

**English Language Self-Perceptions of Chinese International Engineering Students Shaped
by Collaborative Work in Anglophone Canada**

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Abstract

Chinese international students represent one sixth of the international post-secondary student population present in Anglophone Canada. A popular field of study for this demographic is engineering. Considering differences in cultural background and English language barriers, Chinese international students face their own unique set of challenges in university classrooms where collaborative work has become a standard measure to instruct and assess material. Four face-to-face focus groups with fourteen Chinese international students examined how collaborative work with non-Chinese peers shapes the self-perceptions of English language skills by Chinese international students. Using Saldaña's approach to coding as the selected method, the data generated categories, a concept and a key assertion. Participants' perceptions of English language are shaped by efficiency, embarrassment and confidence. A desired goal of Chinese international students, which is only achieved by very few, is English language fluency. Suggesting an interrelated relationship, the key assertion proposes that language competence and perceptions develop in four stages. Perceptions and language competence transition through a non-linear process, which ranges from Shock, to the Brutal Upward Learning Curve, Acceptance and eventually Confident Mastery. Focus group participants demonstrated a high level of accurate self-assessment and are forced to adopt a dismissive attitude which allows them to move past negative experiences and perceptions and develop a strong sense of confidence which is necessary for survival.

Keywords: Chinese international students, international education, intercultural communication, foreign language competence, foreign language perceptions, collaborative work, focus-groups, discourse analysis, coding.

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Table of Contents

Abstract.....	ii
Acknowledgements.....	iii
List of Figures and Tables.....	vii
1. Introduction Chapter.....	1
1.1 Researcher’s Role.....	1
1.2 Rationale for Thesis.....	3
1.2.1 International Students Worldwide.....	3
1.2.2 International Students in Canada.....	4
1.2.3 Chinese International Students in Canada.....	7
1.2.4 Chinese International Engineering Students at the University of Ottawa.....	11
1.2.5 Research Question.....	13
1.3 Theoretical Framework.....	14
1.4 Research Objectives.....	19
1.5 Methodology.....	20
1.6 Structure of Thesis.....	21
2. Literature Review Chapter.....	23
2.1 Introduction.....	23
2.2 Intercultural Communication Theory.....	23
2.3 Challenges of Chinese International Students.....	26
2.4 An Analysis of Urban Chinese Culture According to Geert Hofstede.....	30
2.5 Post-Secondary Engineering Education in Canada.....	33
2.6 Collaborative Work in Post-Secondary Educational Settings.....	34
2.7 Peer Interaction in English Language Learning.....	35
2.8 Linguistic and Foreign Language Competence.....	37
2.8.1 General Definitions of Linguistic and Foreign Language Competence.....	37
2.8.2 Driving Factors of Perceptions of Language Competence.....	39
2.8.3 Foreign Language Competence in the Chinese Context.....	44
2.8.4 Identity and Perceptions of Language Competence.....	44
2.8.5 Self-Assessment of Language Competence.....	47
2.9 Foreign Language Barriers.....	48
2.10 Conclusion.....	50
3. Methodology Chapter.....	52
3.1 Research Strategy.....	52

3.2 Selected Method: Face-to-Face Focus Groups	53
3.3 Sample Demographic	55
3.4 Sample Size	56
3.5 Recruitment Procedure	57
3.6 Participant Protection	58
3.7 Interview Process	58
3.8. Discourse Analysis.....	60
3.8.1 Data Analysis: Coding.....	62
3.8.2 Data Collection Challenges.....	65
3.8.3 Claims Produced Based on Coded Data	65
4. Analysis and Discussion Chapter.....	67
4.1 Introduction.....	67
4.2 Findings Summary: Perceptions of English Language Skills	69
4.3 Engineering Classrooms in Collaborative Work.....	71
4.3.1 Intercultural Communication in the Engineering Classroom.....	72
4.3.2 Instruction and Course Assignments in Engineering Classrooms.....	74
4.4 English Language Competence of Chinese International Students.....	76
4.5 Categories	81
4.5.1 Category 1: Efficiency.....	81
4.5.1.1 Avoidance Behavior to Increase Efficiency.....	82
4.5.1.2 Electronic Devices and Online Applications to Facilitate Communication.....	84
4.5.1.3 Consciously Choosing to be the Project Leader to Control Efficiency	87
4.5.2 Category 2: Embarrassment.....	89
4.5.2.1 Collaborative Work with non-Chinese Peers as a Source of Embarrassment.....	89
4.5.2.2 The Influence of the Non-Chinese Peer.....	91
4.5.2.3 Fear of Embarrassment Increases Anxiety.....	94
4.5.3 Category 3: Confidence	96
4.5.3.1 Acceptance of Level of English Language Competence	98
4.5.3.2 Collaborative Work as an Integral Opportunity to Improve English Language Skills.....	99
4.6 Concept: Fluency	103
4.7 Key Assertion for Further Development: Language Competence and Perception Development among Chinese Engineering Students	108
4.7.1 Stage 1: Shock.....	111
4.7.2 Stage 2: The Brutal Upward Learning Curve.....	112
4.7.3 Stage 3: Acceptance	113

4.7.4 Stage 4: Confident Mastery.....	114
5. Conclusion Chapter.....	116
5.1 Limitations.....	122
5.2 Ideas for Further Research.....	123
5.3 Practical Implications.....	124
References.....	127
Appendix A: Focus Group Questions.....	135

List of Figures and Tables

Figure 1)	International students as a percentage of all university enrolments, provinces and Canada, 2004-2005 to 2013-2014	p. 5
Figure 2)	Urban Chinese culture according to Hofstede's dimensions of Culture	p. 32
Figure 3)	The Communications Cycle	p. 48
Figure 4)	Streamlined codes-to-theory model for qualitative inquiry	p. 64
Figure 5)	Streamlined face-to-face focus group results	p. 69
Table 1)	University of Ottawa, Faculty of Engineering, Student Registrations by level of study, attendance status, student's language in use, gender and immigration status	p. 12
Table 2)	University of Ottawa, Faculty of Engineering, international students from China by faculty/ by country of citizenship	p. 12
Table 3)	Language Competence and Perception Development among Chinese Engineering Students in Four Stages	p. 109-111

1. Introduction Chapter

For many, Canada is a hub of multiculturalism and refuge. Roughly one out of five people living in Canada were born outside of the country (Statistics Canada, 2015). This figure is not surprising, considering that 17 million people have migrated to Canada since Confederation in 1867 (Statistics Canada, 2016d). Today, the majority of foreign-born nationals are of Chinese or Indian descent. Canada uses immigration as a strategic tool to boost its population growth. This contributes to the country's vast religious, linguistic and ethnic diversity (Statistics Canada, 2016d).

In the words of Prime Minister Justin Trudeau: "Diversity is Canada's strength" (Justin Trudeau, 2015). Assuming that Trudeau's statement is indeed true, this would mean that everybody feels accepted and empowered, regardless of their religion, cultural and linguistic background, sexual orientation or gender. But is everybody in Canada truly empowered and accepted?

In order for immigrants to arrive at a point of empowerment and acceptance, acculturation is a crucial step. Acculturation "refers to changes that take place as a result of contact with culturally dissimilar people, groups, and social influences" (Schwartz, Unger, Zamboanga & Szapocznik, 2010, p. 237).

Language fluency allows for contextual and cultural understanding. It is therefore an important component that contributes to the acculturation process and reduces related anxiety and stress (Schwartz et al., 2010).

1.1 Researcher's Role

I grew up in Germany in the early 1990s. My mother is an immigrant from the United States. Some of my earliest childhood memories are of my mother trying her

best to express herself in German, her fourth language. Unfortunately, although she is perfectly fluent in German and her pronunciation is very good, listeners who are complete strangers often choose not to understand her and make her feel like her minor mistakes ought to be pointed out, corrected and never repeated again. These experiences have hurt my mother's self-esteem and blurred her perceptions of her German language competence.

In 2013, I worked as an English language coach at a preparatory school for international students who want to improve their academic English skills. The overwhelming majority of students enrolled in the program were of Chinese origin. I witnessed the frustration they felt when they were not always progressing in their English language studies as quickly as they had hoped. Many couldn't handle the pressure coming from their families in China, where English language competence is considered a key necessity for social upward mobility. Having been part of Chinese students' English language skill development journey and their unique experiences, I have taken a particular interest in their views ever since.

In graduate school I observed an interaction which would prompt my choice to pursue this thesis topic. In a graduate seminar there was an international student who had just arrived from China. This person had difficulties understanding questions and expressing themselves. Despite being very friendly, polite and interested in interacting with peers, they were excluded and ignored by the other students after class ended. In the following weeks, the Chinese international student returned to class, but now kept attempts to interact with other students and participation in class at a minimum. Fellow peers did not try to include the obviously demotivated Chinese student in the classroom or after class. I believe that the social exclusion and anxiety to participate in the seminar

that resulted from their inability to effectively communicate on the first day of class continued throughout the semester. It is unlikely that this was a unique incident that has not occurred in other Anglophone classrooms in Canada.

1.2 Rationale for Thesis

The following section presents the rationale for the thesis. The rational section also helps narrow down the context of the research problem.

1.2.1 International Students Worldwide

There is an increasing number of international students studying at post-secondary institutions across the country from coast to coast to coast. According to a report published by Oxford University in 2015, “internationalisation is of growing significance worldwide, with economic, political and social changes driving an increasingly global knowledge economy” (University of Oxford, 2015).

Canada shows a shortage of qualified, domestic students entering post-secondary education and, therefore, isn’t able to match economic demands. International students help close this economic gap and have become an integral part of the country’s economic and academic success (Chignall, 2015). “From an economic perspective, the arrival of international students on Canadian campuses can represent a flow of highly skilled talent that can help ease domestic skills shortages not filled by the native-born population” (Statistics Canada, 2016c, p. 3).

The number of international students worldwide has more than doubled since the year 2000, when 2.1 million students were studying abroad away from their home-country. By 2014, this figure had increased to 5 million international students. In the same report by the University of Oxford, a projection by the Organisation for Economic

Co-operation and Development (OECD) is presented. The projection assumes, that by 2025, the number of international students globally will surpass the 8 million mark (University of Oxford, 2015).

In regards to host countries, the United States and the United Kingdom are popular destinations. However, the share of these two countries is declining, while Australia and Canada are gaining in terms of popularity. Other frequently chosen study destinations are Germany and France.

1.2.2 International Students in Canada

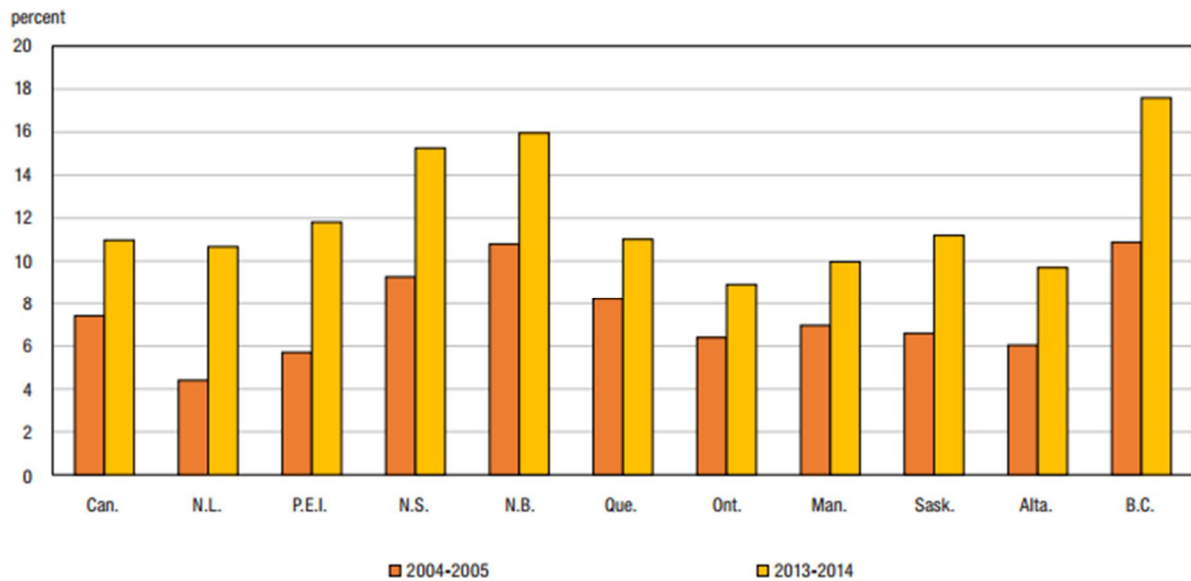
Slightly more than half of international students originate from Asia. They account for 53% of all international students, with the majority coming from China, India and South Korea. Furthermore, “almost one in six international students is Chinese” (Oxford University, 2015, p. 5).

Statistics Canada defines international students as “students in Canada on a visa or refugees, neither of which have a permanent residency status in Canada” (Statistics Canada, 2011). Between 2010 and 2015, the international student population present in Canada grew from 155,547 to 214,782 (Statistics Canada, 2016e). By comparison, the share of domestic students only increased from 1,805,526 to 1,838,247 over the same time span (Statistics Canada, 2016e). Accepting international students to study at post-secondary institutions benefits the economy in terms of spending. In 2010 alone, international students spent \$8 billion during their stay in Canada.

During the academic year of 2013/2014, international students made up 11% of enrolment at post-secondary learning institutions in Canada (Statistics Canada, 2016a).

International student enrolment, however, varied by province. This is illustrated in Figure 1).

Figure 1) International students as a percentage of all university enrolments, provinces and Canada, 2004-2005 to 2013-2014



(Source: Statistics Canada, 2016b, p. 6)

British Columbia (18%), New Brunswick (16%) and Nova Scotia (15%) had the highest proportion of international students among their general student population. In contrast, the share of international students in Manitoba (10%), Alberta (10%) and Ontario (9%) was relatively low (Statistics Canada, 2016a). It is important to note, however, that despite its lower proportional share, Ontario attracts the highest number of international students in Canada (Statistics Canada, 2016c). This is so due to geographic size and a high number of post-secondary education institutions present within the province (Statistics Canada, 2016c). Ontario is followed by Québec, where 14.8% of all international students in Canada could be found in in 2010 (Statistics Canada, 2016c).

In most provinces - all except for Québec - international students predominantly originated from Asian countries. Students coming from abroad to study in Québec were mostly European nationals.

Furthermore, in 2014, international students represented 29% of doctoral students, 17% of master's students and 9% of bachelor's students across Canada (Statistics Canada, 2016a). The two most popular fields of study among international students were business, management and public administration (27%) and architecture, engineering and related technologies (19%) (Statistics Canada, 2016c). Statistics Canada does not have more recent relevant figures and numbers concerning international students in Canada publicly available.

The Canadian Bureau for International Education (CBIE) is a not-for-profit, non-governmental organization that advocates for learning without borders (CBIE, 2016a). While Statistics Canada mostly focuses on post-secondary education in its statistics related to international education, the CBIE includes secondary school students in its produced figures as well, stating that there were more than 336,000 international students present in Canada in 2014 at both the secondary and post-secondary educational level. CBIE names Nigeria as the fastest growing country of origin for international students coming to Canada, followed by China (CBIE, 2016b).

Scott, Safdar, Desai and El-Masri, also, attribute international students a strategic role that delivers long-term benefits. A report published by the government of Canada in 2014, namely the department of Foreign Affairs, Trade and Development, describes international students as ideal immigrants because they successfully integrate into Canadian society and undergo training and education at a post-secondary institution within the country (Scott, Safdar, Trilokekar & El Masri, 2015).

After conducting 11 focus groups with international students in Ontario, Scott and his colleagues concluded that international students are often not ideal immigrants. Their findings show that international students have difficulties adjusting to Canadian society due to cultural differences. Most importantly, “language and communication difficulties are a significant source of stress for (International Students) where low confidence in ability may lead to embarrassment in classrooms and hinder performance during interviews, impeding their academic performance and creating obstacles to finding ideal employment opportunities” (Scott et al., 2015, p. 9).

Challenges faced in the university classroom unfortunately impact the transition of international students to the labour market as well. This suggests that there is a disconnect between expectations on behalf of the government of Canada and the abilities of international students (Scott et al., 2015). To summarize, the international student experience in Canada is more challenging and demanding on a personal level than one might assume in the first place. Nevertheless, international students do an important service to Canada’s economy and society. As a result, it is highly necessary to gain an understanding of the obstacles they face and to provide international students with the tools and skills necessary to overcome these challenges and succeed.

1.2.3 Chinese International Students in Canada

Overall, there is very little research that focuses on the Chinese international student experience in North America. With 1.3 million Chinese immigrants living in Canada, who represent 4% of the total population (Statistics Canada, 2015), the Chinese population present in Canada is growing rapidly. (Statistics Canada, 2007). Every immigrant group faces a different set of challenges, advantages and disadvantages.

China is one of Canada's top sending countries, with one in six international students being Chinese nationals (Oxford University, 2015). This makes the Chinese international student an especially interesting example to further look into.

Between 2010 and 2015 alone, the Chinese international student population grew from 35,970 to 65,346 (Statistics Canada, 2016e). The federal government recently announced that it is considering to accept more Chinese international students to come to Canada to study and contribute to the economy (Ostaszewski, 2016).

The majority of Chinese international students coming to Canada are female and between the ages of 20 and 29 (Asia Pacific Foundation of Canada, 2010). The influx of Chinese international students contributes to the already impressively large Chinese immigrant population residing in Canada. Zhang from the Canadian International Council reports that business administration is the most popular field of study among Chinese students, closely followed by engineering and other technology related fields (Zhang, 2010). It is interesting to note that engineering classrooms are currently undergoing a transition towards a more interactive, problem-solving oriented approach to pedagogy where collaborative work is a frequent academic requirement (Mason, Shuman & Cook, 2013).

