In other words, are there any changes in their general tendencies toward learning, including changes in beliefs about learning and the associated changes in their learning

behaviors? According to the participants' autobiographical descriptions and interviews, the Canadian education experience did not result in any major changes in the students' learning dispositions. Wendy and Kay reported:

I did not change a lot in terms of how I study. I've formed my way of learning. (Wendy-IV)

I would say that I haven't changed [in my learning dispositions] in general. It takes a long time to form personality. It is impossible to make big changes in a short period of time. (Kay-IV)

Though there are no big changes, some alterations were found in the disposition of humility and concentration. I will report the findings on these two dispositional changes in the following sections.

5.2.1. Changes in Humility 虚心

With the disposition of humility, the student participants believed that self is inadequate while others deserve respect and are worth learning from (section 5.1.5). So, they humble themselves to learn from others, especially their teachers. When in China, they perceived their teachers as learning authorities and followed their teachers step-by-step in learning (section 4.1.1). They were receivers of instruction and followers of their teachers. The classroom interaction was often limited to answering teachers' questions. After coming to Canada and studying at Simon Fraser University for some time, the "power distance" (Hofstede, 2001) between teacher and student is shortened in the student participants' perception and/or action. In other words, in their perception, teachers were still regarded as authorities, but more approachable. In action, students did not always just receive and follow, instead, they participated, asking questions and joining discussions. The helpful faculty and the friendly environment at SFU were the keys to such a change in the disposition of humility.

Zoe and Frank, who respected but at the same time kept a distance from their teachers back in China developed friendship with their professors at SFU.

From a very early age, I knew it is good to keep a distance from your teachers. I feel that teachers wanted respect. So I usually don't have a lot of interaction with my teachers, unless I have some questions to ask. But after I went to university, especially when I came to SFU, I got into a lab and found that it is probably better to communicate with your teachers as your friends. You can chat with your teachers about the

books you recently read and he/she will recommend some papers. This seems to be a better student-teacher relationship. But I didn't realize it until a bit more than one year ago. (Zoe-IV)

The most impressive thing (for me) at SFU was that I became friends with a couple of my professors. (Frank-IV)

Other students did not develop a friendship with their teachers, however they perceived teachers as more approachable.

When I first came here, I didn't ask questions very often. I didn't go to my prof's office hour often. But now I often go to their office hours or the Q & A sessions. (Randy-IV)

Most student participants praised SFU's faculty members for their passion in teaching and caring for students. Frank gave quite a lot of comments in this regard:

In Chinese universities, professors don't care much about students, unlike the teachers in the elementary and secondary schools in China. They have other things to do. Lots of teachers have a cold look of "I don't care [about you]." But the teachers here who seem like they "don't care" are mostly like that because of their personalities. If you have questions for them, no matter how strong of a personality they have, they will answer your questions very patiently. Nobody will refuse your question by saying "sorry, I have to run to some place." (Frank-IV)

The positive experience with SFU faculty fostered a more equal and less distant teacher-student relationship. Students tended to have more interaction with teachers, such as asking questions in person or through email, and discussing related academic topics during office hours. Furthermore, students also participated more in class.

I think people here are quite tolerant when you are behind other's pace or when you keep asking silly questions. In China, nobody blames you in person, but in their heart, they aren't happy that you wasted their time. The professors in China will ask you to come to them after class for questions. The professors here will explain the question to you in class immediately. (Freddy-IV)

In summary, the learning experiences at SFU altered the student participants' perception of the authoritative role of teachers in learning to some degree. Freddy described his changed view about the interviewers for Co-op opportunities (section 4.2.2). He no longer thought that he was "lower than" the interviewers, instead, they were potential colleagues for each other. Student-teacher relationship was like this. A more equal teacher-student relationship led the student participants to communicate and

interact more with their teachers. Students are still respectful to their teachers, but on a more equal standing. This is the change in the disposition of humility.

5.2.2. Changes in Concentration 专心

With the disposition of concentration, the student participants believed in full engagement in learning, which included a “contented heart” (安心), seeking a pure motivation toward learning, and a “calm heart” (静心), minimizing distractions from the external environment (section 5.1.4). After coming to Canada and studying at Simon Fraser University for some time, though concentration was still an important learning disposition, there were two changes that took place: 1) practical skills and competencies became a stronger learning motivation; and 2) the importance of non-academic activities and skills was more recognized. The curriculum at SFU, the Co-op experiences in Canada, as well as the encounters with non-Chinese students and colleagues were the keys for these two changes to the disposition of concentration.

Shifting focus from theory to practical skills

As described in section 5.1.4, grades were the main learning motivation for the student participants during their schooling in China, because grades meant admission to a dream school/university, and recognitions from teachers, peers, and parents. After entering university, students had more freedom to pursue their academic interests. Nevertheless, the main change in motivation was regarding practical skills and competencies. Frank said:

In China, the focus is to acquire knowledge. Knowledge is directly linked to your grades. I pay more attention to transform knowledge into competence when I came here (SFU), though competence is not necessarily linked to your grades. That’s probably the main difference. (Frank-IV)

Such a change took place gradually after the students landed in Canada. Most of the DDP Chinese students planned to pursue graduate study when they came to Canada, according to my conversation with the DDP program coordinator who worked closely with the students for more than ten years. This echoes with the traditional Chinese value in which learning, especially academic learning is regarded to have a

higher importance than any other activities. The learning objective and focus in Chinese universities is usually to acquire theoretical knowledge. When the student participants arrived at SFU, they discovered that the courses were more practical and concrete, less theoretical and abstract (section 4.2.1). Student participants developed strategies to cope with this difference in curricula. Some of them tended to pay more attention to improve practical programming skills, others still preferred to seek excellence in academic courses. Mike gave a vivid description of these two types of students:

In computing science major, we have two types of genius: "Xue Ba" and "Da Shen". "Xue Ba" must have an outstanding GPA. They are interested in and spend a lot of time on academic research. They usually don't care much about things other than study, like clubs. They are not passionate about participating in non-academic activities. "Xue Ba" are the people who always excel and get the highest marks in exams. But they may not be very capable for hands-on tasks. They do a lot of textbook exercises, retaining the high school way of study. "Da Shen" must have a lot of practical techniques. They usually have some specialty in certain fields, for example, being proficient with one programming language like C++, or with web developing, etc. They are very interested in exploring their particular field and focus on it. Their mark might not be very high, but they do know a lot of stuff. (Mike-IV)

After doing Co-operative Education (Co-op) program with tech companies in Canada and the United States, students gained understanding of the industry and quite a lot of them altered their learning goals:

One of my biggest change after coming to SFU is that I probably won't go to graduate school after graduation. I think the place that I can learn better is in the industry, in companies. I would like to work in the industry, not academics. (Freddy-IV)

I still define "good academic performance" as high GPA. However, I also look at the practical skills. If someone is really strong in some practical field, I no longer pay too much attention to his/her GPA. If my overall competence has improved, I'm happy. (Zach-IV)

The competency-emphasizing curriculum at SFU and the Co-op experience altered some students' original beliefs in which the academic learning is regarded to have a higher importance than any other activities. These students shifted their learning focus from academic theory to hands-on skills. To improve practical skills and competencies became a stronger purpose to learn.

Recognizing the importance of non-academic skills and activities

A strong and almost exclusive commitment to learning is valued in traditional Chinese learning culture. Therefore a “calm heart” (静心) is needed to prevent distractions. To the student participants, study, meaning schoolwork, was the most important thing they should do and could do. They eliminated non-academic involvements in life in order to concentrate in their school study when needed (section 5.1.4).

After coming to study at SFU, some of the student participants observed the difference between their Canadian peers and themselves, which made them reflect, as Kay did:

These two groups of students endeavour to do different things. It shows that their ways of learning are different. Chinese students don't know what to do other than studying. In the twelve years before Gao Kao, Chinese students are told to study only, but nobody told them what the purposes are for studying. [We were told,] we should and need to study. A lot of fun activities were removed from our lives. Chinese students get lost when they come abroad. There are so many options, what shall I choose? (Kay-IV)

Neal had the similar thoughts when looking back.

If I didn't experience such an intensive training in junior high, I could not get into the best senior high in my city. Duck feeding education, from my understanding, is endless practice and exams. It uses a vast number of repeating exercises to train you for the exam. I think it benefits me somehow as I got a high mark and got into a great school. However, the negative part is I didn't have any opportunity to experience something other than schoolwork, since we spent too much time on the repeating exercises. When I look back now, especially after I came to Canada and found that the locals had much more colorful experiences in high schools, I think, if I could have some chance to expand my experiences at that time, it might help me more in the long term. (Neal-IV)

Some students gradually recognized that learning is beyond school study. Both Wendy and Kay used “a broad sense of learning” to include non-academic knowledge and skills in the term “learning”.

If the learning is learning about different things in a broad sense, I always like learning. If it only refers to the knowledge related to my major, I have some preference. (Wendy-IV)

A broad sense of learning includes all the extracurricular activities, social activities and activities associated with your hobbies. To a certain extent, they are more important than course work. I considered schoolwork as the most important thing back then [in China]. Learning [course work] and other activities seemed to be two very different entities. Now as I grow up, I realize that the [non-academic] activities are also an important part of learning. (Kay-IV)

The broadened view about learning had some impact on the students' learning behaviours. They continued studying hard, meanwhile consciously keeping some time for leisure. Freddy used to cancel his cycling and travelling to squeeze more time for learning. At the time of the interview, he said:

I go to swim every day from 9 to 10 pm. Now I won't cancel it and spend the time on course work. GPA is important, however it isn't so important that you have to give up everything for it. (Freddy-IV)

Freddy now applies his perseverance learning disposition to swimming. Echo, after her Co-op, tried to separate work and leisure in her life so she can have time to relax.