In regards to the United States-China relations, Ruble and Zhang state that "looking forward to the future, rises in both countries' populations, environmental change, and decreases in access to natural resources such as food, water, and energy sources mean that these two nations will need to continue to cooperate and find productive ways to work together or potentially fall object to conflict and hostility" (Ruble & Zhang, 2013, p. 202). This statement can be partially applied to the Canadian context as well. Canada has been making great efforts to co-operate with and appeal to

South-East Asia and East-Asia while negotiating the Trans-Pacific Partnership (TPP). Despite the TPP most likely being a dead agreement now after the United States has left the trade deal, the government of Canada still continues its efforts to broaden and strengthen partnerships within Asia (Smith, 2017).

The federal Canadian government views international students as an important source of talent and an opportunity to enrich the economy. However, being an international student comes with countless challenging situations and circumstances. Chinese international students studying at North-American post-secondary institutions experience very high levels of acculturative and foreign language related stress and anxiety (Kuo & Roysiclar, 2004). Overall, Chinese international students tend to have poor English language skills when arriving in Canada (Kuo & Roysiclar, 2004), which presents them with a continuous state of frustration. “When foreign language learners communicate their mature thoughts through the undeveloped or foreign or second language, some of them experience frustration and anxiety, especially those who can communicate very well in their native language but may have trouble communicating in the target language” (Cheng & Erben, 2012p. 478). Environments in which evaluation is in the focus of attention can increase foreign language anxiety and lead to communication apprehension, anxiety related to testing and negative evaluations. Pressure to make the right social impression and fear of being mocked by peers may also lead to stress and anxiety.

If one negative interaction, as described in the Researcher’s Role section, can make a student lose their confidence in their English language abilities, then how must such an experience impact how Chinese international students perceive their English

language skills, especially when collaborative work is a frequent requirement of academic work?

There are many stereotypes associated with East-Asian immigrants (Ruble & Zhang, 2013). Stereotypes are schemes we associate with groups of people as a form of characterization (Fiske, 1998). What these stereotypes look like is unclear though, particularly in a Canadian context. Ruble and Zhang attempt to offer insights into stereotypes in relation to Chinese international students in North America. They mention a study conducted by Katz and Braly (1933), which concluded that “Chinese individuals were stereotyped as superstitious, sly, conservative, tradition-loving, and loyal to family ties” (Ruble & Zhang, 2013, p. 204). According to these researchers, by the 1950’s this stereotypical image had moved away from negative connotations towards a tradition-loving focus. There is a very little research on the stereotypes associated with Chinese international students (Ruble & Zhang, 2013).

Ruble and Zhang conducted a quantitative study at a large Mid-Western university in the United States. Their study concluded that non-Chinese peers perceive Chinese international students to be “smart, good at math and science, intelligent, studious, different, and hardworking” (Ruble & Zhang, 2013, p. 208).

Citing Samuelowicz (1987) and Pratt and Wong (1999), Huang and Cowden report that Chinese international students are often stereotyped as “quiet, passive and surface learners by North American instructors” (Huang & Cowden, 2009, p. 76). However, Huang and Cowden contest these stereotypes by arguing that these preconceived opinions are the result of an exclusive post-secondary classroom environment in which “they are not offered equal opportunities both in and outside

North American classrooms and they are treated as outsiders or ‘others’” (Huang & Cowden, 2009, p. 76).

The on-going lack of interest and understanding of the Chinese international student experience in research is reinforced by the disturbing picture of a uniform Asian experience in North America, as painted by popular culture (Herreria, 2017). Lacking any sort of nuance, particularly in regards to the Chinese experience, stories and perspectives of economic migrants, their children and those of international students are lumped together (Herreria, 2017). What we see in popular culture affects how we perceive social reality (Papke, 2007), and therefore shapes how we think of Chinese peers.

1.2.4 Chinese International Engineering Students at the University of Ottawa

The University of Ottawa has been recording a growing influx of international student enrollment over the course of the last decade. As demonstrated in Table 1), a total of 2,726 students were enrolled at the Faculty of engineering in 2006, out of which 454 students were non-domestic international students (University of Ottawa, 2016).

By comparison, in 2015, a total of 5,225 students were enrolled. The number of international students was four times higher than what it was in 2006. To conclude, the Faculty of Engineering at the University of Ottawa has shown a noteworthy increase in student enrolment in general, and international student enrolment in particular (University of Ottawa, 2016).

Table 1) University of Ottawa, Faculty of Engineering, student registrations by level of study, attendance status, student's language in use, gender and immigration status

Undergraduate + Graduate	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Attendance Status										
Full-time	2,224	2,163	1,998	2,183	2,345	2,659	3,191	3,945	4,363	4,627
Part-time	502	455	448	467	410	476	535	557	658	598
Language in Use										
English	2,087	1,969	1,806	1,963	2,062	2,366	2,917	3,624	4,037	4,160
French	639	649	640	687	693	769	809	878	984	1,065
Gender										
Male	2,245	2,155	2,015	2,179	2,246	2,533	2,955	3,507	3,890	4,065
Female	481	463	431	471	509	602	771	995	1,131	1,160
Immigration Status										
Canadian & Permanent Residents	2,272	2,216	2,093	2,260	2,259	2,448	2,645	2,929	3,175	3,423
Foreign Students	454	402	353	390	496	687	1,081	1,573	1,846	1,802
Total	2,726	2,618	2,446	2,650	2,755	3,135	3,726	4,502	5,021	5,225

(Source: University of Ottawa, 2016)

Table 2) shows that 597 Chinese international students were enrolled in the faculty of engineering in the fall of 2016. 295 were enrolled in undergraduate engineering programs. Meanwhile, 258 students were pursuing a Master's degree, 39 students a doctorate degree and 5 were enrolled in 'other' graduate programs (University of Ottawa, 2017).

Table 2) University of Ottawa, Faculty of Engineering, international students from China by faculty/ by country of citizenship

Undergraduate Studies				
2016-2017				
Fall - F				
	Entering	Returning	Total	
Faculty of Engineering	78	217	295	
Graduate Studies				
2016-2017				
Fall - F				
Faculty of Engineering	Master's	117	141	258
	Doctorates	5	34	39
	Other (Graduate)	5	0	5
	Faculty of Engineering - Total	127	175	302

(Source: University of Ottawa, 2017)

1.2.5 Research Question

Considering the volume of Chinese international students present in Canada and the unique combination of challenges they face, their experience is an especially interesting example to look into. It is highly necessary that Canadian post-secondary education institutions gain a better understanding of Chinese international students in order to make them feel more welcome and included. Without capturing the perspective of the Chinese international student, successful integration of these newcomers in post-secondary classrooms is not possible.

Based on my personal experiences with foreign language acquisition, observations of interactions among a Chinese international students and non-Chinese peers and the evidence that Chinese international students face significant challenges in post-secondary education in Canada, the following research question can be formulated:

How does collaborative work with non-Chinese peers shape the perceptions that Chinese international engineering students at a Canadian university have of their English language skills?

The research question serves as an “interrogative statement that investigate(s) processes or the relationships between variables” (Merrigan, Huston, & Johnston, 2012, p. 15). It is therefore the foundation of the thesis research project and steers the research process.

Knowledge gained from the research problem would help Chinese international students reflect on their own experiences and gain a deeper understanding of the multitude of possible consequences of how collaborative work with non-Chinese peers shapes in their English language self-perceptions. Furthermore, this knowledge would

foster awareness among Canadian domestic and non-Chinese international students in regards to the Chinese international student experience and help create an environment that is more attentive to the needs of this demographic to help them better integrate into Canadian society.

1.3 Theoretical Framework

This thesis aims to gain an in-depth understanding of the Chinese international student experience and insights into how collaborative work in post-secondary Anglophone engineering classrooms impacts English language competence perceptions of Chinese students in Canada.

The theoretical framework offers theories that help gain a fundamental understanding of the context in question (University of Southern California, 2017). Setting the lens through which the research question will be looked at, the theoretical framework “is the structure that can hold or support a theory of a research study. It introduces and describes the theory that explains why the research problem under study exists” (University of Southern California, 2017). Anfara and Mertz stress that the theoretical framework is only meant to help the researcher understand certain aspects of the phenomenon that is being examined. The theoretical framework, however, does not provide a perfect, complete description of how to approach a specific issue (Anfara & Mertz, 2006).

Since the research question focuses on self-perceptions of English language skills shaped by collaborative work, it is essential to analyze the research problem from a point of view that focuses on discourse and how language is used. This helped set the lens through which the research question was looked at

Studying language in use, meaning discourse, Gee distinguishes between *discourse* and *Discourse* (with a big 'D') (hereafter referred to as Discourse). The first defines discourse as merely spoken and written utterances. The latter, which Gee focuses on, takes on a broader definition and presents Discourse as “socially accepted associations among ways of using language, of thinking, valuing, acting, and interacting, in the “right” places and at the “right” times with the “right” objects” (Gee, 1999, p. 18). To clarify, Discourse (with a big 'D') includes more than mere words in approaching discourse, but also underlying messages and context (Gee, 1999).

Gee assigns language two functions. The first function of language showcases that language can emphasize social activities, while the second function shows language can illustrate human affiliation in a cultural and societal context (Gee, 1999).

Shaped by history and culture, “we always actively use spoken and written language to create or build the world of activities [...] and institutions [...] around us” (Gee, 1999, p. 11). Language, therefore, helps construct realities. These realities can be divided into different areas. The respective areas are meaning and values assigned by the material world surrounding us, activities connected to the spoken language, identities, relations, politics, connections and semiotics (Gee, 1999).

Recognition is an essential goal in Discourse. If a communicator manages to assemble language, actions and interactions involved, semiotics and other identifiers in a way that the listener is able to recognize the message of the communicator, then Discourse has been achieved. Meaning is conveyed. Recognition is considered to be building task of discourse. Furthermore, Discourse and recognition are directly connected and inseparable (Gee, 1999).

Gee stipulates that Discourse heavily relies on and is determined by the contextual importance of situated meaning and cultural models. All spoken and written language is shaped by situated meaning, builds situational networks and relates to a multitude of social languages and contexts. This is so because the human mind constantly seeks to identify patterns. “Because the mind is a pattern recognizer, and there are infinite ways to pattern features of the world, of necessity, though perhaps ironically, the mind is social (really cultural)” (Gee, 1999, p. 52). Moreover, “(The mind) is social (cultural) in the sense that sociocultural practices and settings guide and norm the patterns in terms of which the learner thinks, acts, talks, values, and interacts” (Gee, 1999, p. 52).

Cultural models help build language and carry out building the blocks of discourse, “as they operate to create the complex patterns of institutions and cultures across societies and history” (Gee, 1999, 58). Gee does not offer a clear definition of what culture is, but refers to cultural models as groups and contexts that share values, habits and related expectations. Cultural models craft a network of interrelated storylines, which in return helps make sense to the social practices and thought processes of any given social group. One person can be part of a several, interrelated cultural models simultaneously. Referencing Kress, Gee states that “the cultural models and patterns associated with each group can influence the others in unique ways, depending on the different “mix” for different individuals” (Gee, 1999, p. 53). To conclude, having an understanding of the cultural models at hand in a given context is a key factor in discourse analysis.

Situated meaning focuses on “local (contextual knowledge), grounded in actual practices and experiences” (Gee, 1999, p. 40). The human mind identifies situated meanings as familiar patterns, seeking to provide explanatory theories. Gee gives the example of the word ‘shoe’ to clarify situated meaning. Depending on the context and the varying sociocultural experiences of the person communicating and the person listening, one might have a different mental image for the word ‘shoe’ (Gee, 1999).

Identity is directly tied to Discourse. Depending on the context – meaning, the when, where and whom one is communicating with – a different identity is projected. Based on the identity one chooses to project and the politics at hand, the communicator chooses a different social language. Politics refer to interactions in which social status is involved. Therefore, identity is an important component of the contextual knowledge framework of Discourse. Furthermore, Gee assigns Discourse analysis deeper meaning: “The fact that people have differential access to different identities and activities, connected to different sorts of status and social goods, is a root source of inequality in society. Intervening in such matters can be a contribution to social justice. Since different identities and activities are enacted in and through language, the study of language is integrally connected to matters of equity and justice” (Gee, 1999, p. 13).

Language constructs can also be used to correspond to the expectations and conventions of a given situational context (Gee, 1999). Since context is of such great importance in Gee’s approach to discourse analysis, attempting to accurately frame a problem becomes crucial. Context is infinite. This is where dimensions layers constructing a context can enter the picture in Gee’s approach to Discourse (Gee, 1999). There is always more a researcher can do to learn to fully grasp the complexity of the

perspective that is being captured. Gee refers to this as the 'Frame Problem'. Regardless of how much information has been gathered in the research process, there is always more to be discovered that changes the context and, therefore, how the problems is framed. It is key for a researcher to judge how much context is necessary in order to frame a problem and create a hypothesis. Nevertheless, Gee urges to take a vigilant approach by always being willing to "push context a bit further than we would in everyday life to see if we can falsify our claims about meaning" (Gee, 2012, p. 32).

Spoken and written language are an immediate reflection of the context which they are used in. Cultural models and situated meaning impact Discourse and in return create an interrelated network in which no situation or context in itself is unique. Gee states that contexts can resemble each other and repeat over time (Gee, 1999).

Gee states that unless hindered by certain limitations, everybody acquires a native language, which is vital to human socialization in regards to basic linguistic development. Language can vary in terms of regional dialects (2012). Dialects are characterized by vocabulary, sentence structure and how people choose to pronounce words. While speed and clarity are important goals of language according to Gee, shared cultural knowledge appears to be an important component of understanding. By default, shared cultural knowledge is taken for granted. However, when this knowledge is not shared, cultural misunderstandings can occur. Gee repeatedly emphasizes the importance of context in discourse analysis. The following equation illustrates this in a simplistic way:

What the speaker says + context = what the speaker means

(Gee, 2012, p. 11)

Referencing back to the research problem, Gee offers valuable insights into how Discourse is more than just spoken and written words. Language is dynamic and can change its meaning depending on the context it takes place in. Discourse is significantly shaped by situated meaning and cultural models. When trying to unveil how Chinese international students' English language self-perceptions are being shaped by collaborative work with non-Chinese peers in post-secondary engineering classrooms, it is important to gain an in-depth understanding of the cultural models involved, shared cultural knowledge and situated meanings used to describe contexts.

1.4 Research Objectives

The thesis pursues several objectives. Situated in the context of Chinese internationally students completing collaborative work with non-Chinese peers, the thesis it aims to gain an in-depth understanding of

- a) What contextual knowledge is necessary to answer the research question,
- b) How peer interactions impacts language development and language self-perceptions,
- c) And, of course, how Chinese international engineering students perceive their own English language skills based on collaborative with non-Chinese peers.

1.5 Methodology

The research question is partially answered through an extensive literature review. Face-to-face focus groups were selected as the most appropriate method since they take a community-based approach (Northey, Tepperman, & Albanese, 2015).

The discourse of the focus-groups helped capture the perspective of Chinese international students. Gee's Making Strange Tool, Building Significance Tool and Fill-in-Tool helped understand the underlying messages of the shared discourse (Gee, 2012). The discourse was then coded according to Saldaña's streamlined codes-to-theory model for qualitative inquiry. The model generated codes, categories, a concept and a key assertion (Saldaña, 2013).

It was not possible to reach the initial sample target size of 20 participants because 40% of the approached candidates did not meet the participation criteria. Most candidates who declined their participation stated that they had never completed collaborative work with non-Chinese peers. A total of 14 Chinese international students studying at the University of Ottawa were recruited to participate in one of four focus groups.

During these sessions, they engaged in a discussion on completing collaborative work with non-Chinese peers in Anglophone engineering classrooms and described how these experiences shape their self-perceptions of their English language skills.

The transcribed audio recordings were then intensively studied and coded. This provides a detailed oversight of relationships and consequences in regards to the participants' perceptions of their English language skills.

1.6 Structure of Thesis

The thesis is structured in five chapters, preceded by an Abstract. The Abstract delivers a brief summary of the research question, consulted literature, the methodology and the findings and conclusions.

The first chapter is the Introduction Chapter, which provides background information that explains why the specific research focus was chosen and leads up to the research question. Also, a theoretical framework is included which introduces theories that set the lens through which the research focus was explored. In addition, the Introduction Chapter provides a rationale for the thesis projects, its objectives and also mentions the chosen method that was chosen to answer the research question.

This chapter is followed by the Literature Review Chapter, which breaks down the research question into nine individual sections. By creating a literary framework and listing the conclusions which scholars have offered on topics directly related to the research question, the Literature Review Chapter steers the research in a certain direction and equips the researcher with theories and questions that are addressed in the Methodology Chapter.

The Methodology Chapter delivers a detailed outline of the selected method – in this case face-to-face-focus groups- and also provides information on the chosen sample demographic, recruitment procedures, and how the data is analyzed. The Analysis and Discussion Chapter presents the findings from the face-to-face focus groups and compares them to the theories and conclusions discussed in the Literature Review

Chapter. In the final fifth chapter, the Conclusion Chapter, the thesis project draws its own conclusions and presents possibilities for further research.

2. Literature Review Chapter

2.1 Introduction

The Literature Review Chapter aims to “summarize and evaluate the existing knowledge on a particular topic” (Machi & McEvoy, 2009, p. 2). By creating an extensive literary and scholarly framework that sets the research question into context, the literature review helps provide the necessary foundation to offer a position on a particular topic.

The following chapter and its individual sections give detailed insights into various areas of research related to the thesis topic. Relevant literature addressing intercultural communication, post-secondary engineering education and its demand for collaborative work, challenges faced by Chinese international students, linguistic and foreign language competence, peer interaction, foreign language barriers and an analysis of Chinese national culture according to Geert Hofstede as included in this chapter. The literature review steers the research towards the themes and questions that ought to be addressed in the methodology chapter in order to answer the research question.

2.2 Intercultural Communication Theory

The thesis topic explores communication between Chinese international students and non-Chinese peers in post-secondary Anglophone classrooms in Canada.

Gudykunst and Mody refer to this kind of interaction as intercultural communication.

Their simple definition describes intercultural communication as “face-to-face communication between people from different national cultures” (Gudykunst & Mody, 2002, p. ix).

Anthropologist Hall first coined the term in his book *The Silent Language* in 1959 to describe interactions between individuals of different cultural backgrounds. Despite not delivering a concrete definition in his work, he is considered to be the founder of the scholarly field of intercultural communication. At the time of initially coining intercultural communication, he was employed at the Foreign Service Institute of the U.S. Department of State (Hart, Rogers, & Milke, 2002).

Concluding that “culture is communication and communication is culture” (Hall, 1959, p. 186), Hall emphasizes the importance of cultural context when individuals from one culture communicate with members from another foreign culture. Furthermore, Hall states that “it must be remembered that when people talk they are using arbitrary vocal symbols to describe something that has happened or might have happened and that there is no necessary connection between these symbolizations and what occurred. Talking is a highly selective process because of the way in which culture works” (Hall, 1959, p. 120).

According to Hart et al., two important works that were developed several decades before Hall’s *The Silent Language* would later contribute to the field of intercultural communication. Namely, Georg Simmel’s sociological essay *The Stranger* (1908) and Charles Darwin’s research on emotion expression in 1872, also more commonly referred to as non-verbal communication, fundamentally shape intercultural communication theory today (Hart et al., 2002).

Using the term cross-cultural communication instead, Nancy J. Adler focuses on transmission of intercultural communication messages in organizational contexts. Adler points out the increased risk of misunderstanding in cross-cultural settings where the

sender and the receiver originate from differing cultural backgrounds. In her book *International Dimensions of Organizational Behavior*, together with Gundersen, Adler concludes that varying perception, interpretation and evaluation can lead to misunderstandings in cross-cultural situations. Referring to the Canadian example, Adler states that interpretation or misinterpretation of communication in Canada is based on North American cultural norms (Adler & Gundersen, 2008). This, in return, links back to communication being culture and culture being communication (Hall, 1959).

Unlike Adler, who uses cross-cultural and intercultural communication terminology interchangeably, Gudykunst and Mody separate the two. They view cross-cultural communication as the “comparison of face-to-face communication across cultures” (Gudykunst & Mody, 2002, p. ix). Furthermore, they view the comparative discipline of cross-cultural communication as a “prerequisite to understanding intercultural communication” (Gudykunst & Mody, 2002, p. ix).

Bennett delivers a definition of intercultural communication similar to that of Gudykunst and Mody. He defines intercultural communication as “communication between people of different cultures” (Bennett, 1998, p. 2). Bennett also emphasizes the increasing importance of intercultural communication in our day and age. Bennett borrows Marshall McLuhan’s term ‘global village’ and states that the ‘global village’ has the ability to foster respect and mutual goals among diverse ethnic groups (Bennett, 1998). Considering the growing importance of intercultural communication, which also brings an increase in cross-cultural misunderstanding, intercultural communication

competence becomes a necessary skill to be an effective communicator in today's global village.

According to Arasaratnam and Doerfel, Intercultural Communication Competence (ICC) is a subjective discipline, which, in a research related context, depends on “how culture and intercultural communication are defined, the validity and consistency between assumptions made by the researcher, and the need for the researcher to be explicit about research goals, and the theoretical perspective” (Arasaratnam & Doerfel, 2005, p. 138).

Michael Byram directly links intercultural communicative competence to the concept of communicative competence (Byram, 1997).

For the sake of this research project, the term intercultural communication will follow the definition by Spencer-Oatey and Franklin, who refer to the term intercultural communication when describing any interaction that takes place between people of differing cultures. “An intercultural situation is one in which the cultural distance between the participants is significant enough to have an effect on interaction/communication that is noticeable to at least one of the parties” (Spencer-Oatey & Franklin, 2009, p. 3). Referring back to the research topic, collaborative work between Chinese international students and non-Chinese peers is therefore intercultural in nature.

2.3 Challenges of Chinese International Students

Kuo and Roysircar, who studied a sample of 506 Chinese adolescents living in Canada, report that more than a third of Chinese migrants living in Canada were

younger than 24 years old (Kuo & Roysiclar, 2004). Furthermore, they emphasize the importance of acculturation impacting an international student's academic and socioeconomic success. Acculturation is a process throughout which two autonomous cultural groups meet and interact (Kuo & Roysiclar, 2004). As a result, their individual behaviour, values and perception gradually change, as they adapt to either or both groups. A related consequence of the acculturation process is acculturative stress. Kuo and Roysiclar quote Berry, Kim, Minde and Mok (1987) in their article when defining acculturative stress. It is "a reduction in health status (including psychological, somatic, and social aspects) of individuals who are undergoing acculturation" (2004, p. 144).

In terms of degree of acculturative stress, Chinese international students living in Canada reported elevated degrees of this kind of stress and related problems with employment, family life, feelings of loneliness and communication skills. Kuo and Roysiclar also studied students from other nations and migrant backgrounds and discovered that Chinese international students were experiencing the highest level of stress. To conclude, this demographic is facing an especially challenging international student experience (Kuo & Roysiclar, 2004).

Zhang and Zhou (2010) from the University of Windsor add that in addition to language barriers, international students have different expectations in terms of instruction and study technique at Canadian universities. They apply this to the Chinese example as well, stating that post-secondary education in China takes a teacher-centred focus in which students are encouraged to listen and learn, rather than speak in class and participate in discourse. Canadian classrooms favour a social constructivist approach to pedagogy, while in China the behaviourist approach still prevails.

Zhang and Zhou conducted a survey with 76 Chinese international students studying at the University of Windsor, in Windsor, Ontario, aiming to understand perspectives and challenges of their research sample: “When asked about their feeling of studying at the University of Windsor, 3% reported feeling at home, 67% reported feeling ‘OK’, 21% reported they were struggling, and 9% reported that they wanted to quit their program of study” (Zhang & Zhou, 2010, p. 49). Survey results showed that the most significant challenges Chinese international students are confronted with are related to housing, difficulties upon arrival, forming social relationships, differences in performance expectations and learning technique on behalf of the University and communication skills. A lack of effective English language communications skills reinforces these problems since they are a crucial factor that determines the academic and social success of an international student (Zhang & Zhou, 2010).

Post-secondary education in Canada increasingly relies on collaborative work, meaning that assignments are completed in a group-based setting. Without the necessary English language communication skills it is not possible for Chinese international students to express their ideas and opinions or to participate in group discussions. In contrast, “those participants who had made friends with native English speakers tended to be more satisfied with their study experience and had a higher level of confidence to successfully complete their programs” (Zhang & Zhou, 2010, p. 50). Therefore, one can conclude that English language competency is an important key factor that shapes the Chinese international student experience studying at a Canadian post-secondary educational institution (Zhang & Zhou, 2010).

Huang and Klinger (2006) from Queens University observed that 80% of Chinese international students studying in North America first obtain an undergraduate degree from a Chinese university or college and then come to the United States and Canada for their graduate studies.

In contrast to Zhang and Zhou, who believe that communication skills are the most important key factor to success, Huang and Klinger agree that English language proficiency greatly matters, but cite cultural differences as the main reason why Chinese international students tend to struggle at North American universities. “Cultural differences in the classroom create anxiety and stress and negatively impact achievement. These differences begin with the unfamiliar structure and facilities of American universities and continue into student attitudes, classroom interactions, and teaching methodology” (Huang & Klinger, 2006, p. 51). English language proficiency difficulties, combined with cultural differences that extend to instruction style as well, create a serious source of anxiety for these students (Huang & Klinger, 2006).

Wang and Lo even believe that the Chinese economic experience in Canada differs from other immigrant groups. “Despite their higher educational qualifications and proficiency in Canadian official languages, however, many new Chinese immigrants are disappointed, and even frustrated, because they have not been able to achieve satisfactory economic performance in the Canadian labour market” (Wang & Lo, 2005, 36).

Coming from a vastly different cultural background, language barriers and varying expectations in terms of instruction and educational and social experiences,

Chinese international students are expected to overcome high levels of stress and anxiety.

2.4 An Analysis of Urban Chinese Culture According to Geert Hofstede

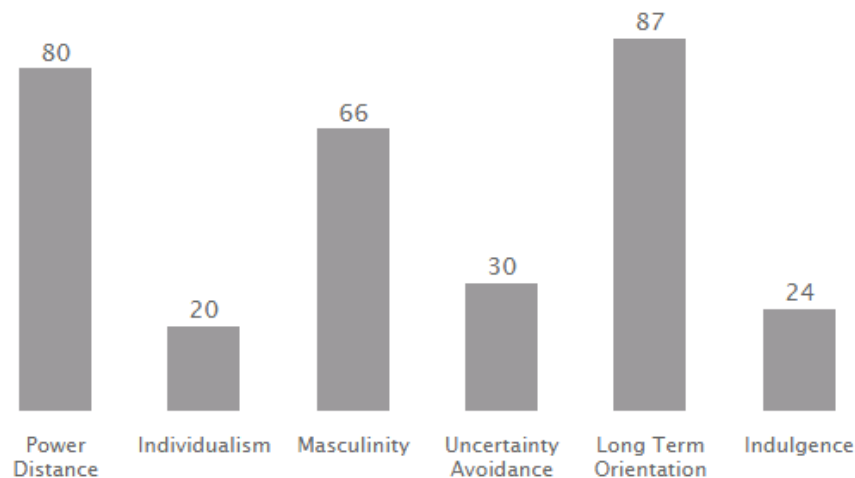
Gee (1999; 2011), Edward T. Hall (1959) and Huang and Klinger (2006) emphasize the importance of cultural background in intercultural communication contexts. Therefore, in order to gain a more in-depth understanding of how Chinese engineering students perceive their own English language abilities, it is necessary to look at urban Chinese culture from an analytical point of view.

Geert Hofstede conducted a large-scale study of IBM between 1967 and 1973, during which he intensively researched national culture in an organizational communication context. According to Jones (2007), Hofstede's research is the most broadly cited study focusing on organizational culture in existence.

Based on the results of the IBM study, Hofstede established a model of national culture that consists of six universal dimensions of culture. These dimensions illustrate and measure aspects of national culture and determine the position they take in the respective societies.

The six dimensions are power distance, individualism versus collectivism, masculinity versus femininity, uncertainty avoidance, long term orientation versus short term normative orientation and indulgence versus restraint. In 2010, Hofstede updated the scores from his original IBM study (Geert Hofstede Center, 2010a). Figure 2) illustrates how urban Chinese culture was measured.

Figure 2) Urban Chinese Culture According to Hofstede’s Dimensions of Culture



(Source: Geert Hofstede Center, 2010b)

The first column represents power distance, which is “the degree to which the less powerful members of a society accept and expect that power is distributed unequally” (Geert Hofstede Center, 2010a). With 80 out of 100 possible points, China has an elevated level of power distance. This indicates that subordinates and superiors take profoundly different positions in Chinese society. Although there is general confidence in people’s leadership and initiative, aspiring for goals higher than their societal rank is seriously frowned upon (Geert Hofstede Center, 2010b).

The second column portrays individualism versus collectivism. China scores low in terms of individualism, meaning that its national culture is highly collectivistic and therefore interdependent. Loyalty and prioritizing group interests greatly matter (Geert Hofstede Center, 2010b).

In terms of masculinity versus femininity, China clearly scores as a masculine society. Hofstede defines a masculine society as one in which success, competition and

achievement are driving factors, which often means that one's private life is sacrificed and dedicated to work instead. Chinese national culture's tendency towards masculine values and goals establishes itself in the image many people have of Chinese foreign students who work hard and very much care about grades and evaluations (Geert Hofstede Center, 2010b).

Particularly interesting is the dimension of uncertainty avoidance, which represents "the degree to which the members of a society feel uncomfortable with uncertainty and ambiguity" (Geert Hofstede Center, 2010a). With a score of 30 points, China measures comparatively low on the uncertainty avoidance index. Hofstede reports that Chinese culture is comfortable with ambiguity and therefore adaptable (Geert Hofstede Center, 2010b).

Concerning long-term versus short term normative orientation, Chinese national culture is strongly in favour of the latter. Long-term orientation values pragmatism in regards to preparing for the future. This also extends to investing great efforts into education. Furthermore, they believe that "truth depends very much on situation, context and time" (Geert Hofstede Center, 2010b).

The final index is indulgence versus restraint. This dimension signifies the degree to which a nation's people is willing to control impulse and desires. The chart above shows that China has a national culture characterized by restraint. Restraint is an indicator for pessimism and cynicism, in addition to not viewing leisure time and gratifying desires as important (Geert Hofstede Center, 2010b).

2.5 Post-Secondary Engineering Education in Canada

An increasing number of students graduates from Canadian post-secondary engineering programs (Engineers Canada, 2015). Around 200,000 professional engineers can be found across the country, according to the Ontario Ministry of Citizenship, Immigration and International Trade (2014).

Canadian post-secondary institutions aspire to equip prospective engineers with the tools and knowledge necessary to succeed in their careers. Engineering classrooms are shifting away from lecture-only approaches. They are moving towards an interactive, problem-solving oriented curriculum that focuses on collaborative work (Mason, Shuman & Cook, 2013).

Canada's engineering industry attempts to fill labour gaps by employing qualified immigrants (Friesen, 2011). Immigrant engineers represent a large portion of all engineers in Canada. Namely, "nationally, 36% of applicants for professional engineering licensure in 2009 were immigrant engineers, with some provinces recording percentages as high as 60%" (Friesen, 2011, p. 80).

Engineering is a diverse profession with many possible specializations that require varying skill sets. Many engineers work in team environments and plan and execute projects together: "Engineers rarely work alone, they rely on knowledge of many people to solve workplace problems... different team members contribute their skills and knowledge to the solutions of the engineering problems" (Williams, Figueiredo, & Trevelyan, 2014, p. 81). Dr. Paul Leonardi shares this opinion and states that collaboration is crucial in engineering. However, it appears that post-secondary

education does not equip engineers with the necessary communication skills (Leonardi, 2003).

2.6 Collaborative Work in Post-Secondary Educational Settings

“Collaboration is a hallmark of 21st-century organizing across all economic sectors” (Koschmann & Burk, 2016, p. 393). In response to this development, engineering classrooms are taking a more student-focused, project-based approach to post-secondary instruction. Students are expected to complete assignments and projects through collaborative work (King, 2016; Mutwarasibo, 2013; Verenikina, 2012).

Collaborative work is a teaching strategy that favours continuous assessment, rather than students only completing an exam or paper at the end of the semester. Collaborative work changes classroom dynamics and the roles of students and professors. It also raises questions of task divisions and usage of space, and also shifts workload of parties involved (King, 2016).

Especially in second language contexts, group dynamic plays an essential part in language acquisition. This is so because “understanding the dynamics of classroom communication is essential since how students talk and act in classrooms greatly influences what they learn” (Richards, 1995, p. 5). More and more interaction related to completing collaborative work takes place in virtual spaces (King, 2016).

Completing tasks collaboratively benefits students in terms of their interpersonal and communication skills and also gives them an impression of how projects are carried out in the workplace (Mutwarasibo, 2013), where interdependent active work groups are gaining relevance (Koschmann & Burk, 2016). Self-directed collaborative work is a

non-linear process that goes through six developmental stages: 1) the pre-group stage 2) the forming stage 3) the storming stage 4) the norming stage 5) the performing stage 6) the termination stage. The stages transition from meeting, to establishing a schedule and task division, revealing individual traits, learning to tolerate or accept these traits and eventually a group identity is formed. At last, the group achieves productivity and terminates the project. However, from an organizational studies perspective, “collaboration blurs the boundaries between groups and gives rise to ambiguous authority relations that are not easy to reconcile” (Koschmann & Burk, 2016, p. 394).

2.7 Peer Interaction in English Language Learning

Distinguishing between peer interaction with fellow foreign language learners and native speakers, Philp, Adams and Iwashita. present an extensive framework of how peer interaction dynamics impact foreign language acquisition. The scenario of completing collaborative work in an academic setting is a type of peer interaction (Philp, Adams & Iwashita, 2014). Peer interaction is “any communicative activity carried out between learners, where there is minimal or no participation from the teacher” (Philp et al., 2014, p. 3). Philp et al. quote Philp and Tognini (2010), suggesting that peer interaction maybe an important component of second language acquisition, potentially making collaborative work an opportunity to experiment with language, and therefore modify and develop communication competence.

Through peer interaction with native speakers and non-native speaker peers, foreign language learners can experiment with language and correct grammar and vocabulary weaknesses. By practicing their English language skills with peers, learners are forced to actively think about how to convey meaning. They therefore begin to

unveil relationships between the meaning of words and expressions, how to formulate them and how to correctly use them. This is so because “the form to be learned has to be practiced in context, where the form is used to convey meaning” (Philp et al., 2014, p. 59).

Foreign language improvement is often achieved through corrective feedback by peers. There are two different kinds of feedback, namely, implicit and explicit correction. Depending on the nature of the feedback and group dynamics, foreign language learners modify their output. Furthermore, peer interaction also helps foreign language learners acquire knowledge in regards to coherence and accurate and appropriate language use. As a result, “through joint construction, novice learners are able to do what they would not be able to do on their own” (Philp et al., 2014, p. 41). This, in return, leads to a gradual transition to enhanced autonomy among foreign language learners. Furthermore, Philp et al. report that more recent research focusing on foreign language acquisition in peer interaction contexts suggests that age also plays a role in whether peers give each other feedback. Adult foreign language learners are more likely to give feedback than children (Philp et al., 2014).

A clear set out target of foreign language learners is to achieve fluency. Fluency is defined as “production as automatic procedural skills” (Philp et al. 2014, p. 59) and is directly linked to automatization.