In the old days, I didn't set a specific time for study and I didn't have a certain time for entertainment either. I was dragged by my schedule and didn't balance my study and leisure life. Now I would like to do my work during my peak hours and do it efficiently. I think it is necessary. (Echo-IV)

Encountering people who learn and work differently affected some student participants. They broadened their view of learning. They recognized the importance of non-academic activities and skills. Instead of full concentration on school study only, they chose to balance study and life.

In summary, there are no big changes reported by the student participants in their learning dispositions. Nevertheless, the experience of learning at SFU did result in some alterations in the disposition of humility and concentration. The helpful faculty and the friendly environment at SFU altered some student participants' views of student-teacher relations and interactions. Teachers were still regarded as authorities, but more approachable ones. Students did not always just receive and follow instructions during learning, instead, they participated more actively, asking questions and joining discussion in class. As for the disposition of concentration, the curriculum at SFU, the Co-op experiences in Canada and USA, as well as the encounters with non-Chinese students and colleagues influenced some students to shift their learning focus to

practical skills and competencies and attach more importance to non-academic activities and skills than before.

5.3. Exhaustive description

In this study, the Chinese DDP students performed well academically throughout their elementary, secondary and post-secondary education, in China and Canada. Their learning dispositions drive them to study earnestly, strategically and proactively while facing competition and coping with challenges in order to achieve academic excellence. To be specific, with the dispositions of Enterprise and Resolve, they set high standards or ambitious objectives as their learning goals, and pursue the goals through diligence. During the process of learning, the disposition of Concentration assures full engagement in learning tasks, while Perseverance helps to endure the hardships arising from the learning. Teachers, peers and family all have impact on their learning. With the disposition of Humility, the learners humble themselves to be ready to learn from their teachers and peers. With the disposition of Responsibility, learning well is meaningful, as it fulfills their family's expectation and connects to their own future.

The Chinese DDP students in this study formed their learning dispositions during their study in China. Their Canadian education experience did not result in big changes to their overall learning beliefs and behaviors, but only some alterations in the dispositions of Humility and Concentration. A more equal teacher-student relation was appreciated. Concentrated focus on academic theory was expanded to improving practical skills and competencies, and including non-academic activities in life.

Chapter 6.

Discussion & conclusion

The purpose of this study is to find out how and why Chinese students perform well academically in the increasingly internationalized Western higher education contexts by taking into account the perspectives of the students themselves. The findings in Chapter 4 have illustrated key aspects of the student participants' lived experiences of achieving success in learning as they have moved from China to Canada. The findings in Chapter 5 further revealed the six learning dispositions that drive the student participants to study earnestly, strategically and proactively towards academic excellence. These findings provoked me to ponder how the moral perspective of learning can help us better understand Chinese students and their learning, shed light on the missing piece of the current learning theories, and provide insights to the stakeholders in international education. In doing so, this qualitative, phenomenological study can fulfill its aim of finding out how and why learning is meaningful for the participants, the researcher, and the wider society (Creswell, 2013).

Specifically, in this chapter, I will elaborate upon the synergy of the learning dispositions, which accounts for the student participants' strong will and high resilience in learning. I will then reflect on how the moral perspective of learning can complement our understanding of learning by turning our focus from external conditions to internal mindset, and from brain to heart. A great number of issues and themes emerged as part of the research questions or as a by-product of the research data. Some of these issues imply application, so I provide accordingly recommendations for potential and current Chinese students at Western universities, as well as to the Western host universities. Other themes point out directions for future research, which I will elaborate upon at the end of this chapter.

6.1. The synergy of the learning dispositions

Six learning dispositions were found from the data of the student participants regarding what they ascribe to their good academic performance. They are: Enterprise; Resolve; Perseverance; Concentration; Humility; and Responsibility. Each of them

includes both the belief and behavioral aspects. These learning dispositions work together in students' learning, from goal setting, persevering in working hard, to interaction with teachers, peers and parents. The synergy of the learning dispositions is especially influential in two areas: 1) providing strong and multi-dimensional wills for learning, and 2) offering high resiliency when facing challenges in learning. I will elaborate upon these two areas in the following sections.

6.1.1. Strong and multi-dimensional wills for learning

To find out how and why a given phenomenon is meaningful for the participants, I asked the student participants "What did your good academic performance mean to you?" as a guiding question for the autobiographical description (focusing on their learning in China), and also during the face-to-face interviews (focusing on their learning in Canada). Their written and oral replies to this question illustrated a variety of meanings that student participants associated with academic excellence. These meanings, in the meantime, reflected their strong and multi-dimensional wills to learn, which originated from the synergy of the different learning dispositions.

First of all, good academic performance means self-improvement. Student participants associated their academic achievements with a good university, a bright future, useful skills for career and access to more possibilities for future development. According to Li's Model of Chinese Learning (2010) (Figure 2.2) reviewed in section 2.3.2, the purposes include: (1) to perfect oneself morally/socially, (2) acquire knowledge/skills for oneself, (3) establish oneself economically, (4) achieve social status/honor, and (5) contribute to society (p. 49). My findings in this study echo Li's findings, especially in regard to numbers (2), (3) and (4) purposes. Frank was the only one who said that he wanted to contribute to the society through his research. Individual intellectual, social and economic growth is emphasized in the "self-improvement" as a strong will for learning.

The Confucian doctrine about learning emphasizes that learning is for self-perfection as well as for public good, as reviewed in section 2.3.1. Its influence in the modern Chinese society can be seen in the societal recognition that education is of exclusively high importance over any other activities for the younger generation. As Wendy said, "I never thought about what study was when I was young. I thought it was

just what I should do, and I just did it.” Further, the Confucian conception of learning has also shaped a common belief that learning is the only way to achieve personal growth, gain economic social status and realize upward social mobility. Therefore, seeking for intrinsic personal growth and extrinsic rewards become co-existing driving forces for Chinese students.

Secondly, good academic performance means effort. To the student participants, good academic performance means “(past) effort is worthwhile” and “more effort” is needed in the future. They closely linked their learning results and actions together. It is the diligent action that led to the good result, and the good result ought to be a starting point for the future industrious endeavours, because an achieved academic success should not bring complacency, but a stronger will to reach for higher learning goals. This dimension of willingness to learn indeed reflects the role of effort in the Confucian learning tradition (section 2.3.1). Three learning dispositions are working together here. Enterprise infuses a strong desire for a never-ending pursuit of progress. Resolve provides diligence to seek the progress. And Perseverance assures that the effort is consistent and continuous.

A couple of student participants attributed good academic performance to “normal IQ” or “some talent.” This again shows that the student participants wanted to associate learning results with effort, instead of intelligence, as described in detail in the section 5.1.2. They believed that effort is the cause and achievement is the effect, and this belief inspires an emotive driving force for students to study harder and harder, even when facing challenges.

It is also worth noting that fulfilling academic interest and/or learning passion is one of the motivations for learning found in this study (section 5.1.2 and section 5.1.4), however none of the student participants said good academic performance meant a specific interest or a general passion for learning. Why? Because passion for learning is part of the concept of diligence (section 5.1.2). A strong interest in a specific subject propels students to study hard. They set higher goals, put extra effort and overcome challenges for what they are passionate about. It is through effort that the satisfactory learning result is achieved. Without the effort, passion does not necessarily lead to success. This passion -> effort -> academic achievement notion again emphasizes effort as the decisive reason for academic achievement. This echoes the concept of grit

advocated by Angela Duckworth (2016):“It was the combination of passion and perseverance that made high achievers special. In a word, they had grit” (p.8).

Lastly, good academic performance means happiness. This happiness may come from an enjoyment of self-discovery or a sense of self-assurance, yet student participants emphasized more that the emotional satisfaction of the good learning results was because they were appreciated by their teachers and respected by peers. Also, their parents were happy and proud of them. This echoes the findings in section 5.1.4, that seeking commendation and fulfilling family expectation were important motivations for learning. To ponder deeper, if the students didn’t care about their teachers and peers, or if they didn’t consider learning as a family responsibility, academic achievement would not bring such happiness, which then would not be a driving force for learning. So, this dimension of willingness to learn originated from the other two learning virtues: Humility and Responsibility. Humility makes student participants humble themselves in learning. They tend to see the better-than-self aspects in peers. They deeply trust and respect teachers. Therefore, they do care, and care a lot about their peers and teachers in the learning process. Seeking recognition from peers and commendations from teachers become strong motivators. Meanwhile, Responsibility adds a strong sense of duty towards learning. Learning is not just an individual matter. Responsibility inspires student participants to study hard to fulfill family obligations, meet parents’ expectations, and prepare for their own futures. Learning is a way to express gratitude toward their families who love, care and support them whole-heartedly. As a result, responsibility brings a strong will for learning.

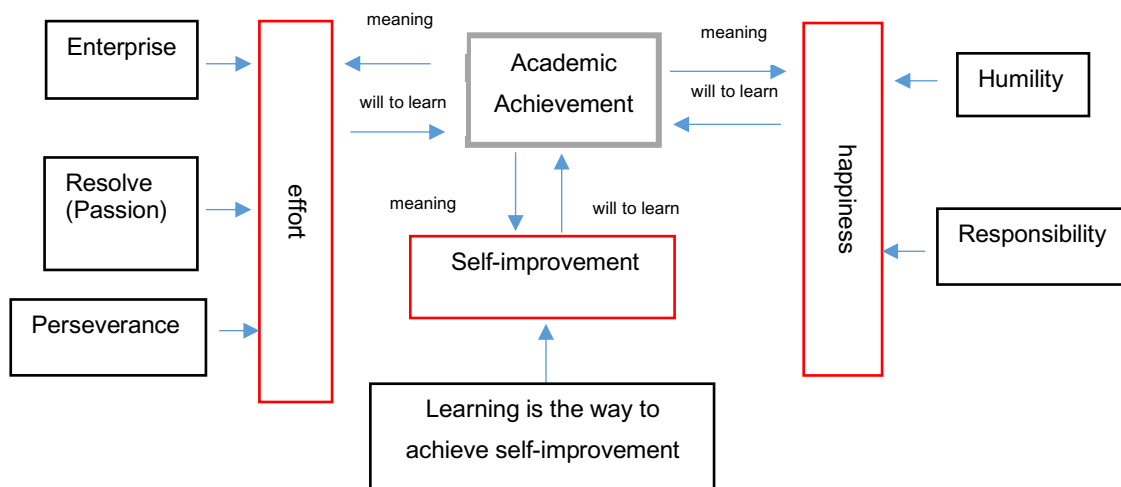


Figure 6.1. Multi-dimensional Wills for Learning

In sum, good academic performance is meaningful to the student participants. The synergy of Enterprise, Resolve, Perseverance, Humility and Responsibility form strong and multi-dimensional wills for learning: they learn for intellectual, economic and social growth, learn for recognition by peers and teachers, learn for family, learn for passion, and learn for further improvement with more effort. The above figure (Figure 6.1) illustrates the discussion in this section:

6.1.2. High resiliencies to challenges

The student participants excelled academically through their elementary, secondary and university education in China and then in Canada. As is evident in the findings in Chapter 4, they have encountered many challenges along their learning journeys. Competition for a spot in an elite school and a prestigious university started as early as elementary school, and then got more and more severe during secondary school. Pressures of high-stake examinations lasted throughout the secondary school years. Repetitive exercises and endless examinations were their school day routines. The learning content got harder and harder, besides the challenging Olympiad Contests. After coming to Canada, they faced the challenges arising from the differences in learning cultures between China and Canada, including curricula, teaching, peer relations, and language barriers. In short, challenges were never absent in each stage of their learning. They made the student participants' experience stress, exhaustion, failure, confusion and loneliness. How did the student participants perceive these challenges? According to their writing about the challenges in the autobiographical descriptions, and during our discussion of failure in the interviews, most student participants reported that the challenges had positive impacts on their learning. Some said they were more motivated to learn because they wanted to overcome the difficulties, and others told me that the pressures could promote learning efficiency. Two student participants said that too much pressure could make them anxious and affect learning performance, and the other nine student participants thought set-backs were inevitable and could be beneficial experiences for the future. As Wendy said: "I think this was a great experience to have. This kind of failure can make a difference in your life. The sooner you have it, the better it is for you."

Obviously, the student participants were not defeated by the challenges, on the contrary, they demonstrated remarkable resiliencies to the challenges. They grew up,

becoming earnest learners, strategic learners and proactive learners in responding to the trials. So, why and how can the student participants withstand the difficulties? Why and how can they persist in the toils? The synergy of the learning dispositions can shed light on these questions.

First, Humility and Enterprise prepare a positive attitude toward challenges. Humility acknowledges self-inadequacy. There is always room for self-improvement. Therefore, challenges are anticipated during learning, as no one is capable enough to deal with learning without difficulties. So the student participants were not caught unprepared or overwhelmed when challenges appeared. Enterprise creates a continuing desire to be the best. Learning is a never-ending pursuit of progress. Hence, seeking progress should not end even if there are obstacles ahead. So the student participants tended not to give up easily in their learning journeys. It is also worth noting that Enterprise implies an avoidance of complacency, but it is a positive state of mind, because it is “not looking backward with dissatisfaction. It’s looking forward and wanting to grow” (Duckworth, 2016, p.118). It encourages learners not to stop pursuing further progress, and it doesn’t stop them from enjoying the “interim” success. Freddy “walked out on a cloud of happiness” when achieving a good ranking, and at the same time, persisted to battle against the ranking result that was not up to the standard he set for himself (section 4.1.2).

Second, Resolve and Perseverance produce consistently diligent actions to tackle the challenges. With Resolve, student participants strongly believe that effort is the ultimate way to achieve academic goals. This belief is extremely important when facing difficulties. Believing in natural talent and/or born intelligence for academic performance would probably lead to more easily giving-up because the learner has no control over his or her own gifts. In contrast, effort is determinable. One can decide how hard he or she would like to work on a problem. Usually, after some time and energy were spent, satisfactory results could be achieved. Thus, a stronger belief in effort was formed, and more time and energy would be invested in the next problem. It became a positive circle of experience. That is why quite a lot of student participants firmly believe that insofar as they put in enough effort, they can overcome all the challenges. Sometimes, in the case that a satisfactory result was not achieved with diligence, for example, a comparative result such as a better ranking, believing in effort also make the learner accept such a result easier because it would not lead to a negative feeling or

doubts about their competency to learn. As Freddy said, “sometimes I didn’t achieve my goal, but I felt okay because I had tried my best.” Undesirable results or setbacks would not easily dent the confidence based on effort, instead of intelligence. The student participants, therefore, tend to embrace the next challenge with diligence again until hitting the limits of their personal capacity.

If Resolve provides the intensity of diligence, Perseverance extends the length of effort. Perseverance encourages continuous effort till reaching the desired goal. Student participants consolidated their knowledge and honed their skills through the daily grind. They endured hardships arising from learning and sought solutions to their difficulties. In sum, with both Resolve and Perseverance, the student participants tend to embrace the challenges with long-lasting diligence and do not quit in the middle.

Lastly, challenges could be from external conditions as well as internal state of mind. More often, the external conditions cause troubles internally. Diligence may solve many problems from external conditions. It is the Concentration that guards students from the negative state of mind. For example, the student participants were facing anxiety, an internal trouble caused by the enormous and long-lasting stresses of competitions, high-stake examinations and also high expectations from family and themselves. Quite a number of students reported their failure caused by anxiety (section 4.2.1). They were anxious about grades, afraid of losing face in front of peers, and fearful of falling short of the expectations of teachers and/or parents. Concentration is the way that they adjusted their mood and overcame the challenge.

For Confucius, learning is seeking to be a virtuous sage. Therefore, learning is an end in itself, a way of life (Ames & Rosemont Jr. 1999, p. 66). Learning for the sake of the self is the authentic purpose of education in the Confucian tradition (Tu, 1985). The student participants experienced a trajectory of the change of learning purposes, from grades and commendations, to academic interest, and mastering knowledge, skill and competency (section 5.1.4). Though they no longer aim to be a sage, although they still emphasize the importance of concentrating on “true learning.” In other words, learning shall for the sake of learning. Any other motivations, such as learning for grades or commendations are perceived as utilitarian or for vanity. Suzanne said:

I want to keep a good mentality, i.e. no matter if it is an exam or an assignment that will be evaluated by marks, I would not be overly

concerned about its evaluation, rather, I would focus on truly learning something. (Suzanne-IV)

A “contented heart” (安心) (section 5.1.4) can help resist the temptations of learning for utility, vanity and pride. Thus, it can, to some degree, ease the anxiety and let the learner concentrate on learning itself, instead of the benefits brought by the good learning result. It is very much like the athletes in the Olympic Games. When they are equally strong, usually those who stay focused can perform well consistently. Concentration purifies learner’s motive and mental state for learning. In this way, the student participants are well equipped for the internal challenges. In sum, the synergy of the Humility, Enterprise, Resolve, Perseverance and Concentration form remarkable resiliencies to the challenges in learning.

The study of learning dispositions helps us understand how and why the student participants have such strong and multi-dimensional wills to learn and how they withstand the challenges with high resiliency. The study of the learning dispositions can also help us find the missing piece of our understanding of learning by exploring it with a moral perspective.

6.2. The moral perspective of learning

There is a vast literature about learning as knowledge construction and competency development, as reviewed in Chapter 2. Besides, a lot of studies also focus on the learning environment that could affect learning process and result, such as family, school, social economic condition, and so on (Griffin, 2008; Harden, Turkheimer & Loehlin, 2007; Mathews, 2010). Dwelling on learning capacity, or focusing on external conditions, however, do not seem to lead us to a thorough understanding of whether learners are ready to learn and how they can achieve learning. Further, these studies have a strong reliance on the Western concepts of learning, such as mind, intelligence, learning skills, strategies and approaches. Therefore, when investigating Chinese learners, they often concluded in incomplete, or sometimes wholly distorted views, as the indigenous or emic cultural meaning was missing. This study sought to theorize dispositions for effective learning. It is an attempt to go beyond the cognitivist rendition of teaching and learning, or in other words, to turn our research focus from head to heart, from outside to inside. The contributions of the study to the current learning theories

brings meaning to me, as a researcher. This is why and how I find the study of the phenomenon meaningful. In particular, the contributions of the study are twofold: 1) revealing the moral perspective of learning for Chinese learners and their learning, and 2) discovering the sixth disposition, Responsibility, which was neglected in the literature totally. I will elaborate upon them one by one.

6.2.1. The hearts for Chinese learning

The six learning virtues – Enterprise, Resolve, Perseverance, Concentration, Humility and Responsibility – all have the character of “heart” (心) in their original Chinese names. Literally, they are: a heart for progression and achievement, a heart for determination, a constant heart, a dedicated and focused heart, a heart of emptiness and a heart for obligation. The Chinese word 心, means the organ heart 心脏, the center 中心, as well as mind and affection (Modern Chinese-English Dictionary, 1988, Foreign Language Teaching and Research Press, p.984). For example 细心 and 粗心 mean careful and careless mind while 伤心 and 开心 mean sad and happy emotionally. It also refers to morality, for example the six learning virtues discussed in this study. The Chinese word “心” (heart) has a combined meaning of mind, affection and morality. There is no clear line separating these three aspects. These hearts in Chinese learning start from the moral aspect. The learning virtues make the learners disposed to learning. The mind aspect is activated to produce effective learning activities. The learning results bring in the emotional aspect as, for example, with happiness or shame. Among these three aspects, the moral aspect is of the most importance as it is the very original force to activating the mind and also shaping the emotions. For example, Humility and Responsibility let students feel the happiness brought by the recognitions of peers and teachers, and the fulfillments of family expectation through good academic performance (section 6.1.1).