Cheng and Erben (2012) state the greatest difference between young and adult foreign language learners is the ability to achieve fluency: “Native-like mastery of the target language is not the usual outcome for second language learners, especially for

adult learners who seldom achieve native-like unaccented speech” (Cheng & Erben, 2012, p. 478).

Overall, in their conclusion, Philp et al. attribute lower likelihood of improvement “to learners’ limited linguistic and attentional resources, as well as sociolinguistic factors such as face-saving measures and the desire to focus on communication rather than grammatical accuracy” (Philp et al., 2014, p.55).

2.8 Linguistic and Foreign Language Competence

International students arriving in a new country encounter countless obstacles among which language barriers are a significant challenge to overcome. The necessity for language competence and performance increases in such times. Similar to the increased need for intercultural communication competence, foreign language competence is equally gaining in importance (Lasagabaster, 2008).

Linguistic and foreign language competence is a multifaceted and multidimensional area of research, which will be elaborated on in the following section of the literature review.

2.8.1 General Definitions of Linguistic and Foreign Language Competence

Gee (2011) offers a basic introduction to language competence and language acquisition. Concerning native language acquisition, “the process of language acquisition is, at least in large part, under biological control. Humans are creatures of language. They are born ready and able to acquire some variety of a human language” (Gee, 2011, p. 2).

Moreover, using intercultural communication scenarios to illustrate this point, Gee emphasizes the importance of cultural knowledge in both native and foreign language competence. Culture and communication are similar to an iceberg. We can only see the bare tip of the iceberg, but a lot more information, which is driven by context, values and norms, lies underneath the surface that ought to be understood in order to grasp the full picture (Gee, 2011).

As Fischer (1981) states, the greatest goal of any foreign language student is to become able to communicate in the new language, and to eventually master it. Fischer defines linguistic competence as “the knowledge that a speaker-hearer has of a language, that is, in its strictest sense an internalized system of rules that enables him to articulate and understand sentences in the language” (Fischer, 1981, p. 208). Furthermore, linguistic competence is determined by the speaker-being able to interpret a sample of the language they are trying to learn. Also, linguistic competence must be achieved before linguistic performance can follow.

Various scholars agree that linguistic or language competence is achieved through other related competences that enable the speaker to effectively convey meaning (Byram, 1997; Carroll, 1961; Van Elk, 1986). Van Elk’s model of communicative competence considers linguistic competence to be only one aspect of communicative ability. Linguistic competence is defined as the “ability to produce and interpret meaningful utterances which are formed in accordance with the rules of the language concerned and bear their conventional meaning [...]” (Van Elk, 1986, p. 8). In addition to linguistic competence, there are five other competences. Namely,

sociolinguistic, discourse, strategic, socio-cultural and social competence are aspects that complete the communicative ability model (Van Elk, 1986).

Michael Byram believes that Van Elk's model is more applicable to first language acquisition, rather than foreign language acquisition. However, Byram recommends the communicative ability model as a promising starting point to gain a deeper understanding of foreign language competence and acquisition (Byram, 1997).

According to Carroll, language competence is made up of linguistic knowledge, meaning understanding how to form sentences in a comprehensive and logical way, and channel control, which implies knowing how and when to use oral and written language (Carroll, 1961). Chomsky (as cited in Verhoeven & De Jong, 1992, p. 125) distinguishes between “grammatical competence, including all linguistic aspects of meaning, and pragmatic competence, referring to the ability to use linguistic knowledge along with the conceptual system to achieve certain language purposes”.

2.8.2 Driving Factors of Perceptions of Language Competence

There are various factors that impact and shape an individual's language competence. The main ones are culture, gender, and personality. Lasagabaster points out that language acquisition and competence may significantly be influenced by gender. Specifically, “as there seems to be a female oriented culture that spreads the idea that learning foreign languages is a feminine terrain and, subsequently, male students feel less confident and obtain worse scores” (Lasagabaster, 2008, p. 32). Moreover, Lasagabster refers to a study by Schmidt, Boraie and Kassagaby (1996), which concludes that women are better masters of foreign language competence

because they are driven by intrinsic motivation and men are said to be driven by extrinsic rewards.

Yoko Kobayashi (2002) investigates females' success in English language acquisition and competence, under the assumption that gender roles and dynamics are based on social constructs. Her research concludes that Japanese girls' motivation and willingness to do well in language acquisition draws back to fears of judgement and not fulfilling societal expectations. "Girls fear success in non-traditional male domains such as mathematics because they assume that their success in those masculine areas leads to their loss of femininity and invites unfavourable social attitudes towards them" (Kobayashi, 2002, p. 188). This conclusion may be applicable to the Chinese context as well.

Despite social changes in China brought on by the Communist revolution, the Cultural Revolution that took place in the 1960s, and the socioeconomic improvement of women, traditional family and gender roles prevail and set narrow expectations for women (Cheung & Halpern, 2010; Xie, 2013).

Personality is an equally important factor that shapes language competence development. Along our willingness to communicate, MacIntyre and Charos intensively studied the impact of personality on perceived second language competence. For the purpose of their study, they created personality dimensions deriving from global personality traits theories developed by Funder. These are personality trait dimensions are the following: 1) Intellect 2) agreeableness 3) emotional stability 4) extroversion and 5) conscientiousness. In their findings, MacIntyre and Charos explain that opportunities to practice and actively use the acquired second language, teach students

how to use verbal and non-verbal cues to avoid and overcome grammar and vocabulary-related difficulties. Linking their findings to personality trait dimensions, “persons who consider themselves to be more intellectual, sophisticated, or open to experience [...] see themselves more competent (in a second language)” (MacIntyre & Charos, 1996, p. 18). Extroverted personality types, which are characterized by sociability, tend to experience high levels of language related anxiety. Language anxiety is caused by social and communicative demands, instead of proneness to nervousness (MacIntyre & Charos, 1996).

Similar to symptoms of nervousness, language anxiety can manifest itself in cold sweats, augmented heartbeat, and impaired creativity, performance and ability to focus (Szyszka, 2011).

Frequency and positive second language experiences reduce anxiety and therefore increase perception of language competence. Perceived competence, in return, increases frequency of second language use. To conclude, social context, personal intellect and language anxiety greatly shape language competence perception (MacIntyre & Charos, 1996).

Young (1986) believes that foreign language anxiety can have a positive and negative impact on the learner’s performance. Quoting a study conducted by Spielberg (1966), Young states that if a foreign language learner is proficient in a foreign language, language anxiety will not affect their performance. However, if the foreign language learner shows low ability, then they will be affected by language anxiety, which therefore impacts their foreign language competence and willingness to communicate. Also, the article states that research on the relationship between anxiety

and foreign language learning is inconclusive. Young studies foreign language anxiety in an exam-based context (oral proficiency interview) and concludes that “as anxiety increases, oral proficiency decreases” (Young, 1986, p. 443) and declares individual ability to be the prevailing factor that determines language competence (Young, 1986).

Magdalena Szyszka (2011) questions the notion that low foreign language competence is the main cause that leads to language anxiety, and therefore in return negatively impacts competence. Drawing from data based on a survey and a questionnaire, Szyszka elaborates on factors that contribute to language competency, namely pronunciation in oral performance. Her results demonstrate that there is a negative relationship between language anxiety and pronunciation perception: “Students who experience higher levels of (language anxiety) perceive their pronunciation competence as worse than those whose anxiety is lower” (Szyszka, 2011, p. 293).

Elevated levels of language anxiety appear to have the greatest impact on rhythm and stress. Meanwhile, choice of linking words, pronunciation and assimilation have the weakest, yet still noteworthy, impact on self-perception. Apprehensive learners experience insecurity regarding their competence. This lack of confidence leads to foreign language students being overly critical of their own abilities and potentially limiting their opportunities for oral communication. Language anxiety can also lead to apprehensive behavior and fear of negative evaluation (Szyszka, 2011).

Szyszka does not disprove MacIntyre’s position that a negative perception of language competence leads to language anxiety and therefore in return impacts the learner’s competence. Nevertheless, “a highly anxious learner [...] who does not believe in their abilities and self-evaluates poorly, for example in the area of FL pronunciation,

may be discouraged from developing FL oral communication skills and making efforts in FL learning” (Szyszka, 2011, p. 295). Szyszka concludes a correlation between language anxiety and foreign language perception and suggests that classrooms can proactively reduce sources of language anxiety, through methods such as relaxation techniques (Szyszka, 2011).

In order to belong and become part of a group, one needs to be able to communicate with this new group. Verschueren states that accents, an integral component of oral communication, can hinder or delay this process (Verschueren, 2008). He suggests, however, that as a result of our globalized society and economy, foreign language accents have become an aspect of daily life, in both private and professional environments.

Deprez-Sims and Morris from the Illinois Institute of Technology distinguish between local (regional linguistic differences within the nation) and foreign accents. Furthermore, they defined accents as “a distinctive way of speaking associated with a particular group of people, typically based on differences in phonology or intonation across geographic regions or social groups” (Deprez-Sims & Morris, 2010, p. 418). These accents lead to involuntary categorizations, and therefore ethnic biases and stereotypical expectations (Deprez-Sims & Morris, 2010).

Pantos and Perkins believe that foreign language accents can impact an individual very negatively in terms of social, financial and political repercussions (Pantos & Perkins, 2013). English language proficiency is a key indicator for economic success due to the fact that language proficiency is interpreted as a part of higher

academic achievement. As a result, lack of English language proficiency is associated with lower academic achievement (Chow, 2001).

2.8.3 Foreign Language Competence in the Chinese Context

Yuan (2016) addresses foreign language competence in the Chinese context. Distinguishing between communicative and linguistic competence, Yuan states that conveying meaning is the ultimate goal of language mastery. Rather than encouraging autonomous participation, Chinese English language secondary school classrooms take a teacher-centered approach in which students passively receive instruction on vocabulary and grammar. Yuan observed that “most (...) students with low proficiency of oral performance cannot express themselves clearly though they spend plenty of time on studying grammar rules” (Yuan, 2016, p. 395). This sort of instruction favours the development of linguistic competence but does not enhance communicative competence, meaning that students do not learn to convey meaning (Yuan, 2016).

L.R.L. Cheng assigns Cantonese-Chinese accents unfavourable stigmas in North American contexts. “A foreign accent is marked by differences in phonology, timing, rhythm, stress, and intonation patterns” (Cheng, 1999, p. 3) In addition, Cheng suggests that when trying to decode communication delivered in a foreign accent, the listener tends to focus on how something is being said, rather than the meaning of the conveyed message (Cheng, 1999).

2.8.4 Identity and Perceptions of Language Competence

The research question aims to understand how Chinese international students view their own English language competence and skills. To be able to answer the

research question, it is important to first of all understand the role of the self in foreign language acquisition (Csizer & Magid, 2014).

Csizer and Magid (2014) focus on theories of the self in foreign language contexts. One's sense of self plays an integral role in the foreign language acquisition process since language shapes identity. In *The Impact of Self-Concept of Language Learning* by Dornyei (2014), Csizer and Magid (2014) include a chapter on theories of self-concept. Self-concept "has traditionally been seen as the summary of the individual's self-knowledge related to how the person views him/herself" (as cited by Csizer & Magid, 2014, p. 7).

An important component of self-concept and a driving factor of motivation in foreign language acquisition is the idea of the future self. The idea of the future self applies to future foreign languages competence as well. The future self can either refer to what one might become, what one would like to become or what one is afraid to become.

Dornyei gives detailed insights as to why people choose to study a foreign language by presenting the L2 Motivational Self-System Model (second language is commonly abbreviated as L2 in foreign language research). The model lists internal desire to acquire a foreign language and social pressure to learn a language in the environment of the learner as driving forces of motivation. However, the factor of quality of learning experience is considered to be a new approach added to the motivational self-system model. Learning experience refers to the relationship between the student and the teacher and quality of instruction. Our possible selves can be likened to dreams and visions of the self. Dornyei cites Markus and Nurius (2014), who state

that “possible selves encompass within their scope visions of desired and undesired end states – thus, possible selves can be seen as the visions of what might be“ (Markus & Nurius, in Dornyei, 2014, p. 11).

Norton and McKinney (2011) view identity in foreign language acquisition contexts as a dynamic, fluid concept. Basing their theories on post-structuralism, they stipulate that “language itself is not only a linguistic system of signs and symbols, but also a complex practice through which relationships are defined, negotiated, and resisted” (Norton & McKinney, 2011, p. 77). This approach also suggests that identity is multidimensional and changes over time, especially when exposed to struggle (Norton & McKinney, 2011).

The view that identity evolves and changes over time is compatible with insights gained by Stracke, Jones and Bramley (2011). A questionnaire and a series of semi-structured interviews were carried out with participants mostly originating from the Middle East, South East Asia and East Asia who now live in Australia. The findings conclude that the identity of an adult migrant learner with English as a second language transitions from mono-cultural to bicultural. They value their heritage’s culture and language, but are still very much motivated to improve their foreign language competence. Study participants demonstrated strong awareness of their English language competence and progress, with a sense of necessity to further improve foreign language proficiency. The study concludes that foreign language learners are capable of accurate self-assessment (Stracke et al., .2011).

2.8.5 Self-Assessment of Language Competence

How one perceives one's foreign language competence is ultimately driven by self-assessment. While some scholars believe that foreign language students are capable of accurate self-assessment of their skills and competence (Stracke et al., 2011), some point out the possibility of error (MacIntyre, Noels & Clément, 1997). Whether this error is under- or overestimated, however, is not clarified in the consulted sources.

Blanche and Merino (1989) investigate the question of whether foreign language learners are capable of self-assessment accuracy. Their literature review shows that students are indeed able to evaluate their own language competence either well or very well. These correct evaluations and estimates, however, may be based on previous testing and examinations performed by language instructors. Based on Blanche and Merino's research one can assume that foreign language learners' self-assessment is very much impacted by how their instructors view their language skills, which in return impacts their own perceptions as well (Blanche & Merino, 1989).

MacIntyre et al. (1997) emphasize the importance of self-assessment in second-language development. Stating that assessment accuracy can err, the authors suggest that "affective factors may systemically bias the self-assessment [...]" (MacIntyre, et al., 1997, p. 266). This is partially so, because confronting foreign language competence that is perceived as limited can be a very uncomfortable and discouraging task. This is particularly difficult for anxious learners, who "may focus their attention on their perceived inadequacies, the potential for failure, and the consequences of that imagined failure, rather than concentrating on the task itself" (MacIntyre et al., 1997, p. 269). Self-assessment greatly impacts students' perceptions of their own skills and abilities,

and is in return directly linked to their motivation to learn more and improve (McMillan & Hearn, 2009).

Linguistic and foreign language competence is a complex area of research that is yet to be fully grasped and investigated. A search for identity, combined with gender, cultural background and language anxiety are important factors that drive foreign language acquisition and competence. Although self-assessment is a promising tool to evaluate individual foreign language acquisition progression, this type of assessment can err and will impact self-perceptions of skills and abilities.

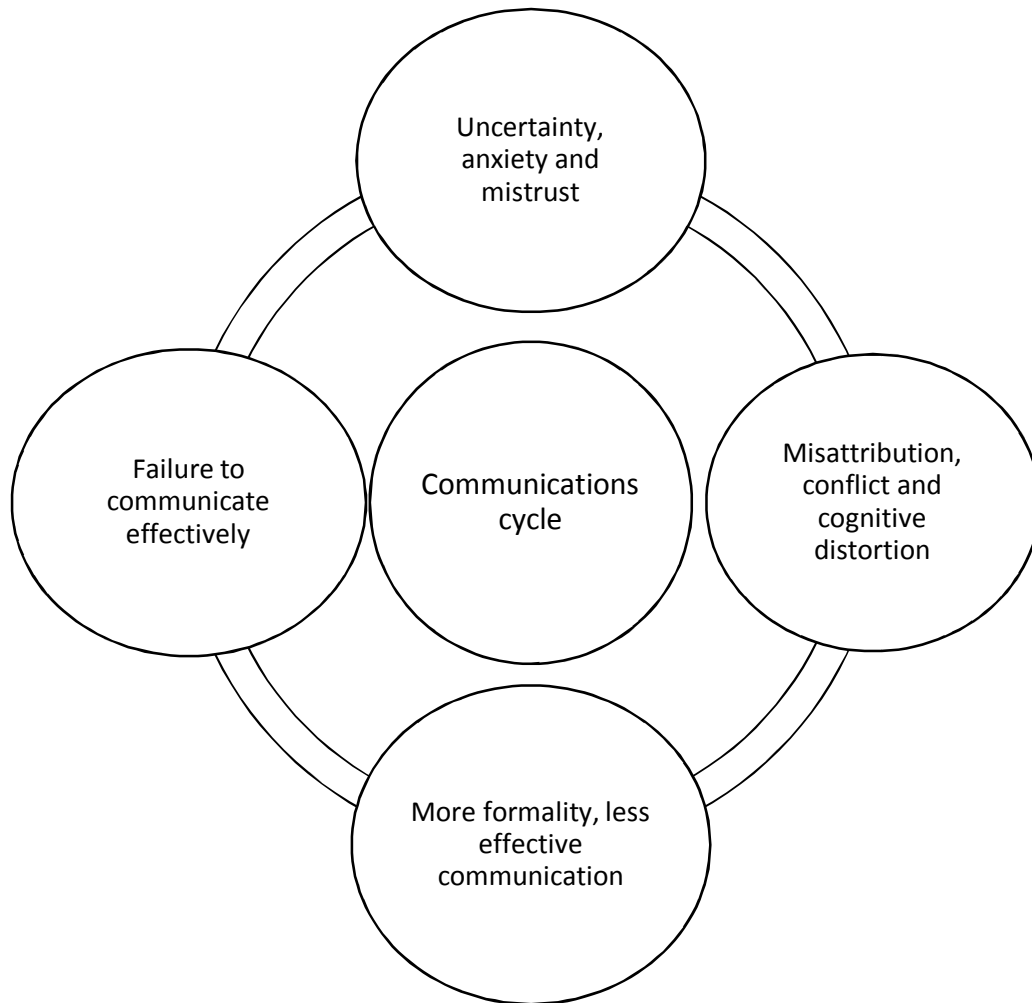
2.9 Foreign Language Barriers

Harzing and Feely emphasize that it is becoming increasingly common for organizational communication contexts to take place in multicultural environments where individuals come from varying linguistic backgrounds. “Communication relies upon a shared language” (Harzing & Feely, 2008). If the language is not shared, this presents a language barrier to those who cannot speak it and therefore is not able to convey meaning (Harzing & Feely, 2008).