The moral aspect of heart in the learning virtues is deeply rooted in the Confucian ideals of teaching and learning. As reviewed in section 2.3.1, the Confucian goal of education was to bring up virtuous leaders to establish a well-ordered society with a harmonious social life. Thus, the ideal learning is a path for pursuing moral

perfection. In other words, learning is striving to become the most virtuous person that one can possibly be. The learning dispositions of Humility, Enterprise, and Concentration are obviously direct fruits of this notion. Humility admits that the self is not perfect. Enterprise sets a heart for the never-ending pursuit of perfection. There's nothing more important than becoming a good moral being. Confucius himself upheld the importance of learning by being a lifelong active learner (Wong, 2013). Concentration is necessary to secure a focused heart or full engagement in learning. And the learning here is not limited by instrumental knowledge or as a means of achieving a livelihood, but more about moral excellence. To Confucians, "morals and knowledge are inseparable" (Sun, 2009, p. 359).

Second, morality isn't just the goal of learning, since the learning process itself is a process of virtue cultivation. "To the Confucians, the process of learning knowledge is the process of becoming moral" (Sun, 2009, p. 359). Learning provides students with character-building experiences. Confucius taught students from both noble and poor families. To him, everyone is educatable, in other words, everyone can become virtuous through learning with great and constant effort. Hence, the learning dispositions of Resolve and Perseverance are the virtues cultivated especially through the learning process. These two virtues emphasize effort, the continuous commitment to learning, even when experiencing all kinds of hardships. When students continuously seek academic perfection with diligence, they are at the same time pursuing ethical virtuosity.

Lastly, family is central in Confucian moral thought. It is where all moral teaching, learning and practising start. Filial piety (xiao, 孝), and Brotherly love (ti, 悌) are core values of Confucianism. This study found that Responsibility is a learning virtue of the Chinese student participants. This finding connected the Chinese learning and the Confucian family values together. It is an additional learning disposition beyond the Diagram of Learning Virtues I proposed in section 2.3.3 based on the reviewed literature, and I will elaborate upon Responsibility in the next section.

In conclusion, morality is the start, the development and the end for the Confucian understanding of person. It is "the ultimate and comprehensive concern" of Confucius (Tu, 1985, p. 52). Learning is a process of becoming oriented towards ultimate moral excellence. The student participants' lived experiences of excelling in learning from China to Canada, as described in Chapter 4, revealed their growth

trajectories as learners – earnest learner, strategic learner and proactive learner – which are the manifestations of their pursuit and attainment of the learning virtues. These moral qualities were cultivated, developed and supported in the Confucian learning culture and when they arrived in Canada they continued this way of learning. They were perceived as self-motivated, hardworking, willing to follow-through on tasks, focused and respectful, which are also admirable characters for effective learning in the Western conception of learning, but with different “labels” such as “performance characters”, “self-management skills” or “resume virtues” (Duckworth, 2016).

The Confucian moral perspective of learning is influential for the Chinese learners in terms of forming their learning beliefs, learning dispositions and behaviors. The student participants in this study did not ascribe their academic success to their mind and/or intelligence, but to the learning virtues. Therefore, the moral perspective of learning offers an option to study Chinese learners and their learning without relying on the existing Western concepts. Indeed, it can offer much more comprehensive understandings of how Chinese learners excel academically as it takes the emic culture into account. The moral perspective of learning also charts a new line of inquiry in the future to enrich our understanding about learning. I will discuss the potential future research in section 6.4

6.2.2. Responsibility

Based on the literature reviewed, I proposed a Diagram of Learning Virtues in section 2.3.3. It included five learning virtues, namely, Enterprise, Resolve, Perseverance, Concentration and Humility, which were later found in this study as the internal forces that dispose the student participants to learn earnestly, strategically and proactively. Responsibility is the additional learning disposition found in this study. The reason why the Responsibility was missing in the first place was because most research on learning either totally neglected the family impact on individual’s learning or regarded it as an external contextual factor for learning. According to these studies, family influence is about providing tools to develop self-regulation and planning at an early age (Vygotsky, 1978), about financial support or burden (Booker, 2012), about emotional support (Booker, 2012), and involvement in critical academic decisions, such as drop out (Bayles, 2012). Family is usually regarded as an external factor which has a positive or negative influence on an individual child’s learning.

My study finds, however, that family has an even stronger impact on student participants' learning through the learning disposition of Responsibility (section 5.1.6). The close parent-child relationship in Chinese families is a two-way bonding. Chinese parents are responsible for not only providing material needs and emotional support to their children, but also for guiding their children into their future lives. The Three Character Classic (one of the most influential introductory literacy texts for Chinese kids) has the verse: "To feed without teaching, is the father's fault" (子不教 · 父之过). The student participants in this study reported that their parents had high expectations as well as great impact on their learning. They influenced their children's academic interests, career choices as well as moral characters through inculcating perseverance and diligence, just to mention a couple of the dispositions. On the other hand, the student participants tend to appreciate, trust and obey their parents. Excelling in learning is a way of living up to family expectations and expressing gratitude toward parents. In other words, learning becomes a responsibility for the young family members. This Responsibility inspires student participants to be ready and willing to learn. So, what made the "external" influence become an "internal" disposition? In my opinion, a shared deep sense of obligation and gratitude toward family is the precondition for such a transformation. Then, where does this sense of obligation and gratitude come from?

The core value of Confucianism, Filial piety (xiao, 孝), or the virtue of being a dutiful and respectful son or daughter, can shed some light on this question. Family is central in Confucian ethical thought, because, according to the master, the moral training in the family is the basis for the general moral training of which an ideal society would emerge and people could live happily and harmoniously together. The famous Chinese proverb "Among the various forms of virtuous conduct, Filial piety (xiao, 孝) comes first" (百善孝为先) reflects how Filial piety (xiao, 孝) is emphasized tremendously in the Chinese society. The Chinese character for "teaching" or "religion" 教 (jiao) is derived from the character for Filial piety 孝 (xiao), by just adding to it a causative radical (meaning "making filial"). So, what is Confucian filial piety or Xiao? Here is the master's teaching:

Filial piety is the basis of virtue, and the origin of culture. Sit down again, and let me tell you. The body and hair and skin are received from the parents, and may not be injured: this is the beginning of filial piety. To do the right thing and walk according to the right morals, thus leaving a good name in posterity in order to glorify one's ancestors: this is the culmination of filial piety. Filial piety begins with serving one's parents, leads to serving one's king, and ends in establishing one's character... (citation from Lin, 2008, p. 263)

Obviously, from Confucian teaching, Filial piety (xiao, 孝) starts from being a dutiful and respectful son or daughter, and continues to becoming a responsible and respectful member in the society. The process of practicing Filial piety (xiao, 孝) is a process of moral cultivation. Tu (1985) points out that to have Filial piety (xiao, 孝), the son "must learn to suppress his own desires, anticipate the wishes of his father, and take his father's commands as sacred edicts" (p.115). It involves "internal adjustment" and the "mobilization of internal resources" (p.115). Thus, a sense of obligation and gratitude toward family is gradually formed during the internalizing of Filial piety (xiao, 孝). In light of this, it is not difficult to understand that the student participants share such a mental attitude toward their family as they grew up in the Chinese culture in which Filial piety (xiao, 孝) is emphasized as a core value. With this cultural precondition, they tend to be dutiful toward their family expectations and respectful towards their parents' guidance in life, including learning. Thus, they become disposed to learn since learning is a responsibility for a dutiful and respectful son or daughter.

In conclusion, Responsibility is a learning virtue rooted in the Confucian family value. Learning is not an individual matter. Parents are responsible to teach, while children are responsible to learn. I used well-known learning stories of Chinese idioms to illustrate the learning virtues proposed in the Diagram of Learning Virtues in section 2.3.3. Responsibility is the additional learning virtue found in this study, therefore, I would like to use the story of "Mencius' Mother Cuts Woven Cloth" (Meng-Mu-duan-zhi, 孟母断织) to describe the Confucian ideal teaching in family.

When Mencius was little, one day he returned home after school. His mother was weaving on her loom. She asked: "How's your study going?" Mencius replied indifferently: "Just as usual." Mencius' mother was annoyed by her son's indifference. She cut the woven cloth on her loom

with scissors. Mencius was terrified at his mother's reaction and asked why. Mencius' mother said: "You neglect your study, and it is just the same as I cut my cloth. Virtuous people learn for establishing a name in society. Asking questions then you can know a lot. Thus, you can have peace at home, and avoid harm when travelling. Now you neglect your study, you cannot avoid a life of toil, and it is hard to escape from harm. Isn't such a life the same as living on weaving? Giving up in the middle, how can (one) provide clothing to her husband and son, also feed them for long? If a woman gives up producing food, and if a man gives up cultivating morality, they would be either a thief, robber or slave." Mencius was chastized. From then on, Mencius studied hard from morning to night, following his teacher Zisi, and finally became a famous scholar in the world. Mencius' mother was reputed by the virtuous people as knowing how to be a mother. (Translated by the author from *Lienu Zhuan*)

Mencius' mother was famous for relocating three times in order to find Mencius a good environment in which he could concentrated in learning (section 5.1.4). In the above story, she shifted her focus from the external environment to internal character building. She taught Mencius to take learning seriously because learning is the only way to achieve economic stability, social status as well as moral virtue, with the last as the ultimate goal. In her message, the economic, social and moral achievements were bonded with family. Mencius' mother emphasized that learning was for establishing one's name in society. It was the same as Confucius' teaching about Filial piety: "leave a good name for posterity in order to glorify one's ancestors" (citation from Lin, 2008, p. 263). Confucianism is known as the "religion of names":

A name is a title that gives a man his definite status in any society and defines his relationships with others... The Confucian idea is that if every man knows his place and acts in accordance with his position, social order will be ensured. Of the "five cardinal human relationships", four are occupied with the family...The family then becomes the starting point for all moral conduct (Lin, 2008, p. 262).

As a model mother in Chinese history, Mencius' mother taught her son why and how to learn through an emphasis on morality. She didn't wait for Mencius to sense his own mind, experience the intrinsic enjoyment of discovery and then get ready to learn. Instead, she taught Mencius to be ready to learn, as learning was his responsibility to seek moral self-perfection and practise learning virtues.

The moral perspective of learning is influential to the Chinese learners and their learning. The six learning virtues found in this study reveal this important yet missing

perspective of learning, which not only offers a lens to investigate Chinese learning, but also charts a new line of inquiry in the future research.

6.3. Implications and recommendations

This study inquired into Chinese students' learning dispositions in a non-Chinese educational context. The findings revealed that though the student participants developed adaptive learning behaviors and coping strategies during the process of integration to the Western educational contexts, their learning dispositions, which are cultivated in Chinese learning culture and tradition, are still accountable for their academic success outside of China. So, what does this finding mean to the stakeholders of internationalized higher education, specifically, the current and potential Chinese students at Western universities and the host universities with a significant number of international students from China? I will discuss the implications of these research findings and provide recommendations to them respectively.

6.3.1. Implications and recommendations to Chinese students

This detailed qualitative study articulated the students' perspectives on how and why they have been able to excel in learning in a non-Chinese educational context. The lived experiences of the student participants as well as their reflection on their experience can be enlightening to the potential and current Chinese students at Western universities. Here is a summary of the suggestions.

First, the Chinese students who plan to study in Western universities need to be aware and prepared for the academic challenges. Studying abroad, especially at undergraduate level, often reflects a desire to opt out of the rigid, highly competitive educational system in China (Fischer, 2014). There are eye-catching advertisements from for-profit recruitment companies to appeal to such desires. Students' success stories are covered in some Chinese media. They often understate the challenges. The student participants' experiences at Simon Fraser University imply that challenges are inevitable when studying in a non-native educational context. The student participants were high achievers in the Chinese education system, yet they still faced many challenges arising from the differences between the learning cultures of China and Canada, including curricula, teaching modes, peer relationships, and language barriers

(section 4.2.1). In order to keep up their excellent academic standings, the student participants coped with the new environment through learning virtues. Studying at Western universities is not an escape from hard work to pick low hanging fruit.

Second, I recommend potential and current Chinese students engage proactively with the learning communities at their host universities: interact with professors and participate in classroom discussions. The high level of interactivity and participation required in the Western academic cultures is a big challenge for the Chinese international students who are used to a teacher-centered, content-based and test-driven learning environment, as reviewed in section 1.3.2. In particular, the teacher-student relationship in the Confucian tradition influences students to trust, respect and obey their teachers whole-heartedly, meanwhile, to remain humble in the learning (section 2.3.1). As a result, Chinese students usually perceive teachers as learning authorities. It is very challenging to question, argue with and seek help from authoritative figures. Chinese students' silence in classrooms as well as less interaction with teacher and peers sometimes leads to stereotypical assumptions of Chinese students as shy, passive and less engaged (Ward et al., 2005). The best way to alter the stereotype, and more importantly, to learn more effectively, is to actively interact with professors and peers. It may cause more stress at first, however there is some good news found in this study, which makes the behavioral change worthwhile and doable.

The student participants found direct communication with professors helps their learning, especially in enriching their course learning, getting advice on research directions, and establishing career connections. Furthermore, the student participants also found that the faculty are ready for questions and willing to offer advice, in the classroom, during office hours, and via email. As a faculty member myself at Simon Fraser University, I can confirm that inspiring and encouraging students to ask questions, engaging students in academic discussions, providing answers, offering directions and supports for students to explore answers themselves, are part of a faculty member's daily work. The student participants also found that the classroom learning was very question-friendly. No question is regarded as too basic or irrelevant. Nobody is laughing at the person who asks the question either. The student participants' positive experience with the supportive faculties and friendly classroom atmosphere altered their learning disposition of Humility, in other words, their experiences fostered a more equal and less distant relationship between teacher and student (Section 5.2.1). Most student

participants realized the benefits after a year of study at SFU. I recommend Chinese students start actively interacting with professors and participate in classroom discussion as soon as they start their studies at Western universities.

Finally, the potential and current Chinese students at Western universities need to develop their intercultural competence, which is essential for them to achieve academic and career success and personal growth in the 21st century. It is no doubt that the flows of people, ideas, technology, economy, knowledge..., an endlessly continuing list, will continue around the world and across borders. We are living in a global village. The higher education sector has responded to the trend with a growing focus on its internationalization (Knight, 2006), aiming at developing the international and intercultural knowledge and skills of students to effectively live and work in the increasingly more interdependent world. Both Simon Fraser University and Zhejiang University stated their mission as equipping students with knowledge, skills and experience to address the challenges facing the world (websites of Simon Fraser University and Zhejiang University). The Dual Degree Program (DDP) in this study is a joint internationalization effort of these two universities. DDP stated in its website that the program can offer students international learning experience, English (to Chinese students) or Mandarin (to Canadian students) immersion, and expanded networks and competitive advantages in the job market. The career information from the graduated DDP students has confirmed the promise of the competitive edge in job market. However, international education experience only presents an opportunity and not a necessary result in any significant development of intercultural competence (Carter, 2006; Banks, 2004). The DDP Chinese students in this study were found to be facing greater challenges in intercultural communication than linguistic difficulties. They felt lonely when “nobody is likeminded with me” (Kay) (section 4.2.2). They felt embarrassed when they could not understand the jokes others were laughing about or when they could not find a common topic to continue a casual talk with local peers (section 4.2.1). At the same time, this study also noted that the student participants were more proactive in embracing the challenges in their major study than overcoming the language and intercultural communication difficulties on and off campus. Most of them only hung out with their DDP peers for leisure and tended to team up with DDP peers for school projects as well (section 4.2.1). Their limited interactions with other students were in the elective courses which no other DDP students took or during the co-op work where no

other DDP students were present. The above-mentioned inadequate competence and insufficient experience in intercultural communication can be cause and effect to each other. So what can be done to break such a negative circle and to fully realize the values of the DDP program, and in a bigger sense, the purposes of international education?

My recommendation to the potential and current Chinese students is simple: step out of the linguistic and cultural comfort zone and interact with different nationalities on campus, at work and in the community, besides co-national peers. The strong bond among DDP Chinese students helped students overcome the difficulties in learning in Canada (section 4.2.1). It isn't rare that international students tend to form friendship with co-nationals for companion and support (Rienties et al., 2013; Rose-Redwood & Rose-Redwood, 2013). So, there is nothing wrong with hanging out with co-nationals. Limiting oneself to only socially interact with co-nationals, in other words, self-segregating, is a failure to take full advantage of the resources and opportunities to develop intercultural competence and a self-exclusion from a global network. A "global social mixing" is a social life worth pursuing as it can "foster meaningful cross-cultural dialogue among different nationalities including the host community" (Rose-Redwood & Rose-Redwood, 2013, p. 426). Studies on international education have found interactions with people from different (including host) cultures are essential for linguistic growth, cultural integration and the development of intercultural competence. Through observing native speakers' communicative behaviors, both verbal and nonverbal, non-native speakers can master authentic linguistic knowledge, increase cultural sensibility in interaction and learn appropriate communication behaviors (Zhou, 2010). Positive experiences with people from the other cultures, for example intercultural friendships, are essential and evident in supporting students' intercultural development (Abdulla, 2008). Frank, who made friends with non DDP peers, Mike who joined a basketball team at SFU, and Randy who was involved in a local church, all found their interactions with local people very rewarding. As Randy said, she no longer felt lonely, and she perceived things differently: "I have become more open."

6.3.2. Implications and recommendations to host universities

This study chose a group of Chinese students in the SFU-ZJU DDP program as a collective case for the investigation of how Chinese students are disposed to learn well at a Canadian university. The successful stories of the student participants in the study

can certainly inform SFU and other host universities in many ways, for example, in how to select academically prepared international students from China, and how to support them in facing the common challenges. In addition, it is also my recommendation that SFU and other host universities re-think their perspective on internationalization and reorient the one-way assimilation to a true meaningful cross-cultural engagement.

First, the host universities should develop holistic assessment criteria and a process to evaluate Chinese students' academic readiness for cross-border learning. The universities in China admit students based on their marks achieved in the National College Entrance Examination (Gao Kao). Few students can enter university without taking this fate-deciding examination, and their exemption qualification is also earned by high marks achieved in some other high-stake examinations or more challenging contests. The student participants reported how stressful it was to endure the preparation for Gao Kao (section 4.1.2). Though the universities in most of the Anglophone countries do not depend solely on one examination to select students, they still only consider students' academic preparedness and potential from the cognitive perspective (Geiser, 2009; Gottfredson & Saklofske, 2009), namely analytical skills such as reading, writing and mathematics (Sternberg, 2010). Canadian universities mainly use students' high-school grades for admission. Universities in the United States of America and the United Kingdom often assess students with their standardized test scores, such as the Scholastic Aptitude Test (SAT), the American College Test (ACT), and A levels results, along with their high-school grades. For international students with English as a second language, scores in the standardized English proficiency tests such as the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS) are required as proof of language preparedness. Empirical evidence, however, suggested that under more scrutiny, cognitive testing did not always provide an accurate indication of students' academic readiness (Geiser, 2009). Lots of researchers, including this one, also found that reaching a required score in TOEFL or IELTS did not promise adequate language skills needed for conducting academic activities in English (section 4.2.1). It isn't very rare that many students with high examination score drop out university for a lack of the will to learn (Borghans et al., 2008), while noncognitive traits such persistence, self-efficacy and self-discipline are essential for successful education retention (Heckman, 2008; Borghans et al., 2008; Duckworth, 2016). Therefore, these researchers argued that the same attention shall be

paid to these noncognitive factors while assessing students' academic preparedness. By adding the measurement of the noncognitive factors to cognitive test scores it may increase the assessment accuracy for the students (Schmitt et al., 2009, Sternberg, 2008, 2009; Heckman, 2008).