Harzing and Feely broaden the simplistic definition of language barriers being “a problem of ‘miscommunication’” (2008, p. 56) and have developed a cyclical model of communication instead. Figure 3). The communications cycle presents a model to clarify how language barriers are created and what their consequences look like. The model, which is supposed to clarify that language barriers are a vicious cycle of ongoing communication misunderstandings. Not being able to communicate effectively, fosters uncertainty, anxiety and mistrust among all members of a multi-lingual group and therefore leads to conflict and cognitive distortion. As a result, communication becomes

less effective and eventually leads to failure. This, in return, leads to uncertainty and anxiety again and the cycle starts all over (Harzing & Feely, 2008).

Figure 3) The Communications Cycle



(Harzing & Feely, 2008)

Forced attempts to maintain ‘face’ in foreign language contexts can lead to such communication misunderstandings. Furthermore, “communication failures caused by loss of rhetorical skills and face are argued to lead to uncertainty, anxiety and a general under valuation” (Harzing & Feely, 2008, p. 56) of the contribution of group members

whose foreign language skills are perceived as less strong. Language barriers causing communication misunderstandings can fuel the projection of a distorted reality and reinforce negative stereotypes (Harzing & Feely, 2008). This can be applied in a post-secondary collaborative work context as well. To conclude, language barriers can significantly harm inter-group dynamics and divide the group into insiders and outsiders.

2.10 Conclusion

The thesis aims to understand a cross-cultural, intercultural context in which Chinese and non-Chinese peers communicate with each other. All members of different ethnic groups that come to Canada to study face challenges in their academic and private lives. Chinese international students face particular challenges because their expectations on instruction style, academic performance differ from those of Canadians. Cultural differences and language barriers contribute to these challenges.

Urban Chinese culture is characterized by a masculine, long-term orientation that favors preparing for the future by ensuring success and reaching goals. The successful acquisition of a foreign language is considered to be a typically female trait. Chinese society still follows norms and values in which traditional family and gender roles are regarded as important and still relevant. This suggests that women not successfully mastering a foreign language may not fulfill their traditionally assigned gender role. Not demonstrating linguistic and foreign language competence would therefore conflict with the societal expectations of Chinese women.

Post-secondary engineering classrooms are taking a more student-focused, project-based approach that demands continuous assessment of students' performance

through collaborative work. This means a shift in terms of peer dynamic and an increasing need for communication skills to be able to effectively work together. The preference for collaborative course work is an observable trend in engineering classrooms as well. Engineering is a common field of study among Chinese international students.

Linguistic and foreign language competence are complex concepts. Scholars agree that linguistic competence is an essential part of communicative competence. Foreign language acquisition is influenced by an internal desire to learn a new language. Language acquisition affects one's identity as well. Language anxiety significantly hinders when learning a foreign language. It negatively impacts perceptions and may also affect language competence.

Assuming that identity is fluid, migrants living abroad in a new culture shift from a monocultural identity to a bicultural one. Gender, language anxiety, and cultural background are factors that affect perceptions of one's own language competence.

Furthermore, peer interaction may be a potential opportunity to improve foreign language competence and has significant potential to impact group dynamics. Collaborative work groups in which members are from differing linguistic backgrounds have to communicate in a shared language. As a result, foreign language barriers can arise and harm inter-group dynamics.

3. Methodology Chapter

The Methodology Chapter outlines the approaches and tools necessary to help answer the research question. The chapter discusses the appropriate research strategy, selected method and procedures. The following topics are presented: Qualitative research, discourse analysis, face-to-face focus groups, sampling strategy and size, procedures, and data analysis.

3.1 Research Strategy

The research question aims to determine how collaborative work with non-Chinese peers shapes the perception of English language skills of Chinese engineering students. This question is very much under-researched and ought to be understood to foster awareness for the Chinese international student experience.

In this specific research context, the term ‘non-Chinese peers’ refers to international students who are not Chinese nationals and Canadian domestic students. The purpose of the research study is therefore exploratory in nature (Hesse-Biber, 2016).

There are different approaches to research. Quantitative research pursues a deductive approach of measuring relationships between theory and research through testing, and regards society “as an external, objective reality” (Bryman et al., 2012, p. 13). Qualitative research, however, takes on an inductive approach that views society as a human concept which is a living, fluid organism. This means that theories and interpretations are generated (Bryman et al., 2012). Quantitative approaches assume that social realities can be discovered and organized. While an objective truth is unveiled in

quantitative research, the qualitative approach does not assume to discover just one reality, but multiple, subjective realities that rely on perspective and interpretation (Hesse-Biber, 2016).

The research question assumes that Chinese international students as a demographic are a specific social group with its own distinct characteristics and needs. This assumption is therefore more compatible with a qualitative approach. According to Hesse-Biber (2016), “qualitative approaches to research provide a unique grounding position from which to conduct research that fosters particular ways of asking questions and provides a point of view onto the social world whose goal is to obtain understanding of a social issue or problem that privileges subjective and multiple understandings” (p. 4). As a result, the most effective research strategy to answer the research question is qualitative research.

By focusing solely on Chinese international students, a specific community is explored. This is referred to as a community-based research approach, which is “fundamentally participatory with outcomes that should benefit the community” (Northey et al., 2015). This approach calls for a direct and active involvement of the targeted community in the data-gathering process.

3.2 Selected Method: Face-to-Face Focus Groups

This section presents the rationale for why face-to-face focus groups are the selected research approach to address the thesis research question (Hesse-Biber, 2016). Sandra Harding (1987) argues that within the realm of qualitative research, “all evidence-gathering techniques fall into one of the three categories: listening to (or interrogation) informants, observing behavior, or examining historical traces and

records” (1987, p. 2). There are various different research practices that apply a qualitative approach. Examples are in-depth interviewing, focus groups, ethnography, conducting a case study, content analysis or even combining both qualitative and quantitative methods in a mix methods approach (Hesse-Biber, 2016). Due to the fact that the research question calls for direct and active involvement of research participants, face-to-face focus groups are the most appropriate research method for the research question: “In a focus group, multiple participants are interviewed together, [...]. Focus groups can help the researcher inductively figure out what the key issues, and concerns are from multiple participants at once” (Hesse-Biber, 2016, pp. 149-150). Dynamic and unpredictable, focus groups carry a lot of exploratory value and offer the researcher and interviewees an opportunity to gain a deeper understanding of the problem at hand (Hesse-Biber, 2016).

Focus groups intensively focus on interactions between members of a certain group (Northey et al., 2015). They can either take place online in a synchronous or asynchronous group, or they can be conducted in a face-to-face setting. This means that all participants must be physically present in the same location at the same time. Since the research questions aim to create a dialogue among Chinese international engineering peers in order to determine how collaborative work affects how they perceive their English language competencies, the focus groups should take place in a face-to-face setting. According to Bryman et al. (2012), focus groups are “a form of group interview in which there are several participants (in addition to the moderator/facilitator); there is an emphasis in the questioning on a particular topic or related topics; and interaction within the group and the joint construction of meaning

observed” (p. 369). The benefit of focus groups is that participants may speak freely about topics directly and indirectly related to the research project, and they are encouraged to challenge and discuss each other’s opinions. Focus groups are the best choice for community-based research, because they allow for the active and direct involvement of research participants. Participants need to be able to speak freely and honestly about their experiences and opinions. Therefore, face-to-face focus groups are the selected method. The goal of the face-to-face focus groups is to reach theoretical saturation, meaning that the researcher has gained enough information and views from the conducted focus groups to be able to predict the outcome of future group sessions (Bryman et al., 2012, p. 63).

3.3 Sample Demographic

The face-to-face focus groups included a homogenous sample in the research study. The homogenous participants were then segmented into subgroups, in order to allow for population comparison. To be recruited for the focus groups, individuals had to fulfill certain criteria. They must

- a) be Chinese nationals,
- b) speak English as a second language,
- c) have international student status in Canada,
- d) be enrolled in an Anglophone engineering program at a Canadian post-secondary education institution,
- e) and have collaborated in a group project or have completed assignments together in an academic context with a non-Chinese engineering peer.

3.4 Sample Size

The target sample size was initially set to a minimum of 20 participants. However, only a total of 14 Chinese international engineering students participated in the four focus groups. All participants were in Canada on an international student visa, enrolled in the Faculty of Engineering at the University of Ottawa, and all had completed at least one assignment or project with non-Chinese peers and spoke English as a second language.

Out of the 14 participants, thirteen participants were male, while only one was female. Five focus group participants were studying at the undergraduate level in their second, third or fourth year. They were enrolled in mechanical, civil and electrical engineering. The remaining nine participants were studying at the graduate level in the first or second year of their Master's degree. These students were enrolled in civil, electrical, mechanical and environmental engineering programs.

597 Chinese international students are enrolled at the Faculty of Engineering at the University of Ottawa, according to the University of Ottawa's Institutional Research and Planning Initiative (2017).

Potential participants who were contacted through the snowball sample technique showed that criteria set for participants drastically limited the number of students who would be eligible to take part in the face-to-face focus groups. Over 40% of Chinese engineering students approached did not meet the criteria as listed in the previous Methodology Chapter. The criterion that eliminated the most potential participants was the prerequisite to have completed a minimum of one assignment with

a non-Chinese peer. The majority of approached potential focus group participants said that they had never completed a collaborative work assignment with a non-Chinese peer and said that they collaborate with Chinese international students only.

If the students approached for this research study are typical of the University of Ottawa's Chinese international engineering student body, it can be assumed that 40% of Chinese international engineering students at the University of Ottawa are not eligible to participate in the thesis project's face-to-face focus groups. Based on this assumption, 4% of all potential participants were included in the focus groups since 14 participants were successfully recruited.

Theoretical saturation was achieved despite the small sample size. By the fourth face-to-face focus group, participants shared predictable stories and perspectives and did not offer any new significant insights.

3.5 Recruitment Procedure

As per the ethics certificate issued by the University of Ottawa Research and Ethics Board, the following criteria and restrictions applied.

Focus group participants were recruited through non-random network sampling, also referred to as snowball sampling. Snowball sampling is a common method in qualitative sociological research. It "yields a study sample through referrals made among people who share or know of others who possess some characteristics that are of research interest" (Biernacki & Waldorf, 1989, p. 141). Namely, word-of-mouth through personal contacts helped spread the word of the research study. This sort of

recruitment method is highly useful when targeting research participants with particular characteristics who are members of under-represented demographics.

Personal contacts and acquaintances from the Chinese international student community and the Faculty of Engineering were then sent a recruitment e-mail or asked in person whether they themselves would like to participate or whether they knew people who would qualify. Successfully recruited participants were also asked to pass on the recruitment e-mail to other potential participants, creating a snowball effect.

The majority of Chinese engineering students studying at the University of Ottawa who were asked to participate showed positive, genuine interest in the thesis topic. However, many students who were asked to join the focus groups had to cancel their participation once they learned that completing collaborative work with non-Chinese peers was a prerequisite criterion.

3.6 Participant Protection

After being recruited and giving written consent, participants attended a focus group at a convenient time in a quiet, neutral graduate-student classroom on the University of Ottawa campus. The identities of participants are not disclosed in the thesis. Identifying details were removed from the recorded stories.

3.7 Interview Process

An audio recording device from the Morisset library of the University of Ottawa was used to record the focus group session. The recorded session were then transcribed verbatim.

A set of up to 26 questions was addressed in the focus groups. The face-to-face focus groups were semi-structured and conducted in English. The focus group questions were formulated based on conclusions and gained from the literature review and the theoretical framework. The focus group questions were merely meant to guide the group discussion. This allowed participants to speak freely and to make contributions that they felt were valuable and important. Depending on the development and progression of the discussion, different questions were asked by the moderator and participants. A full overview of the questions can be found in Appendix A: Focus Group Questions. These questions are summarized in the following six main questions:

1. Is completing collaborative work with non-Chinese peers a satisfying academic experience?
2. Are language barriers an issue when completing collaborative work with a non-Chinese peer?
3. How do Chinese international students manage language barriers when completing collaborative work with non-Chinese peers?
4. What role does language anxiety play in collaborative work?
5. Does collaborative work with non-Chinese peers shape how Chinese international students perceive and self-assess their English language competence?
6. Do self-perceptions of English language skills reflect actual language competence?

3.8. Discourse Analysis

The analysis of the data collected during the face-to-face focus groups concentrates on the discourse between participants and the session moderator. A fundamental understanding of the discourse that took place at the focus groups was gained by keeping the theoretical framework section from the Introduction Chapter in mind, in addition to applying Gee's tools in discourse analysis.

Gee describes a multitude of tools in relation to discourse analysis, which are the *Fill In Tool*, *Making Strange Tool*, *Significance Building Tool*, *Frame Problem Tool*, *Doing and Not Just Saying Tool*, *Why This Way and Not That Way Tool* and many other useful tools.

First, Gee elaborates on the Fill in Tool, which essentially addresses the question of "What needs to be filled in here to achieve clarity?" (Gee, 2011, p. 12).

Understanding vocabulary and grammar alone does not suffice. In-depth knowledge and assumptions of historical events, popular culture and local customs are essential in discourse analysis. Therefore, this tool refers to contextual and cultural knowledge that is necessary to understand a message sent. The Fill in Tool adds a complex layer of understanding and information to the already complex process of foreign language communication. The Fill in Tool in discourse analysis is greatly relevant to the research question of the thesis topic. Chinese international students coming to Canada to study may lack the necessary cultural or historical knowledge to set messages from their peers into the correct context to be able to fully understand what is being shared with them. More importantly, the perspective of the Chinese international student is heavily

influenced by their own cultural and historical knowledge. This creates a gap between Chinese and non-Chinese peers. The Fill in Tool addresses this gap.

When analyzing how collaborative work with non-Chinese peers influences the perceptions that Chinese engineering students have of their own English language skills, the stories and opinions that research participants have shared are analyzed later, out of context. This is when Gee's Making Strange Tool becomes relevant. Distinguishing between outsider and insider perspectives of a phenomenon, either perspective may not have the necessary in-depth knowledge to judge a situation or circumstance. "The outsider can help the insider see old things as new and strange again. The insider can help the outsider use context more deeply to correct judgments about meaning and purposes being pursued" (Gee, 2011, p. 20). Furthermore, "if you are an insider to the data [...] and do not have an outsider to work with, you have to learn to look at the data the way an outsider would. You need to see it in a way that brings back what is strange about it to people who do not already understand it" (Gee, 2011, p. 20). Essentially, the Making Strange Tool in discourse analysis helps explain how meaning is constructed. Linking back to the thesis research topic, this tool is extremely relevant. At the center of the Making Strange Tool lies the question of 'What would appear as strange to an outsider?' in relation to the research question and the collected data.

Another tool that helps gain a deeper, more detailed understanding of the issue the thesis research topic aims to explore is the Significance Building Tool. Significance is built by consciously choosing to frame a sentence a certain way, which conveys an additional underlying meaning. This tool aims to help the researcher grasp how vocabulary and grammar are used to increase or decrease significance in discourse. Gee

does not explicitly mention speed, clarity and intonation in relation to the Significance Building Tool. Nevertheless, because Gee considers them to be essential in spoken communication, these three factors are included in the Significance Building Tool in this research project as well.

There is a difference between the context as perceived by the outsider and the insider. The insider perspective is extremely difficult to grasp for the outsider, which is why it is important to both simultaneously establish and push boundaries of contexts from which hypotheses and conclusions derive from. By combining the Fill in Tool, the Making Strange Tool and the Significance Building Tool, the researcher is equipped to execute the discourse analysis.

3.8.1 Data Analysis: Coding

Coding unveils underlying themes in discourse. These underlying themes are established through coding, which is “the analytical strategy many qualitative researchers employ in order to help them locate key themes, patterns, ideas and concepts that may exist within their data” (Hesse-Biber, 2016, p. 338).

Coding allows one to “quantify large amounts of qualitative data for generalization” (Northey, et al., 2015, p. 83). Every story that is recounted by focus group participants is categorized, coded and sub-coded. If a story is repeated by a different participant, then it is coded as the same category (Northey et al., 2015).