The conceptual construct of learning disposition discussed in section 2.2 certainly can back up such an argument regarding the assessment of academic preparedness, because learning capacity and skills are crucial, however they do not independently make a learner willing and ready to learn. When assessing Chinese students' academic preparedness, I would recommend the learning virtues, which are the Chinese cultural learning dispositions, be included. The Learning virtues rooted in the Confucian learning culture can better describe and predict Chinese students' readiness for their cross-border learning. Therefore, the host universities, such as SFU, should consider a holistic assessment that includes GPA, English test scores, as well as evaluation of whether or not the potential students possess the learning virtues. Application essays and recommendation letters could be required to demonstrate their learning dispositions. Carefully designed assessment tools are in need of being developed and utilized to provide indicative data about applicants' learning dispositions. In sum, the learning virtues which make Chinese students ready and willing to learn open up a new area for the assessment of academic preparedness. Host universities should take it into consideration and aim at developing holistic assessment criteria and procedures.

Secondly, I would like to recommend host universities conduct investigations regarding the usage of the available services on campus among international students, and develop effective strategies to engage them. The student participants reported encountering challenges arising from the differences of the learning cultures between China and Canada, including curricula, teacher, peer, and language. The findings are in line with the literature reviewed in section 1.3.2. that Chinese international students face challenges mainly in three aspects: language barriers, interactivity and participation required in the Western academic cultures, and lack of social support and connectedness. Support is certainly in need in these challenging areas. SFU does have plenty of services already available for international students. Supports and activities are available for students with English as an additional language. The university also has social clubs, sport teams and social events to enrich campus life. These are great

learning and networking opportunities for Chinese international students. From the conversations I had with the student participants, however, I have learned that they had very limited information about these services and rarely participated in any clubs and events. Zoe was the only one who noticed the information on the Student Learning Centre at the library and went for English language help. Mike and Randy were the two who took the advantage of the social support provided: Mike joined a basketball team, and Randy joined a club which connected her to a local church. Nine out of eleven student participants did not mention their extracurricular activities at SFU. On the contrary, all the participants were very active and enthusiastic about sport teams, art events and social clubs when they were studying at ZJU (section 4.1.3). It is quite obvious that there is a gap or some mismatches between the services and the service audiences. SFU isn't the only institution facing such a challenge. The underutilization of many of the services for international students was often the case in host universities (Robert, 2011).

Therefore, it is necessary to conduct a study to identify the gap or mismatches, in order to make the resource fully used for students' benefits. For example, during the interviews with the student participants, the different information channels for campus life at SFU and ZJU caught my attention. According to the student participants, when at ZJU, they gained information about services, clubs and events from posters, booths on campus as well as through the Chinese social media Wechat (a popular mobile application with the similar function as Messenger, Facebook and WhatsApp). I took a look at ZJU's website in Chinese and found the information regarding campus life was very limited and not updated frequently. Students certainly cannot use it as an information source for ongoing events. In contrast, I found SFU's website providing rich and updated information about cultural programs, international engagement programs and upcoming events. Website is one of the important out-reach medias at SFU. Social media such as Facebook and Instagram are also used to encourage students to stay connected. Both Facebook and Instagram, however are not accessible in China, therefore, they are not popular among Chinese international students, especially during their early days on Western campuses. It seems that SFU's out-reach channels might not fit well with the Chinese students' habit of gathering information for campus services. To identify the gap and/or mismatches between the services and the service audiences, whether it is the channel, the content, and/or other aspects, is an important step to

engage Chinese international students and effectively assist them overcoming the challenges.

Besides identifying the factors inhibiting the effectiveness of internationalization activity or service, lastly and more importantly, I would like to recommend that SFU and other host universities re-examine their perspectives in engaging students in the process of internationalization, and reorient the one-way assimilation to a true meaningful cross-cultural engagement. Specifically, there are three areas for improvement: 1) recognizing international students as a rich resource for universities' internationalization efforts; 2) engaging domestic students and faculty in the internationalization efforts on campus, and 3) integrating academic preparation in the curriculum of international joint programs.

International students bring huge revenue to host universities, more valuably, they can also bring significant social, cultural and educational benefits to the institutions (Siczek, 2015; Liu, 2016; Dervin, 2011; Beck, 2008; Omoruyi et al., 2014), as reviewed in section 1.3.1. Therefore it is very necessary to recognize their important role in the institutional internationalization. In reality, however, they are often perceived only as the “customers” of Western higher education, instead of being a rich resource for bringing in cultural diversity to the local campus, enriching approaches in teaching and learning, and inspiring innovative internationalization activities. One of the reasons for such a negligence is that host universities often hold a monopoly on legitimate forms of knowledge and culture, and assume that international students should acculturate to their institutional cultures and practices (Turner & Robson, 2008; Caruana, 2010; Rose-Redwood and Rose-redwood, 2013; Siczek, 2015), as reviewed in section 1.3.1. One way assimilation is encouraged and supported, while “meaningful cross-cultural dialogue” (Rose-Redwood and Rose-Redwood, 2013, p. 426) is often missing. The Chinese international students in the DDP program have been exceling in learning since the inception of the program in 2005. What can domestic students learn from their experiences and insights? What does their presence in class benefit the teaching and learning of the whole class? What can their cultural experiences inform the university's services for international students? How to facilitate their contribution? This study attempts to portray the Chinese DDP students' experiences, publicize their voices, and explore how and why they have been able to excel in learning. This is just the first step. It is not until the host universities shift to a truly cross-cultural perspective and recognize

international students as a rich resource in their internationalization efforts that the meaningful and full engagement can take place.

In addition, domestic students and faculty need to be more encouraged and supported to engage in the internationalization on home campus. Host universities, including SFU, often encourage and assist domestic students to study abroad, for example through exchange programs, field schools, short-term summer programs (SFU International website), and support faculty to lead field schools abroad, and initiate activities with international partners. These are important activities to facilitate internationalization. Meanwhile, with enrolled international students, home campus is already a place with diverse knowledge, beliefs, values and approaches. Domestic students and faculty, therefore, need to be aware of and prepared for the internationalization on the home campus. From the conversations I had with the student participants, domestic students are friendly but not eager to be connected with international students. Faculty are ready to help international students in study and research, but are not aware of or active in supporting them in intercultural interaction. So, this is an area which could be improved.

For example, teamwork usually is an important part of the courses at SFU, which is probably the same case in other host universities. Encouraging teamwork among students from diverse cultural backgrounds is, therefore, an effective way to provide opportunities for students to be involved in intercultural interaction and form social connection. The student participants in this study, on the one hand, complained that they did not have many opportunities to interact with local peers and did not have many occasions to speak English while, on the other hand, they still chose to team up among themselves for course projects, unless no other DDP students were in the same course. Domestic students are friendly, however they are also quite passive in reaching out to international students. Obviously, the students need a “push” to step out of their linguistic and cultural comfort zones. Faculty members could take a more active role in such kinds of cases to encourage, or maybe even intervene in the making up teams. Rienties (2013) found that instructional design might have a strong influence on how international and host students work and learn together. It is meaningful to engage all the students, domestic and international, in the intercultural teamwork to equip students with skills and experience to effectively live and work in the increasingly more interdependent world.

Lastly, the host universities should consider integrating academic preparation in the curriculum of international joint programs. Institutional linkages, including double/dual or joint degree programs are common internationalization efforts (McKellin, 1996). The student participants in this study were well prepared for studying in Canada because the Dual Degree Program provided them with adequate academic preparation (section 4.2.1). The transition began with taking courses from visiting professors from SFU during their first and second year of study at ZJU. The students gradually got accustomed to university studies in their discipline and in English. Paige (1993) advocated “if possible, language-learning opportunities should be integrated into program design...(p.7)”, because this can help non-native English students transform from a pure English learner to a competent English user (Zhou, 2011). The DDP curriculum design is worthy learning for other host universities. Such a gradual and integrated curriculum is a more effective preparation for a smooth transition.

6.4. Limitations and recommendations for future research

This study is a needed inquiry into Chinese students’ learning dispositions, which may lead to a more culturally-informed understanding of why and how Chinese international students achieve their academic success in their host Western universities (Chapter 2 Literature Review). A focus on learning dispositions does not minimize other significant factors in determining educational success. The findings regarding the learning virtues do not suggest that they alone can make students succeed, rather, they remind us how cautious we should be in order to reach valid and holistic understandings of Chinese learners and their learning.

The limitations of this study are methodological in data collection. Qualitative phenomenology researchers prefer a small and narrow sampling for rich, in-depth information (Creswell, 2007). Therefore, it has limited generalizability of the research findings to all learning experiences of the Chinese international students who excels in learning at non-Chinese educational contexts. It is plausible to have large scale questionnaires or survey on academically successful Chinese international students’ perspectives on how they achieve learning and whether the non-Chinese educational context change their disposed way of learning or not. Both qualitative and quantitative studies of Chinese learning dispositions are needed in order to achieve a better understanding of Chinese learners and their learning.

The case selection as well as the criterion sampling ensured that all the student participants in this study represent the phenomenon under investigation, i.e. performing well academically. During the data collection period, fifty-four DDP Chinese students registered at SFU. These eleven student participants were volunteers from the thirty-four students who demonstrated their academic success consistently from pre-university schooling in China, two years at Zhejiang University, and who continued their studies at Simon Fraser University, out of the fifty-four potential participant pool. While this is a successful means of capturing the particular and specific aspects of the phenomenon, it would be helpful to also investigate the experiences of the minority of the DDP Chinese students who did not continue to enjoy academic success at SFU. What are the dispositional factors they ascribe to the change in their academic performances? The high-achieving student participants in this study ascribed their success to the learning virtues. Before concluding any definitive association between the learning virtues and academic success, it is necessary to explore other possibilities such as: 1) were there any successful Chinese students who did not possess these dispositions? 2) were there any Chinese students who possessed these dispositions but did not succeed? and 3) Do Chinese students without these dispositions struggle in learning? Instruments to assess the learning virtues probably need to be developed first in order to explore these questions.

Moreover, learning dispositions are enduring traits (Siegel, 2017) which are cultivated, developed and supported by learners' social and cultural traditions. Any changes in learning dispositions cannot happen over a short period of time. This study only reflected a very short chapter of the student participants' cross-border learning stories. More longitudinal case studies are needed to investigate whether and how the learning dispositions evolve over time along with the Chinese international students' integration to the Western learning cultures.

This study found six learning virtues, which reveal the moral perspective of learning in Chinese learners and their learning, rooted from the Confucian learning tradition. It offers an option to study the Chinese learners without relying on the existing Western concepts such as mind and capacity, so more comprehensive understandings can possibly be achieved through the investigation within the emic culture account. The moral perspective of learning also charts a new line of inquiry in the future to enrich our understanding about learning. For example, considering the learning virtues are

gradually acquired and shaped through learners' socialization and enculturation since an early age, so, what, in specific, do parents and teachers do to socialize children in the development of the moral sense of learning? The synergy of the Confucian virtues infuses strong and multi-dimensional wills into learning and offers high resiliencies when facing challenges (section 6.1). Can educational practices facilitate the development of the learning virtues among students who grow up in non-Chinese and/or multiple cultures? Is it possible the moral perspective and the mind/capacity perspective integrate for a more holistic approach of learning? If so, what enables such integration? Answers to these and many more questions can shed light on the existence of different learnings within and across cultures, and help educators, students and researchers across culture learn from one another in the interconnected world.

In addition, more research is needed for utilizing the conception of learning dispositions, which is the learning virtues in the Chinese students' cases, in the practice of teaching and learning, including international education. The learning virtues which make Chinese students ready and willing to learn open up a new area for the assessment of academic preparedness. Instruments, such as Adolescence Time Management Disposition Scale (ATMD), The California Critical Thinking Disposition Inventory (CCTDI) and the Learning Disposition Questionnaire (LDQ) have been developed to assess or track general or specific dispositions. Methods to assess the learning virtues await exploration theoretically and empirically. What can other students learn from the Chinese international students with learning virtues? How do we promote mutual learning among students and faculty? These studies can be referential and offer practical suggestions to the host universities, students (both international and domestic) and faculty members.

6.5. Conclusion

This qualitative phenomenological case study tackled the question of why and how Chinese international students succeed academically when facing the transitioning challenges in the Western higher education. The premise of the study is based on theories and conceptions of learning disposition, in other words, the study does not concern students' learning ability, skills and/or strategies to overcome the challenges, but focused on their personal qualities and tendencies that keep them ready and willing to learn, even in the face of challenges. Through examining the lived experiences of

eleven Chinese undergraduate students who perform well academically at Simon Fraser University in Canada, six learning dispositions were found: Enterprise; Resolve; Perseverance; Concentration; Humility; and Responsibility. These learning dispositions work together in students' learning, from goal setting, persevering in working hard, to interaction with teachers, peers and parents, thus, dispose the student participants to study earnestly, strategically and proactively towards academic excellence.

These learning dispositions are rooted in the Confucian learning tradition, and I termed them learning virtues. They are cultivated, developed and supported through the student participants' socialization and enculturation in the Chinese culture and Confucian learning tradition. The Canadian education experience did not result in big changes to the student participants' learning dispositions. The learning virtues still account for their academic success across cultures.

The analysis of Chinese students' learning virtues brought in a culturally based account for investigating Chinese learners and their learning. It offered a more valid and rigorous understanding of Chinese students' characteristic way of learning, which is in need for the Western universities to support their Chinese international students' cross-border learning, and to engage the students in the internationalization of higher education. Further, the analysis of the learning virtues reveals how the Confucian moral perspective of learning shape Chinese learners' learning, from beliefs to behaviors. The moral perspective of learning offers Chinese concepts of learning, which can enrich our understanding about learning: learning shall include both head and heart, both external conditions and internal mindsets.

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Appendix A.

Permission to Access Information for Study Use

Re: the Study of “The Learning Virtues: Chinese Cultural Dispositions and Student Success”

The purpose of this study is to explore the learning dispositions that Chinese students who perform well academically have in their study in increasingly internationalized Western higher education. The participants of the study will be a group of Chinese students in the Dual Degree program (DDP) in Computing Science at SFU, who have achieved above-average CGPA (as of fall 2013) in their undergraduate study in Computing Science at SFU. According to the nature and the need of the study, I will provide the principal investigator of this study, (Cynthia) Qing Xie, the email list of the Chinese DDP students whose CGPA (as of fall 2013) is above the school average CGPA of undergraduate students. The access to the email list is for the purpose of this study.

Danyu Zhao Coordinator
SFU-ZJU Dual Degree Program School of Computing Science
December, 2013

Appendix B.

Student Participant Recruitment Letter

Dear students,

My name is (Cynthia) Qing Xie, a doctoral student of the Faculty of Education at Simon Fraser University. I am requesting your help with my dissertation study entitled *The Learning Virtues: Chinese Cultural Dispositions and Student Success*.

The purpose of this study is to explore the learning dispositions that Chinese students who perform well academically have in their study in increasingly internationalized Western higher education. It aims to articulate Chinese students' perspectives regarding their learning and learning contexts. Therefore, the study may assist the university administrators and faculties to re-exam and re-think the current curricula, pedagogy and practices, and encourage the university community to be more responsive to the needs of Chinese students. I appreciate a great deal if you would like to share with me your learning experiences back in China and current at SFU. Your stories and perspective will be important contributions to a holistic and in-depth understanding of Chinese students' learning and the studies of internationalization of higher education.

You are cordially invited to participate in this study. As a participant, you will be asked to write an autobiographical description of your personal learning history before coming to Canada. (Detailed guiding questions will be provided for you to write the description.) This will then be followed by a one-on-one, face-to-face interview. The interview will take about 60 minutes. There probably will be follow-up phone call or email correspondence during the transcribing of interviews to clarify with you the expressions that are not clear to me. Both the writing of the autobiographical description and the interview can be done in Mandarin Chinese or English, according to your preference.

There will be no known physical risks for participating in this study. I will ensure your privacy and confidentiality during all stages of study – data collection, analyzing and using of data. To assure confidentiality and anonymity, your name will not be identified in the transcripts of the data and any report of the research, including the dissertation. The audio data will be destroyed upon the completion of the study, and the paper file data will be kept in a locked cabinet for two years at SFU before destruction. Should you like to obtain the results of this study, please do so upon its completion by contacting me. The dissertation will also be available in SFU's library.

If you are willing to participate in this study, please respond to my email. Thank you very much in advance,

(Cynthia) Qing Xie

April, 2014

Appendix C.

Consent Form for Student Participants

The Learning Virtues: Chinese Cultural Dispositions and Student Success

Who is conducting the study?

Principal Investigator: (Cynthia) Qing Xie
Faculty of Education
Simon Fraser University

Why are we doing this study?

I am doing this study to explore the learning dispositions that Chinese students who perform well academically have in their study in increasingly internationalized Western higher education. In other words, we want to learn more about the inner attitudinal forces that make Chinese students ready and willing to study to achieve academic success in Western universities.

The SFU-ZJU Dual Degree program (DDP) in the School of Computing Science has been offered since Fall 2005. The Chinese students in the DDP program have consistent outstanding academic performances both in China and Canada. Therefore, this study chose the DDP Chinese students as a case to investigate how Chinese students are disposed to learn well in a Canadian undergraduate program. You are being invited to take part in this study because you are one of the DDP Chinese students, who have achieved above average CGPA in your study.

Your participation is voluntary

Your participation is voluntary. You have the right to refuse to participate in this study. If you decide to participate, you may still choose to withdraw from the study at any time without any negative consequences to the education, employment or other service to which you are entitled or are presently receiving. Data collected before your withdrawal will be destroyed immediately.

How is the study done?

If you decide to take part in this study, here is how I will do the study:

First, I will ask you to write about your personal learning history before coming to Canada. Detailed guiding questions will be provided for this Autobiographic Description. Then, I will have a one-on-one, face-to-face interview with you. It will take about 60 minutes. After transcribe the interview, I may contact you by phone or by email for clarification if I have questions to understand your words accurately. Both the writing of your Autobiographic Description and the interview can be done in Mandarin Chinese or English, according to your preference.

I will use a digital recorder during the interviews. I am the only person who will have access to the data from this study. During the study, all the paper file data will be kept in a locked cabinet in my SFU office. All the audio recording data will be stored in an external hard-drive with a passcode in my SFU office, too.

Is there any way being in this study could be bad for you?

There are no foreseeable risks to you in participating in this study.

What are the benefits of participating?

There may or may not be direct benefits to you from taking part in this study.

However, the university administrators and faculties may benefit from a better understanding of Chinese students' learning. The study may assist them to re-exam and re-think the current curricula, pedagogy and practices, and encourage the university community to be more responsive to the needs of Chinese students. Therefore future Chinese students who study abroad may benefit from the study. The Non-Chinese students who plan to study in China may also benefit from what we learn in this study.

How will your privacy be maintained?

Your privacy and confidentiality will be respected. Pseudonym will be used in the transcripts and any report of the study, including the dissertation. I am the only person who will have access to the data from this study. All the audio recording data, which is considered identifiable information will be stored in an external hard-drive with a passcode in my SFU office during the study and will be destroyed upon the completion of the study. All the paper file data, which use pseudonyms, will be kept in a locked cabinet in my SFU office. These data will be kept for two years before destruction.

Study Results

This is a Ph. D dissertation study project. The result of this study will be reported in the dissertation and may also be published in journal articles and books.

Who can you contact if you have questions about the study?

Any inquiries concerning the study procedures, feel free to contact me.

Who can you contact if you have complaints or concerns about the study?

If you have any concerns about your rights as a research subject and/or our experiences while participating in this study, you may contact Dr. Jeff Toward, Director, Office of Research Ethics.