Furthermore, “a code in qualitative inquiry is most often a word or short phrase that symbolically assigns a summative, salient, essence-capturing, and/or evocative attribute for a portion of language-based or visual data” (Saldaña, 2013, p. 3). The analyzed information is divided into respective categories that reflect the content shared

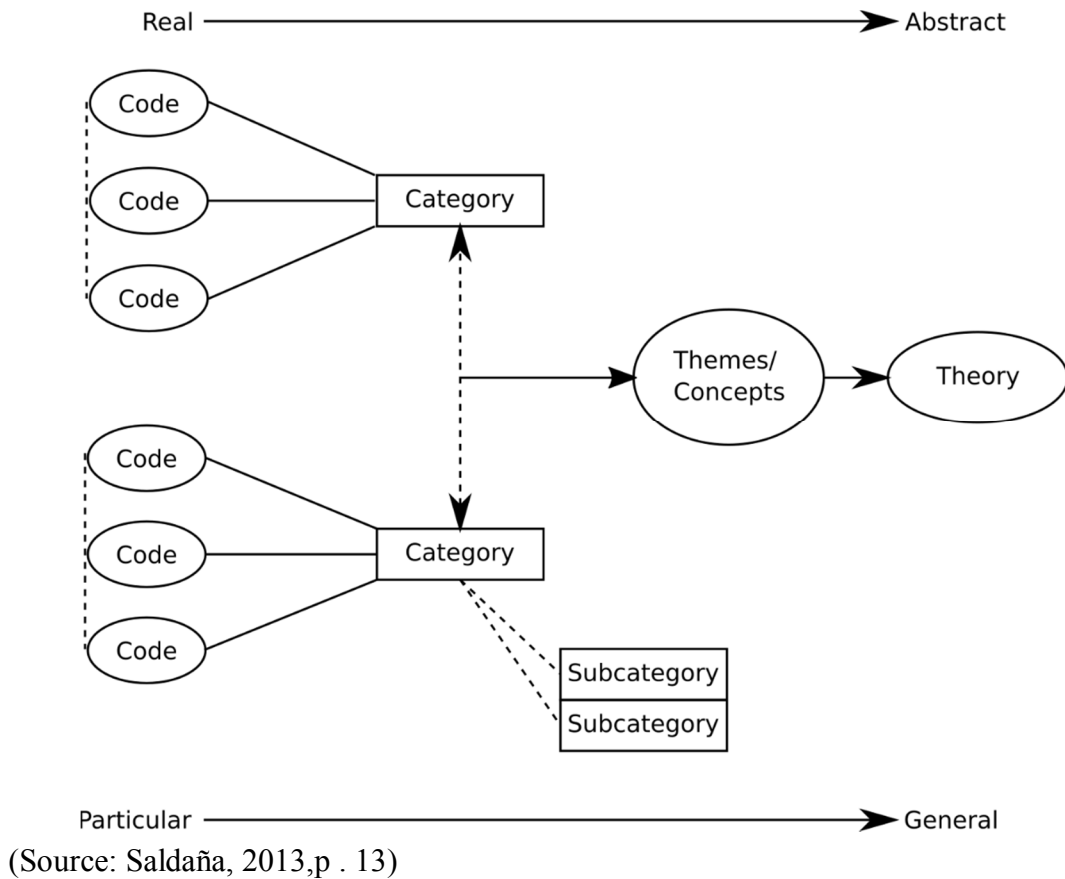
in the focus groups, interprets meaning and eventually helps generate theories (Saldaña, 2013).

The research aims to capture the perspective of the Chinese international students. Therefore, the coding categories focus on hermeneutics. “The central idea behind hermeneutics is that the analyst of a text must seek its meaning from the perspective of its author, considering the social and historical context within which the text was produced” (Bryman et al., 2012, p. 299).

Following the streamlined codes-to-theory model for qualitative inquiry, after creating clusters of data, which are referred to as codes, and comparing them to each other, categories are established. Figure 4) shows an illustration of Saldaña’s streamlined codes-to-theory model for qualitative inquiry.

In his book, *The Coding Manual for Qualitative Researchers*, Saldaña quotes Rossman and Rallis (2003) to further clarify the meaning of concepts and themes in a coding related context. He recommends to “think of a category as a word or phrase describing some segment of your data that is explicit, whereas a theme is a phrase or sentence describing more subtle and tacit processes” (Saldaña, 2013, p. 13).

Figure 4) Streamlined codes-to-theory model for qualitative inquiry



Themes and concepts, guided by relevant theories established in the literature review help develop original theories. However, Saldaña also states that if a theory cannot be generated because field research does not allow for extensive data gathering, a key assertion is made instead. “This key assertion, like a theory, attempts to progress from the particular to the general by inferring transfer [...]. This assertion also progresses from the particular to the general by predicting patterns of what may be observed and what may happen in similar present and future contexts” (Saldaña, 2013, p 13).

3.8.2 Data Collection Challenges

The main benefit of determining how collaborative work with non-Chinese peers shapes English language perceptions by Chinese international students is that the research results can help defeat stereotypes and misconceptions of Chinese foreign students in Canada. By participating in the focus groups, participants are meant to gain clarity in terms of how they perceive their level of English language competence and feel more confident during collaborative work. Nevertheless, the data collection presents certain challenges to both the principal investigator and the study participants.

Friends and acquaintances were approached for the sake of the research study. These are essentially trust-based relationships. In order to ensure that there is no coercion, participants were assured that they may refuse to answer questions and/or withdraw their participation before and during the focus groups.

Questions discussed in the focus group were personal in nature. Participants shared stories that they perceive as embarrassing or uncomfortable experiences. Therefore, potential risks are anxiety, sense of vulnerability and embarrassment. In addition, the likelihood that participants with very specific characteristics know others with the same characteristics is very high (Merrigan et al., 2012).

3.8.3 Claims Produced Based on Coded Data

After coding the focus group discourse, categories, themes and concepts, and eventually theories, are created. As mentioned before, qualitative research delivers interpretive theories. Following the *Defining Assumptions of the Epistemological*

Paradigms model by Merrigan et al., (2012), the theories produced in this thesis research project are interpretive claims.

Unlike Knowledge by Discovery, which assumes that there is one knowable reality in correlation to an issue that can be discovered and understood by anybody, Knowledge by Interpretation assumes that there are multiple realities that exist simultaneously and are largely determined by social contexts (Merrigan et al., 2012).

Merrigan et al. also warn that a subjective approach is key when producing interpretive claims. Namely, “to be consistent, researchers working within the interpretive paradigm must acknowledge that their own values affect their perceptions of reality” (Merrigan et al., 2012, p. 37).

This research project does not aim to represent one true account of what the Chinese international student experience entails in regards to self-perceptions of English language skills. Instead, it aims to showcase the perspective of a sample of Chinese international students studying engineering at the University of Ottawa. A diverse picture of deep insights based on rich description and in-depth story telling is illustrated. Results presented in this thesis project can therefore not be generalized to be applicable to the entirety of the Chinese international engineering experience in Anglophone Canadian post-secondary engineering classrooms. They do give us a general sense, however, of the experiences of some Chinese international students and their English language perceptions.

4. Analysis and Discussion Chapter

4.1 Introduction

The Analysis and Discussion Chapter provides a detailed overview of the focus group findings and compares it to the conclusions presented in the Literature Review Chapter. It is important to note that only interpretive claims are offered and they are based on the stories recounted by focus group participants only.

Opening with a brief summary of the findings, the Analysis and Discussion Chapter presents the coded focus group data in a streamlined codes-to-theory model for qualitative inquiry. The following sections elaborate on the categories, codes and concept as illustrated in the model. Last, the proposed idea for a theory in the form a key assertion is presented. Analysis suggests that language competence and perception development take place in four stages.

In addition to giving detailed insights into perceptions of English language skills by Chinese international engineering students after completing collaborative work with non-Chinese peers, the Analysis and Discussion Chapter also creates an extensive framework of background information. This background information is meant to describe the cultural models and situated meaning of the context of the research problem (Gee, 1999). The Fill-in-Tool and Making Strange Tool also help produce this necessary information (Gee, 2011). The extensiveness of the knowledge framework produce by the data gained form the face to face focus groups shows that discourse is indeed more than mere words and shaped by contextual knowledge (Gee, 1999). This information is necessary to comprehend the complex nature of the topic and the factors

that contribute to perceptions of English language skills by Chinese international students, as described in the face-to-face focus groups.

A selection of quotations from the focus groups is included in the chapter. These quotations present the insider perspective of Chinese international students. They are meant to emphasize and further clarify the interpretive claims made. The quotations help address the question of ‘What would appear as strange to an outsider?’, which is the Making Strange Tool. Finally, the Significance Building Tool was used to identify underlying messages in the focus group transcripts.

4.2 Findings Summary: Perceptions of English Language Skills

Based on Saldaña's streamlined codes-to-theory model for qualitative inquiry, Figure 5) presents the organized findings of the four face-to-face focus groups.

Figure 5) Streamlined face-to-face focus group results



Chinese international students have a negative image of their English language skills but are capable of accurately assessing their level of foreign language competence. Collaborative work does not negatively influence their English language

self-perceptions, but gives them a realistic idea of what skills they need to improve and what to practice. Chinese international students are able to reflect on their foreign language competence through collaborative work with non-Chinese peers. These peers point out grammar, vocabulary and pronunciation mistakes and help them improve. Such interactions are a significant opportunity to gain linguistic and cultural knowledge that will benefit Chinese international students in their academic and private lives, but also in their careers.

Collaborative work with non-Chinese peers appears to impact the self-esteem of focus group participants. The majority of participants displayed limited self-esteem in terms of their English language competence and but were hopeful of becoming fluent one day. Chinese international students, however, consciously choose to overcome their negative perceptions. They learn from their mistakes in order to move forward in their linguistic and overall academic success, reporting that if they do not practice English, then they will never learn anything else except for their native Chinese language. Collaborative work is an important tool to do so, they “look back and move forward”. Through confidence and hope, Chinese international students find the necessary motivation to continue their journey of English language competence because “English is not a test, English is a tool to communicate with each other”.

According to focus group participants, self-perceptions held by Chinese international students are based on personal and highly accurate self-assessment of their foreign language competence. Therefore, there is a direct correlation between English language perceptions and foreign language competence among participants.

The most important insight gained from the face-to-face focus groups is that self-perceptions of English language skills among Chinese international students change over time. They transition from having a negative image, to going through a phase of deep learning and habitual change, which eventually helps them accept their situation and become confident in their level of English language skill. Apart from gaining a basic understanding of how collaborative work impacts Chinese international engineering students' perceptions of their own English language skills, it is important to understand the multitude of complex factors that contribute to this perception and experience. This helps establish an insight into the experiences of Chinese international engineering students and why they develop the perceptions they have. The following sections construct, outline and discuss an interpretation of these factors in detail, as conceptualized by the stories of the focus group participants and the literature.

4.3 Engineering Classrooms in Collaborative Work

The first findings section focuses on the engineering classroom environment. It is one of the cultural models of the research context. The section thoroughly describes the intercultural character of engineering programs, instruction style and how collaborative course assignments are generally completed. A description of the engineering classroom in collaborative work also gives insights into the cultural models (Gee, 1999) involved. This therefore provides contextual knowledge that is necessary to fully understand how collaborative work shapes the English language perceptions by Chinese international students.

4.3.1 Intercultural Communication in the Engineering Classroom

As the literature review already suggests, focus group participants described the Anglophone engineering classrooms as a multicultural environment with a noteworthy presence of Chinese and Indian international engineering students. They also reported that there are more international students in graduate engineering programs than in undergraduate programs.

Despite this multicultural environment, Anglophone engineering classrooms in Canada are mostly shaped by North American cultural norms and expectations. The literature review suggests that the growing importance of intercultural communication increases the likelihood of cross-cultural misunderstandings and the necessity for intercultural communication competence (Bennett, 1998; Arasaratnam & Doerfel, 2005). This was supported by focus group participants. They shared stories of instances of intercultural misunderstanding. Some participants believed collaborative work and post-secondary education in general to be an opportunity to acquire intercultural communication competence and learn about foreign cultures, while the majority of participants reported that they prefer working with fellow Chinese international students due to the shared cultural and linguistic bond. Some participants expressed having difficulties interacting in an intercultural collaborative work environment.

“If I have a choice, I decide to discuss questions with my roommate or Chinese. It is not only course, we have stronger language bond. If we discuss in Chinese It will be very efficient. We understand each other very good. But also the culture is different. I tried to discuss several assignments with one Indian student, that was not a good cooperation because we think in different pace and we cannot understand the progress

of each other. The time is different, schedule is different. But I still think it is a positive way. If I have chance, I prefer to communicate with people whose mother tongue is in another country. I encourage myself to do that. If there is a deadline, if there is pressure, then you have to do that.”

The preceding quote is by a second year Master’s student who has spent two years in Canada and more than four years in English-speaking countries. This participant had an in-depth understanding of the intercultural communication processes at work in post-secondary engineering classrooms.

“For me, I always have completed the assignments and labs with Chinese students. Sometimes I will ask questions to the non-Chinese students and they will answer it. But sometimes I cannot understand them.”

“I would rather choose my best friends. They are Chinese students. At first I did not know anyone and worked with the non-Chinese students. But after that, if I can, I will choose other Chinese students. We can talk with each other. It’s a community. If we have problems, we can speak in our native language. It is good for me. But sometimes I also want to work with non-Chinese students. But up to now, it is difficult for me. Maybe in the future there will be a possibility.”

The preceding quotation directly reflects the belief of intercultural communication by Spencer-Oaety and Franklin, who state that cultural distance becomes evident in intercultural communication and noticeably impacts the communication process (Spencer-Oaety & Franklin, 2009).

In addition to these quotations demonstrating that the engineering classroom is an intercultural environment with cross-cultural communication processes, participants also emphasized the communal aspect and shared cultural bond at play here. Helping each other out in times of difficulty and valuing the Chinese international student community is directly related to Hofstede's dimension of Individualism versus Collectivism. When working with non-Chinese students on collaborative work projects, participants described putting the group's interests first. This supports Hofstede's claim that Chinese organizational culture is collectivistic (Geert Hofstede Center, 2010b).

The Chinese international engineering students included in the focus groups showed respect for their non-Chinese peers and expressed that they would like to learn how to understand them, both linguistically and culturally. This affirms Bennett's theory that multicultural communities have the ability to foster respect and mutual goals among diverse ethnic groups and makes it applicable to post-secondary classrooms as well (1998).

4.3.2 Instruction and Course Assignments in Engineering Classrooms

The majority of the academic learning process takes place outside of the classroom in post-secondary engineering courses. According to the focus group participants, instruction in physical classroom settings only accounts for roughly 20% of the time and effort engineering students invest. The rest takes place outside of the classroom and consists of self-study and completing assignments individually and collaboratively. The following quote is by a second year undergraduate student who had completed an ESL program at the Faculty of Arts prior to beginning their engineering

degree and was therefore one of the most confident participants in terms of spoken English language skills:

“For engineering, professors teaching you is only 20% of the study. The rest is time set up on your own outside of the classroom.”

Focus group participants explained that the academic field of engineering does not call for continuous communication with collaborative work partners. Instead, tasks are divided and, apart from consulting on how to complete and correct mistakes, engineering students mostly complete their tasks individually and then later combine the project components. Mason et al. (2013) stipulate that there is a shift towards an interactive, problem-solving oriented curriculum increase in collaborative work in engineering classrooms. The focus groups therefore supported the assumption that engineering classrooms in Canada do indeed take interactive problem-solving approach.

Despite engineering programs requiring students to regularly complete collaborative work with peers and the fact that there is an economic need for effective and efficient communication skills, an increase in collaborative work does not necessarily lead to an increase in face-to-face communication with peers. Therefore, Dr. Paul Leonardi's (2003) statement that engineering students do not have many opportunities to improve their communication skills was also supported.

Focus group participants perceived communication in collaborative work with peers to be a time-consuming source of stress, causing them to actively try to reduce face-to-face communication in order to improve efficiency.

4.4 English Language Competence of Chinese International Students

The second section focuses on English language competence of Chinese international students, as described by the focus group participants. This is also contextual knowledge necessary to understand how collaborative work shapes English language self-perceptions by Chinese international students. Huang and Klinger believe that cultural differences between Chinese and North American culture present a source of anxiety for Chinese international students studying in Canada (Huang & Klinger, 2006).

Meanwhile, Lasagabaster believes that societal expectations towards men and women differ in regards to foreign language acquisition. He also stipulates that these differing expectations are a driving factor that affects foreign language acquisition (Lasagabaster, 2008). The focus groups therefore attempted to unveil how urban Chinese culture values foreign language acquisition and whether gender roles affect these expectations. When asked whether acquiring a foreign language in China in urban Chinese culture, participants delivered a variety of perspectives. Some focus group participants stated that English language skills are necessary for China's economy to be a competitive global player. Others reported that urban Chinese society is somewhat obsessed with their children growing up and being educated in an English-speaking environment. English language competence has therefore become highly necessary in urban Chinese culture. It is a vehicle to success. The quotation below demonstrates China's obsession with young generations learning to speak English.

“My parents, the whole society, only care about English. If you don't know how to speak Chinese, that is okay, if you don't speak English, that is not good. When the kid

is born the parents want them to learn in an English environment. They are born in the US illegally for free education. Some people abandon their own languages and learn foreign languages. China likes English speakers. It is important there. But they don't master the language. Foreign languages are very important in China."

Focus group participants explained that the Chinese federal government has been advising its people to study English for around twenty years now. For that reason, a culture that revolves around learning English to achieve economic success has developed. Whether English language competence is regarded as a desirable activity based on traditional Chinese values cannot be concluded. Since the focus groups only had one female participant it could not be concluded whether there is a difference in societal expectations in regards to male and female Chinese students learning to speak English.

All focus group participants had been studying English as a second language since third grade in primary school and throughout secondary school. To enter the post-secondary level in China, aspiring students must first pass an entrance exam to test their English language competence.

"Back in China I started learning English in grade 3. I was a bad English student but there are many people who are doing well. We know a little bit. We handle it better in terms of listening and reading. But speaking is really bad."

"Most people start to learn English as about nine years old. That is a long time. Before we came to Canada, we really cannot speak English. We can just read and write. Our listening and speaking is really, really bad. I think in class there is some major

things we cannot understand what professors are telling us. But when we communicate with Canadian people, I couldn't understand at first. Now is much better."

"The majority of Chinese students started their English learning, when they are in their primary school, at age 7 or 8 and we keep learning that to pass the high school admission examination for university admission. We have to take English testing. If you want to take a program after the graduation abroad, we have to take the professional language test. It is a pain in the ass for me to prepare the academic class."

"I learned English from the elementary school. But, in china, studying English is different from here. In china, most people just want high scores and exam certificates to apply for good high school and university. Most of the Chinese people learn English with specific aims. For example to apply go for university or high school. Study English here is different."

"Actually, we start to learn English very early but we do not have too many opportunities to practice listening and speaking skills. We do reading and grammar and vocabulary. I can remember Chinese teacher teaches English to Chinese students. What they can teach is just grammar and vocabulary. They cannot teach you how to be a native English speaker. There are more foreign teachers coming in to China to teach how to speak English. That is better rather than us in the past."

Focus group participants confirmed that the Chinese primary and secondary classroom takes a teacher-centred focus to pedagogy (Zhang & Zhou, 2010). Rather than engaging students in discussion to practice their spoken English language skills,

such as pronunciation and enunciation, Chinese primary and secondary school students intensively study grammar and vocabulary.

“Chinese students just read and listen English, but they do not learn to speak. They just study and practice.”

“Most of the schools focus on reading and writing, but not for the listening and speaking. We are very weak in the listening and speaking. When I first came to Canada, I just got used to using English for daily communication with others, let alone the communicating with my classmates.”

As a result, Chinese international students have very poor verbal English language skills when they arrive in Canada and experience extreme difficulties in daily communication. These English language difficulties affect their private lives and experiences in the classroom. This was confirmed by all focus group participants. Participants reported that English language competence acquired in China only accounted for 10% of their listening, speaking and written skills. Meanwhile, the remaining 90% of their current English language competence is acquired during their stay in Canada. The following quote is by a fourth year undergraduate student who, prior to beginning engineering studies at the University of Ottawa, had spent a year living with a Canadian family in a ‘homestay’ arrangement.

“It is more like a textbook. British style English. Nothing local in Canada. I learned a lot in homestay and in class. 90% from life here, 10% in China.”

Furthermore, as the quotation below shows, participants also displayed great awareness and insight into their own vocabulary and what level of language competence is necessary to pass their classes. They were therefore extremely capable of accurate self-assessment, as shaped by collaborative work with non-Chinese peers. The quote below is by the same second year Master's student who had spent a total of four years in English-speaking countries.

“For our English speaking, 3000 or 4000 words is enough. But for writing and understanding, we need to learn professional words. It is just one time, remember, it is easy. But the pronunciation for me is very significant because in English we pronounce: ice and ass, which is the butt. Quite similar. You speak English very fast. Sometimes it is hard for us to understand students with the mother tongue English. We accept it very fast. I think English is not the main concern for me to finish a program. It is a tool but it can be upgraded by communicating with local friends or professors or colleagues.”

The following quotation is by a first year Master's student who had arrived in Canada six months ago. This student had difficulties expressing themselves but offered very insightful comments:

“(…) when we came here first in Canada, I think my English is very poor because I don't have too many opportunities to speak. But after half a year, our English skills is good enough to finish the program. Our problem now is how to be a native for to speak English more nature.”

This display of great awareness and insight of their own level of English language competence shows that focus group participants were capable of accurate self-

assessment. This insight therefore supports Stracke, Jones and Bramley's hypothesis that foreign language students are capable of accurate self-assessment of their skills and competence (Stracke et al., 2011). It also refutes Blanche and Merino's assumption that foreign language learners' self-assessment is very much impacted by how their instructors view their language skills (Blanche & Merino, 1989). Focus group participants were very much aware of their IELTS and TOEFL results but neither let these results devalue the progress they have made since, nor discourage any ambitions to further improve. The ultimate English language goal described by all focus group participants was achieving fluency. They further elaborated how fluency would benefit them in terms of their future careers, social relationships, self-esteem and overall wellbeing. The concept of fluency and how focus group participants defined it is elaborated on more intensively in the Concept: Fluency section.

4.5 Categories

Individual codes, as listed in the streamlined codes-to-theory model for qualitative inquiry, were clustered and assigned to one of three categories. Figure 5) Streamlined face-to-face focus group results shows an overview of the coded clusters and categories. The following category sections give detailed insights into the three factors that shape how focus group participants perceived their own English language skills. These three categories are efficiency, embarrassment and confidence.

4.5.1 Category 1: Efficiency

Focus group participants repeatedly mentioned 'efficiency' as a driving force in their approach to collaborative work. The Chinese international student sample included in the focus groups defined efficiency in relation to collaborative work as completing an

assignment well, accurately and as quickly as possible. Being unable to express ideas and thoughts due to communication barriers was perceived as a serious hindrance that must be avoided or overcome. Focus group participants perceived their English language skills to either be a tool or an obstacle when attempting to achieve efficiency. Regarding efficiency as highly important in academic work links back to Hofstede's analysis of urban Chinese culture. The long-term orientation approach favours investing time and effort into education, which directly calls for efficiency (Geert Hofstede Center, 2010b).

4.5.1.1 Avoidance Behavior to Increase Efficiency

The sample group explained that they had developed several strategies and behaviors to increase efficiency, and avoid instances of inefficiency. The first strategy is to actively avoid doing collaborative work with non-Chinese peers altogether. This avoidance derives from negative experiences working with both non-Chinese international students and domestic Canadian students.

“Most of the experiments I did with my friends and their Chinese students. I once did it with Indian people and the process of the experiment I did it he watched me. Sometimes he would ask me questions and I thought this question had no relationship with the experiment. Sometimes I felt very confused because I didn't know he had a group with me just because I am a Chinese student and I may study better. I felt very confused. Why didn't he do the experiment and he just looked at me, all the time. Sometimes he would play with his iPhone. That is it.”

According to focus group participants, Chinese international students tend to avoid collaborative work with non-Chinese peers after such negative experiences as described in the quote above. By working with Chinese international peers only, the English language barrier is removed and communication occurs in Chinese languages only. Focus group participants explained that discussions relating to course work in English take exponentially more time than having the same conversation in their native Chinese language.

“English is my second language, and I feel most comfortable speaking in my mother tongue with my friends. For one project with my Chinese friends, either I am explaining to them or they are explaining to me. We will take 30 seconds. But if this happens with non-Chinese friends on the same project, 30 seconds will become five minutes for both sides to understand each other.”

Working with other Chinese international students allows them to reduce frustration and increase efficiency. The majority of participants emphasized the importance of reliability as an integral quality in their choice of whom to complete collaborative work with. It appeared that participants believed that reliability and efficiency are directly related. They perceived Chinese international students to be more reliable project partners than non-Chinese peers in their goal to maintain efficiency. The following quotation illustrates the experiences of one focus group participant, referring to working with non-Chinese international and domestic Canadian students.

“As my past experience, I don’t think working with foreign students gives me any positive memories. Maybe it’s a personality thing. For example, we have a big assignment to do in three parts. If one foreign student takes that first part, he will

discuss within the group, costs a lot of time. If it's a three hour discussion, he occupies two hours out of three. If we solve it, we solve it, we move on. The pace is different. It might be a personality thing. I don't know which it is."

This suggests that avoiding collaborating with non-Chinese peers is a measure to increase efficiency goes beyond language barriers, but also extends to cultural differences.

4.5.1.2 Electronic Devices and Online Applications to Facilitate Communication

The second strategy to increase efficiency is to facilitate communication through the usage of electronic devices and online applications on electronic devices. This, too, is an avoidance mechanism. Native Chinese speakers take advantage of social media platforms and e-mails to write down questions and messages they would not be able to formulate verbally. This allows them to respond to questions that they would not be able to easily answer if a peer asked them face-to-face. They are able to take the time they need to formulate a coherent sentence and to look up unfamiliar vocabulary if necessary. Especially in the first year after arrival in Canada focus group participants described frequently using electronic devices and applications to facilitate communication with collaborative work partners.

"Speaking is hard. Especially when I explain why I did this. But my writing is better, especially on Facebook, to use slang. You can make it very clear on Facebook, Whatsapp, e-mails... You make a note on the pictures."

Chinese international students regularly use translation apps and online dictionaries in their day to day lives to make up for missing vocabulary. The following quotation is by the only participant who was in Canada as a foreign exchange students. This participant had arrived in Canada eight months ago and was in their third year of undergraduate engineering studies.

“In the beginning I heavily relied (on translation apps). There are so many things I don’t understand and need to understand. You either have friends who have translate for you or you have to figure everything out on your own. You have to have foreign friends who can tell you all that stuff. You have to be able to understand your friends who tell you that stuff. Translation app is probably our best friend in life.”

“For me, I like working with Chinese people. Same language, easy to communicate, it is easy to do the group discussion. If we have some problems, if we cannot find it, we cannot solve it with the google, we can go to the Chinese website. If the purpose for the study English, I prefer working with foreign students. We can talk in English. We practice a lot.”

When non-Chinese peers ask them a question or ask for their input in a discussion related to collaborative work, Chinese international students translate individual words and entire sentences to be able to understand a question or to formulate a response. Over the course of their stay, usually several years after arrival, Chinese international students use such media less frequently to facilitate communication. Using translation apps and other electronic solutions to translate and look up words not only help them achieve the short-term goal of facilitating

communication. Translation apps are also an essential resource to expand their vocabulary.

“I used google translator. If I make a mistake that causes confusion, I start to remember oh it’s this word, I don’t check much anymore. It translated the word better. It helps me remember better.”

“At that time, my classmates tried to communicate with me about academics. I just told them that they can send me an email and that I can send back. That is only because I cannot understand what they are talking about. That is the most difficult part to study. Now I can understand most of the English speaking, when you are speaking to me. I can understand most of the part.”

Focus group participants described using electronic devices and online applications to reinforce the Communication Cycle (Harzing & Feely, 2008) in foreign language barriers. They also use devices and applications, however, to undo the cycle and move past language barriers. Participants displayed great pride when reporting that they no longer heavily rely on electronic devices and online applications. None of the focus group participants, however, had ever managed to completely cease to use these measures to facilitate communication with non-Chinese peers. The literature review states that foreign language students generally acquire verbal and non-verbal cues to avoid and overcome linguistic grammar and vocabulary-related difficulties (MacIntyre & Charos, 1996). A verbal cue that was repeatedly mentioned in all four focus groups was asking non-Chinese peers to repeat what they had said. The quotation below gives an example of that.

“If you cannot understand them, you can also just say sorry can you speak another time, or pardon me.”

The current technological developments and opportunities offer foreign language learners new digital tools to avoid and overcome grammar and vocabulary-related difficulties, in addition to verbal and non-verbal cues that they had already acquired. These new digital contexts allow Chinese international engineering students to avoid language barriers in private and therefore increase their efficiency in collaborative projects. This therefore may take MacIntyre and Charos’ theories on second language proficiency and anxiety to the 21st century (MacIntyre & Charos, 1996).

4.5.1.3 Consciously Choosing to be the Project Leader to Control Efficiency

The third strategy to increase efficiency when collaborating with non-Chinese peers is for Chinese international students to consciously position themselves as the project leader. Doing so is also a precautionary step to avoid moments of linguistic difficulties.

Participants said that they felt being group leaders was a necessity, but not necessarily because they felt it is the role they want to fulfill. Consciously positioning themselves as group leaders also ties in to the desire to be as efficient as possible in their academic lives. The following quotations are examples of this. The quotes are by a fourth year and a second year undergraduate student.

“I get everybody’s Facebook and I make a Facebook group. I am the boss, the administrator, nobody will exclude me. If they talk privately about stuff, I ask them to share that publicly. If I am excluded, I will do my calculation of whatever I am doing. I

am in the charge of whatever part I do. I consciously position myself as the leader. I am worried people don't get stuff done, so I monitor them. I am more of a parent style."

"I am actually always the one carrying [the weight of] my [collaborative work partners]. I am not always, but most of the time. I find that some people just I do not want to spend a lot of time setting up the project. They don't really study in the weekends. I am willing to go to the lab in the weekend on my own. It is pretty boring."

By dividing the project tasks in a way that it will not be necessary for the Chinese international students to participate in discussion or to present in class. Focus group participants stated that they prefer taking on tasks such as calculations and general project research.

"I took one of the electives and three other people were all Canadian in an assignment. (I) had to do the research part. If they do the writing part, they discuss very quickly and I cannot keep up. I prefer to do the research part, I won't keep up with their pace. They just go on and on. That makes me uncomfortable. Maybe it is about the language."

Focus group participants expressed that they believe that their English language skills are not as strong as those of their non-Chinese peers. They did however strongly believe that they are more capable in terms of their work ethic and their academic and intellectual abilities. Their work ethic was characterized by willingness to sacrificing one's private life and valuing success, competition and achievement. Participants very much cared about completing collaborative work efficiently and reported doing their

best to receive high marks. They, therefore, clearly favored masculine goals and values of Hofstede's masculinity versus femininity dimension (Geert Hofstede Center, 2010b).

4.5.2 Category 2: Embarrassment

Another term that was repeatedly mentioned in the four face-to-face focus groups in relation to self-perceptions of English language skills was 'embarrassment'. Discovering that their spoken and written English are not as well developed as those of their non-Chinese peers, participants realize that their level of language competence is characterized by a serious language gap. Fearing instances of embarrassment related to English language skills leads to a series of other feelings and behaviors.

4.5.2.1 Collaborative Work with non-Chinese Peers as a Source of Embarrassment

Among other obstacles, Zhang and Zhou report that Chinese international students experience significant challenges in terms of forming social relationships and language barriers (Zhang & Zhou, 2010, p. 49). The combination of having difficulties forming relationships and not being able to communicate with peers leads to Chinese international students having difficulties finding reliable partners for collaborative work. This interplay becomes evident in the selected quotations below.

“For me, at first, I had a hard time to find so many people to work with me. If it's just a two person job, it is easy to find one to work with me. If it's a five person job, I didn't know how to find so many people. Now in third year, I know my classmates and I know my partners and I start to like my collaborative work. It is hard to know how to work with them.”

“I can remember that we had an assignment to design a fit bit controller. I talked to my partner with feedback, says to him, and the others said three or five minutes, he did not know what I am saying. I felt very embarrassed about this. After this, I did not talk to other people.”

“Sometimes I ask (non-Chinese peers) how to complete assignments. I can clearly remember the first time I asked a gentleman called (a friend’s name). He told me this is China and my country is here. Then he said the name of his country. I could not understand. I cannot remember. Then he told me how to complete the question and solve it. At first I could not understand him at all. I just said ‘Yes, yes. You are right’. I still cannot solve this question. I am very embarrassed of this.”

These three quotations show a dual notion of temporary discouragement of frustration, which was repeatedly mentioned in the focus groups. Hindered in their ability to communicate with peers and facing serious communication barriers, causes Chinese international engineering students feel discouraged to complete collaborative work with other non-Chinese international or Canadian students in the future. This shows that language barriers in collaborative work settings are indeed cyclical and hurt inter-group dynamics (Harzing & Feely, 2008).

Apart from hoping to maintain efficiency, focus group participants said they choose not to work with non-Chinese peers to avoid embarrassing encounters. The usage of electronic devices and online applications to facilitate communication and the conscious choice to position themselves as the leader are therefore mechanisms applicable to embarrassment as well. The different categories and codes are interrelated and difficult to separate from each other at times. Embarrassment was interpreted as the

exposure of English language weaknesses and therefore fear of judgment of peers according to the focus group sample.

“In one course they post a test during the lab. We divided the work, I don’t check my phone very often because I do most the work. I don’t play on my phone. I am always the one to run the discussion. I check google with my friends. One person rewrites the part, puts in a note. Everybody else in the group sees that and I feel very embarrassed. I am no longer friends on Facebook with this person. This person escalated me, I did the calculation after and got good marks. People come out to you and point out mistakes. They take advantage of their own English language skills and make you feel embarrassed. That’s the bad part.”

The quotation above shows that instances of embarrassment and exposure greatly matters to Chinese international students and makes them feel inferior.

4.5.2.2 The Influence of the Non-Chinese Peer

How collaborative work impacts Chinese international students’ perceptions of their own language skills strongly depends on whether the non-Chinese peer is a native English speaker or a fellow international student who does not speak English as a mother tongue. Focus group participants reported that they experience elevated levels of anxiety, stress and discomfort when completing assignments with English language native speakers. When the non-Chinese peer is an international student who does not originate from a region where English is the dominant lingua franca, then Chinese international students seem to feel empathetically understood in their language struggles.

“I felt less pressure talking to someone whose first language wasn’t English. Someone who speaks perfect English? I would rather speak to someone who doesn’t speak so well.”

The language barrier becomes less intimidating, since the person they are communicating with is likely to be experiencing similar difficulties. Focus group participants also reported occasional instances of bullying from English language native-speakers, who purposely speak very fast and pretend that they do not understand what their Chinese peer is saying. Some participants said that sometimes English native speakers simply laugh at them and mock their accent or formulations. The majority of participants felt that they have to complete collaborative work with Chinese peers in order to maintain a satisfying and efficient project experience. The quotation below by a second year undergraduate student presents an example of a negative interaction with a native English speaker while completing collaborative engineering assignments.

“When I was in the first year, there was a chemical class. And during the chemical experiments, one of my group mates was making fun of me by speaking really fast and not repeating when I was him to do so. So, for some questions, even though the question wasn’t regarding the experiment, I went on Facebook and I could totally understand what he was typing. That is pretty extreme of an example. But I thought it was okay. I mean it was mean fast. [...] There were other people in the group too. I personally felt embarrassed of course. They understood what he was trying to say and I couldn’t. It make me marginalized. Eventually, the experiment went well, except for the part I didn’t feel comfortable. I asked him to speak slowly or repeat and he only said

'we are running out of time, do what I do, watch this'. It is actually funny that I have never made someone do this to me. It's okay.'

Participants did not explicitly express whether uncomfortable, negative experiences with English native speakers truly bothered them. They believed that such encounters are not beneficial to their overall English language development and well-being. Participants displayed a dismissive attitude towards these experiences. The focus group sample displayed the same dismissive attitude towards various linguistic challenges and feelings of inferiority they may experience. They make a conscious choice to overcome these moments of vulnerability and exposure and move on from them. This corresponds with the Uncertainty Avoidance and the Restraint Versus Indulgence dimensions of Hofstede's analysis of Chinese culture. Participants appeared to be highly adaptable and therefore very capable of managing uncertainty. Furthermore, they also seemed capable of extreme restraint, which shows itself in the dismissive attitude participants demonstrated (Geert Hofstede Center, 2010b).