Future Contact

The information you contribute may be useful in future studies that may be similar and may require future contact with you. Do you agree to future contact?

- Yes, I agree to be contacted for other studies in the future.
- No. Do not contact me for other studies in the future.

Participant Consent and Signature

Taking part in this study is entirely up to you. You have the right to refuse to participate in this study. If you decide to take part, you may choose to pull out of the study at any time without giving a reason and without any negative impact on your education. Your signature indicates that you consent to participate in this study.

Participant Signature: _____

Date: _____

Printed Name of the Participant signing above: _____

Appendix D.

Consent Form for Faculty Participants

The Learning Virtues: Chinese Cultural Dispositions and Student Success

Who is conducting the study?

Principal Investigator: (Cynthia) Qing Xie
Faculty of Education
Simon Fraser University

Why are we doing this study?

The purpose of this study is to explore the learning dispositions that Chinese students who perform well academically have in their study in increasingly internationalized Western higher education. The study will investigate the lived experiences of a group of Chinese students who are academically successful in the Dual Degree program (DDP) in Computing Science at Simon Fraser University in Canada. It aims to articulate the students' perspectives regarding how and why they have been able to excel in learning in a non-Chinese educational context.

You are being invited to take part in this study to contribute teachers' perspectives as well as provide contextual information for the study. I am inviting people like you, who have taught and/or supervised DDP Chinese students in their studies, and who are familiar with the DDP program.

Your participation is voluntary

Your participation is voluntary. You have the right to refuse to participate in this study. If you decide to participate, you may still choose to withdraw from the study at any time without any negative consequences to the employment or other service to which you are entitled or are presently receiving. The data collected before your withdrawal will be destroyed immediately.

How is the study done?

If you decide to take part in this study, I will have a one-on-one, face-to-face interview with you. It will take about 60 minutes. After the interview, email follow-up will help for clarification. The interview and the follow-up email communication can be done in Mandarin Chinese or English, according to your preference.

I will use a digital recorder during the interview. I am the only person who will have access to the data from this study. During the study, all the paper file data will be kept in a locked cabinet in my SFU office, and all the audio recording data will be stored in an external hard-drive with a passcode in my SFU office, too.

Is there any way being in this study could be bad for you?

There are no foreseeable risks to you in participating in this study.

What are the benefits of participating?

There may or may not be direct benefits to you from taking part in this study. The intent of this study is to seek a holistic and in-depth understanding of Chinese students' learning dispositions. It aims to articulate the students' perspectives regarding their learning and learning contexts. Therefore, the study may assist faculty members to re-exam and re-think the current curricula, pedagogy and practices, and encourage the university community to be more responsive to the needs of Chinese students.

How will your privacy be maintained?

Your privacy and confidentiality will be respected. Pseudonym will be used in the transcripts and any report of the study, including the dissertation. I am the only person who will have access to the data from this study. All the audio recording data, which is considered identifiable information will be stored in an external hard-drive with a passcode in my SFU office during the study and will be destroyed upon the completion of the study. All the paper file data, which use pseudonyms, will be kept in a locked cabinet in my SFU office, too. These data will be kept for two years before destruction.

Study Results

This is a Ph. D dissertation study project. The result of this study will be reported in the dissertation and may also be published in journal articles and books.

Who can you contact if you have questions about the study?

Any inquiries concerning the study procedures, feel free to contact me.

Who can you contact if you have complaints or concerns about the study?

If you have any concerns about your rights as a research subject and/or our experiences while participating in this study, you may contact Dr. Jeff Toward, Director, Office of Research Ethics.

Future Contact

The information you contribute may be useful in future studies that may be similar and may require future contact with you. Do you agree to future contact?

- Yes, I agree to be contacted for other studies in the future.
- No. Do not contact me for other studies in the future.

Participant Consent and Signature

Taking part in this study is entirely up to you. You have the right to refuse to participate in this study. If you decide to take part, you may choose to pull out of the study at any time without giving a reason and without any negative impact on your employment. Your employer has not been asked for permission of your participation in this study. Your signature indicates that you consent to participate in this study.

Participant Signature: _____

Date: _____

Printed Name of the Participant signing above: _____

Appendix E.

Autobiographical Descriptions

Please write a narrative (in Chinese or English) about your personal learning history before coming to Canada. The following questions will guide your writing, which will take approximately one hour of your time.

1. Elementary education: When? Where? Event(s) that left a deep impression?
2. Secondary education: When? Where? Event(s) that left a deep impression?
3. Post-secondary education before coming to Canada: : When? Where? Event(s) that left a deep impression?
4. Describe as detailed as possible your experiences in your elementary, secondary and post-secondary education (before coming to Canada) according to, but not limited by, the following guiding questions:
 - a) How did you study in each phase of your education (e.g. a typical school day, preparing for exams, relationship with teachers and classmates, routine schedule after class, academic performance, etc.)?
 - b) Could you describe some of your academic achievements and how you achieved them at that time?
 - c) Did you have challenges in your learning? What were the challenges? Could you describe how you deal with them? What made you choose to do so?
 - d) What did your academic performance mean to you at that time?
 - e) What kind of comments you received most in your reporting cards? Do you agree with your teachers' evaluation on your study? How about your self-evaluation?
5. In your opinion, what were the personal characteristics that make you successful in learning?
 - a) Can you provide some examples?
 - b) What experiences have you had that you think facilitated the development of these characteristics?

6. Are there any changes in your way of learning through the years?
 - a) What is/are the change(s)?
 - b) What made you decide to change?
 - c) What do you feel about the change(s)?
 - d) Has it been difficult or easy to make the change(s)?

个人学习小传

请回顾你来加拿大以前的学习经历，用英语或者汉语写一篇个人学习小传。以下问题供你参考，所需时间大概为一个小时：

1. 你的小学学习经历: 时间，地点，印象深刻的事件？
2. 你的中学学习经历: 时间，地点，印象深刻的事件？
3. 你的大学学习经历: 时间，地点，印象深刻的事件？
4. 请详细描述在小学、中学、大学（来加拿大以前）的学习情况。以下问题仅供参考，你的描述不必局限于这些问题的范围：
 - a) 你通常怎么学习,如：上学期间一天的安排、如何准备考试、如何与老师同学相处，学业成绩如何等等)
 - b) 描述一下你取得的成绩·怎样取得的？
 - c) 你在学习中遇到过困难吗？(什么困难？你怎样面对？为什么？)
 - d) 你取得的学业成绩在当时对你来说意味着什么？
 - e) 你最常得到的期末评语是什么？你同意老师对你学习的评价吗？你怎样评价你自己的学习？
5. 你觉得自己的哪些个人特点使你取得了优良的学习成绩？
 - a) 请举例说明

b) 依你看来，哪些经历促使了这些个人特点的形成？

6. 在小学到中学到大学的学习过程中，你的学习发生过变化吗？

a) 发生了什么变化？

b) 为什么会发生变化？

c) 你当时感觉如何？

d) 改变的过程困难吗？

Appendix F.

Interview Protocol

The Learning Virtues: Chinese Cultural Dispositions and Student Success

Time of interview: ____:____ to ____:____

Date:

Place:

Student Interviewee:

(came to SFU in _____)

Opening:

Thank you very much for coming today to participate in my study. I received your autobiographical description. I have some questions regarding your description, so we'll start from these questions. Then we will talk about your study at SFU. My estimated time for this interview is 60 minutes. I will use this audio digital recorder to record our conversation. During our conversation, if you have any question, feel very free to ask me.

Your privacy and confidentiality during all stages of this study will be ensured. Your name will not be identified in the transcripts of the data and any report of this research.

We can use Mandarin Chinese or English for today's interview. Which one do you prefer?

非常感谢你今天前来参与我的研究。我已经收到了你的学习小传，有几个问题，今天我们先从这些问题开始，然后再聊聊你在 SFU 的学习。我估计我们需要 60 分钟的时间。我会用这个数码录音机录下我们的谈话。访谈中，如果你有任何问题，随时提出来。

在我的整个研究过程中，我会保证你的隐私。无论在访谈录音的笔录中还是任何这项研究的报告中，你的真实姓名都不会被识别。

我们可以用普通话或者英语来进行这次访谈，你喜欢用哪一个？

Interview Questions:

1. What is your experience of studying at Simon Fraser University? Do you have challenges in your learning? What are the challenges? How did you deal with them? 请介绍一下你在 SFU 的学习情况 / 经历。在学习中遇到过困难吗? 什么困难? 你是怎样解决的?
2. You achieved ok/not bad academic performance at SFU. Could you describe how you achieved it? What made you choose to do so? What does it mean to you? 你在 SFU 取得了良好的成绩。请介绍一下你是如何取得这些成绩的。是什么促使你这样学习? 对你来说, 这样的成绩意味着什么?
3. In your opinion, what are the personal characteristics that make you successful in learning at SFU? Can you provide some examples? What experiences have you had that you think facilitated the development of your characteristics? 在你看来, 你的什么个人特点使你在 SFU 取得了良好的学习成绩? 请举例说明。依你看, 哪些经历促使了这些个人特点的形成?
4. How long have you been studying at SFU? Are there any changes in your way of learning now, compared with your study at Zhejiang University or your secondary schools in China? What is/are the change(s)? What made you decide to change? What do you feel about the change(s)? Has it been difficult or easy to make the change(s)? 你在 SFU 学习了多长时间? 与在中国的学习 (如中学时代或者在浙大的两年中) 相比, 你的学习有没有发生变化? 如果有, 哪些变化? 为什么会发生这些变化? 你觉得怎么样? 改变的过程让你觉得困难还是容易?

Closing:

Thank you very much again for your participation! After I transcribe today's interview, I may contact you by phone or by email for clarification if I have questions to understand your words accurately.

再次感谢你的参与! 我做完访谈的笔录以后, 如果发现理解上有不清楚的地方, 会电话或者发邮件联系你。