Language barriers are not only created and intensified by the foreign language communicator. Literature related to foreign language barriers focuses on the language learner but does not take the impact of the native speaker on the inter-group dynamic into account. This is an important insight missing in the literature consulted for this thesis.

Working with non-Chinese international peers appears to be the most promising collaborative work experience, both in terms of completing their academic engineering work, but also in regards to improving their English language skills. The focus group

participants reported to be content working with international students. Any noteworthy exceptions seemed to be rooted in cultural differences.

Some focus group participants also expressed envy for the English language competence of Chinese peers who had received permanent residence or were even born in Canada. Similarly to working with non-Chinese fellow international students, communicating in English with Chinese nationals who are domestic students in Canada lessens the perceived pressure. This becomes evident in the selected quote below.

“Even though I am speaking to my Chinese best friends (when completing collaborative work), I am speaking English. It is not just for practice. (One friend) has (permanent residency). He came here ten years ago. And he got used to speaking English, but his accent is so funny. I found it a good way to practice. You feel much less pressure in talking to your best friends, rather than speaking to a stranger.”

This envious view of Chinese nationals who have achieved a high level of English language competence and are allowed to stay in Canada long-term is driven by the idea of the future self (Dornyei et al., 2014). The person described in the selected quote above embodies the desired bi-cultural identity (Stracke et al., 2011) that Chinese international students hope to achieve as their concept of self and identity change over time struggle (Norton & McKinney, 2011).

4.5.2.3 Fear of Embarrassment Increases Anxiety

The literature review cites Young, who believes that if a foreign language learner is proficient in a foreign language, language anxiety will not affect their performance. However, if the foreign language learner shows low ability, then they will

be affected by language anxiety, which therefore impacts their foreign language competence and willingness to communicate (Young, 1986).

Focus group participants agreed that fearing instances of foreign language related embarrassment leads to increased foreign language anxiety. They also unanimously agreed that foreign language anxiety leads to a decrease in English language competence. Only two participants reported to no longer experience foreign language anxiety. These participants however were competent English speakers and displayed great confidence in their abilities. The focus groups therefore supported Young's approach to foreign language anxiety and impact on language competence (Young, 1986).

All focus group participants reported having experienced symptoms of foreign language anxiety at least once during their stay in Canada. The participants reported that foreign language anxiety mostly occurred at the beginning of their studies at the Faculty of Engineering. Particularly when they need to display their English language skills in a setting that they would consider 'public', meaning in a collaborative work related context or in a classroom, they experience elevated levels of pressure to perform flawlessly. Simultaneously, they fear instances of embarrassment due to their perceived lack of English language competence and therefore feel very anxious. This is illustrated in the selected quotations below.

“You talk slowly in private. But in public, you have to talk fast and accurate and be patient. But if you a make a mistake, people can point you out and laugh at you. In a

small private environment you can talk as much as you want. I feel a little bad about my English language skills in public. Competence goes down.”

“When I talk with my (peers), I want to express an interesting idea, and I stop there, I don’t know how to express. There is a huge way between Chinese and English. There is a huge gap. That moment when nobody is talking, that is when embarrassed. I am really afraid of those moments. When I need to communicate without mistakes, I feel very stressed.”

“If I speak in public, I still get nervous. If it is in private, like this environment, I feel fantastic.”

Practice and exposure are the only way to overcome foreign language anxiety. After many opportunities to practice are taken advantage of, Chinese international engineering students learn to control and overcome their anxiety, and therefore reduce frustration.

“I feel nervous because for the first time I don’t have confidence with my English. What I want, I cannot share with other people and they don’t get my mind. After a lot of practice and I know them well, I can communicate well.”

According to the focus group participants, foreign language anxiety does not impact their perceptions of their own English language skills.

4.5.3 Category 3: Confidence

The third and final category that was determined by using the streamlined codes-to-theory model for qualitative inquiry, as developed by Saldaña (2013), is

'confidence'. Chinese international engineering students who participated in the focus groups described a non-linear transition from embarrassment to confidence. Nearly all focus group participants believed to have felt embarrassment and confidence as simultaneous prevailing emotions in relation to self-perceptions of their own English skills at some point. The following quotation displays the necessity for confidence in order to improve English language competence. As the following quote demonstrates, Chinese international students discover ways and measures to overcome their feelings of embarrassment and arrive at confidence as the dominant emotion.

“The university (here in Ottawa), we got better educations. It has been transforming me, knowing the knowledge. (...) So, I would say that was a very good experience of learning English. High school English learning was studying fundamentals. Learning English here at the Faculty of Arts prepares you for university and lectures. It is only a transition but I found that was necessary. That was a good experience. I felt less pressure talking to someone whose first language wasn't English. Someone who speaks perfect English? I would rather speak to someone who doesn't speak so well. Practicing and speaking English eight months was pretty long, too long. But also being in the classroom I was actually to learn and I received good marks. After, I also built confidence that is the confidence in English I used to not have. That makes it more important. Without confidence I would never speak louder and better and feel less pressure and whenever I am speaking English. I would not decrease nervousness.”

4.5.3.1 Acceptance of Level of English Language Competence

Chinese international students who come to study in Canada in an English-speaking environment arrive at the conclusion that their foreign language skills are inferior and less developed in comparison to non-Chinese peers by default. They adopt a dismissive attitude, as elaborated on in Category 2: Embarrassment. In response to the question of how their English language skills make them feel, one participant (who was the only female included in the focus groups) replied:

“My English is just like that. It is pretty normal for me. I learn from (non-Chinese peers) just like this.”

This insightful quotation captions the common sentiment that all participants shared. In order to transition from embarrassment to confidence, Chinese international engineering students learn to accept their individual level of English language competence. Stating that their English is “*just like that*” is an example of situated meaning (Gee, 1999) where the respondent did not want to elaborate any more on how they feel about their level of foreign language competence. This is also an example of significance being built (Gee, 2011). The quotation shows the significance of the dismissive attitude displayed by Chinese international students. They perceive their English language skills to be an obstacle that needs to be overcome and corrected. Chinese international students force themselves to accept their situation, dismiss negative experiences working with non-Chinese peers that range from miscommunication to mockery and tackle a brutal upward learning curve.

“If I did a work, my English skills are good. If I didn’t do well, I need to study more. I try to express a problem for more than five minutes, I make big mistakes. I look back and move forward.”

They eventually become more comfortable communicating in English and show great pride in their achievements and progress. They display great confidence in their language abilities and are hopeful to eventually become fluent English speakers.

4.5.3.2 Collaborative Work as an Integral Opportunity to Improve English Language Skills

Focus group participants reported that collaborative work with non-Chinese international students and domestic Canadian students presents an integral opportunity to improve English language skills. This sets aside Philp et al.’s skepticism of whether peer interaction is beneficial to foreign language competence development (2014).

The following quote by a first year Master’s student illustrates the significant progress focus group participants are able to make by collaborating with non-Chinese students.

“Every time, after the study with foreign students, I think my English, every time, gets better. I had a lot of confidence to communicate with each other. Even after studies I feel like I am a professional English speaker. I had confidence to talk to others a lot. My speaking has a great progress, and I also had a lot of confidence after this.”

As mentioned above, participants reported that they eventually accept their level of English language skill. This, however, does not mean that they do not wish to

continue to improve their foreign language competence. According to the focus group participants, the engineering classroom does not provide many opportunities for Chinese international students to verbally communicate with non-Chinese classmates.

This lack of opportunities is counter-productive to their English language development, since participants reported that collaborative work with non-Chinese international peers is the ideal scenario to learn new vocabulary and grammar.

Koschmann and Burk believe that collaborative goes through six developmental stages (2016). However, focus group participants described a collaborative work process in which neither Chinese international students reveal their personal traits, nor forming a group identity. The results therefore suggest that Chinese international students skip a minimum of two developmental stages in collaborative work.

Focus group participants assigned collaborative work significant reflective value since they are forced to actively think about their foreign language competence (Philp et al., 2014). It gives them the opportunity to realize strengths and weaknesses and to determine what needs to be done to further improve. Collaborative work with non-Chinese peers is as an integral opportunity to improve English language skills. This therefore also greatly shapes how Chinese international students perceive their English language skills.

“I have been practicing English, especially in speaking skills, all the time. Being and performing in the group, speaking English with non-Chinese friends is a reflection of how much better I have become during the practice and progress. In the short term, it

is not obvious. But compared to what I am doing now with the last two years, I think I have done better than what I did at the moment.”

The preceding quotation by a second year undergraduate student shows that collaborative work is therefore a long-term opportunity to improve language skills and shapes the foreign language perceptions by Chinese international students. In conversation, fellow students casually point out mistakes or suggest how to refer to or formulate things differently, which is implicit feedback, as described by Philp et al. (2014). This insight also shows that adult learners in a post-secondary collaborative work environments do indeed give more implicit feedback than other age groups and context settings (Philp et al., 2014). Rather than feeling embarrassed, focus group participants expressed that they are glad to receive feedback and do their best not to repeat mistakes in the future.

“Sometimes students correct me, this was wrong, you should use this word. I describe something they tell me what it is. One time I said a vehicle can tow a car, they said it’s a tow truck. So I prefer to talk to them more often verbally to correct my English skills. That way I don’t make mistakes in my report writing.”

When asked whether they felt embarrassed when non-Chinese peers correct their vocabulary or grammar while completing collaborative assignments, focus group participants responded that they would never improve their English language skills if they only ever spoke Chinese. The selected quotations support Philp and Tognini’s belief that peer interactions and therefore collaborative work serve as an opportunity to

experiment with language and aid in communication competence development (Philp & Tognini, 2010)

All participants complained that there are not sufficient opportunities for Chinese international engineering students to actively improve their English language skills. At least half of all participants came to the focus groups with the sole intention of practicing their English language skills. The same half also expressed that they wished there were more English conversation opportunities, such as classes, offered through the University of Ottawa. They actively seek out activities to meet non-Chinese peers, confront their foreign language anxiety and make an effort to improve their overall level of competence.

The following quote illustrates the lack of opportunities given to focus group participants to practice and improve their foreign language skills. Several focus group participants expressed their appreciation of the focus group sessions being an opportunity to practice their spoken English skills.

“When we came to here, I found that in our major, there are a lot of Indian and Chinese students. Indian students, they get together. Chinese students, they get together. We have less opportunities to communicate together. I appreciate this opportunity to talk English with everybody.”

As mentioned in Category 2: Embarrassment, Chinese international students participating in the focus groups said they feel increased pressure to perform well when communicating with native English speakers. When consciously seeking opportunities to improve their English language skills, participants overcome their anxiety and sense

of embarrassment. They therefore also slowly set aside hesitations of communicating with English native speakers. Focus group participants reported, however, that they continue to prefer to work with either non-Chinese international peers or fellow Chinese international engineering students.

4.6 Concept: Fluency

The three categories of the streamlined codes-to-theory model for qualitative inquiry lead to a concept (Saldaña, 2013). According to the discourse of the four face-to-face focus groups, the ultimate goal, which all participants aspired to and explicitly expressed, was achieving English language fluency. Participants considered fluency to be a foreign language competence level similar to that of an English native speaker. Their wish to become fluent appeared to be mostly driven by an internal desire. Only two of the fourteen focus group participants were fluent English language speakers, meaning that they could effectively express themselves and did not need to pause to formulate their thoughts and ideas. Chinese international students are only able to achieve fluency, as per their own definition, if they feel confident in their own abilities and are willing to communicate in English. Based on the focus group conversations, limited confidence to speak English is directly linked to limited fluency.

In regards to what factors divided the two fluent participants from the remaining twelve non-fluent peers, the study does not deliver a conclusive answer whether one's personality type impacts English language competence and fluency achievement. The focus group participants who were fluent or almost fluent and demonstrated in-depth knowledge and understanding of Canadian culture described themselves as introverted. It is interesting to note that Chinese international students included in the focus groups

associated English language fluency with traits that can be attributed to extroversion. An example of associations of extroversion with fluency is presented in the following quotation.

“My personality is not very outgoing. I want to overcome it. And I want to be the guy who can speak fluently with others and be the one opposite to my own personality.”

In response to the question of whether participants considered themselves to be extroverted or introverted, one focus group participant directly linked these two concepts to fluency. The participant also even believed that extroversion would increase foreign language anxiety.

“Kind of extroverted or introverted. Depends on the English language skill. Introverted person is good to talk to others. Extroverted may feel nervous, the English is poor.”

Chinese international students are forced to put aside personality characteristics in order to take advantage of opportunities to practice and improve their English language skills. They therefore make themselves overcome characteristics of introversion and pursue extroverted behavioral patterns and habits. As one participant stated, *“motivation outweighs personality”*. MacIntyre and Charos conclude that *“persons who consider themselves to be more intellectual, sophisticated, or open to experience [...] see themselves more competent (in a second language)”* (MacIntyre & Charos, 1996, p. 18). As becomes evident throughout the Analysis and Discussion Chapter, focus group participants reported that they overcome personality traits, fears and low self-esteem in order to improve their English language skills and to achieve

their ultimate goal of fluency. It does not matter whether Chinese international students consider themselves to be open-minded or intellectual since they consciously choose to become these things. As a result, in the context of the focus groups, MacIntyre and Charos' conclusion is refuted.

Fluency was also associated with improved social status among both Chinese and non-Chinese peers, as well as academic prestige. Focus group participants shared that they have difficult relationships with teaching assistants, who show little patience for their language barriers. Chinese international students often rely on non-Chinese collaborative work partners to approach teaching assistants and ask questions for them. In an attempt to maintain and respect high power distance (Geert Hofstede Center, 2010b), they avoid appearing as unprofessional when communicating with teaching assistants (or professors).

According to the Chinese international engineering student perspective, the progression of their English language skill development is greatly shaped by determination and motivation. In the literature review it is explained that fluency goes beyond linguistic knowledge. According to Gee, in order to achieve fluency it is also necessary to acquire knowledge of the foreign language's culture (Gee, 2011). Focus group participants confirmed that it is necessary for Chinese international engineering students to learn about Canadian culture. When completing collaborative work with non-Chinese peers, references to popular culture and local sports can cause confusion. Furthermore, unfamiliar terminology referring to lab gear or classroom material can be an equal source of confusion and delay achieving fluency.

Ultimately, lacking knowledge and vocabulary relating to Canadian culture makes Chinese international students perceive their English language skills as less professional and sophisticated. The following quotation captures the frustration and confusion caused by this issue.

“I never had donuts. I just don’t remember. I didn’t even know what donut means. There are so many English terms that we also have but in a transnational version. When I first arrived, I didn’t know what a donut is. I know the stuff, I know how it tastes, I just don’t know what donut means. We know what that it is, but we don’t know what that is that you mean. There is no link between what you see and what you know. I don’t know what a chalk is. We know blackboard but not chalk. When we go in the lab we don’t know what a goggle is. Every student the most popular app is the translation app. I needed to look up goggle.”

Focus group participants demonstrated awareness that collaborative work with non-Chinese is an integral opportunity to acquire this missing cultural knowledge. They stated that although they prefer working with fellow Chinese international students, working with Canadian and other international students is the only opportunity for them to acquire this kind of knowledge that is key to their overall English language competence. The following two quotes are by two first year Master’s students.

“I can improve my English a lot if I work with foreign students. We can improve our listening, speaking, when do the group discussion. We can also learn the writing style. If Chinese people is writing a paper, it’s not professional. Just like, if Chinese people see it, they think its fine. But North Americans not. In the writing style we can improve a lot.”

“For me, I prefer to be in a group which is full of Chinese students. But during my master study, I did some group project with the Indian student and even the local students. I think this is really hard. Especially in my fourth semester. I just cannot understand them. Study with the Chinese people, like the students from the same country, it is easy for the communication. After class we also stay together and we communicate with each other any time. I think it is quite easier for the same country student to study a group project. I really enjoyed the time to study with other international students. I think that is a good opportunity to practice my English and even to get evolved in the local group and even culture. I really enjoy that.”

English language fluency is a desired goal in non-academic contexts as well. Regardless of whether a Chinese international student plans to return to China after graduating from the University of Ottawa or they choose to stay in North-America, English language skills will be necessary for their future career. The interest of international investors is increasingly looking at the Chinese economy. Therefore, people who have obtained degrees from abroad and master the English language are high in demand. Due to the fact that fluency is highly necessary to prosper both in terms of their private lives and their future careers paths, social pressure increase and becomes a source of motivation as well. This supports the L2 Motivational Self-System Model’s assumption that internal desire to learn a foreign language and social pressure to learn a language in the environment of the learner as driving forces of motivation (Dornyei, in Csizer & Magid, 2014).

4.7 Key Assertion for Further Development: Language Competence and Perception Development among Chinese Engineering Students

Following Saldaña's model, the codes, categories and concept lead to the development of a theory. Since the face-to-face focus groups did not reach the initial sample target goal of 20 participants, a key assertion is made instead (Saldaña, 2013). This key assertion is an idea for further development that can eventually become a theory.

A pattern emerged during the face-to-face focus groups. The pattern strongly suggests that foreign language competence development is a transformational journey that takes place in four stages. This language development journey directly impacts and shapes English language competence among focus group participants.

The English language journey is a very complex, personal one for Chinese international engineering students. The key assertion also addresses changes in identity and acculturation. This directly corresponds with Norton and McKinney's view that identity in foreign language acquisition contexts as a dynamic, fluid concept (Norton & McKinney, 2011).

The length of the four, non-linear stages may of course differ from individual to individual. The key assertion that language competence and perception development take place in four stages may be applicable to other foreign language acquisition contexts as well.

This proposed model also delivers valuable insights into the acculturation process of Chinese international students. The four stages greatly affect foreign language self-perceptions and the process of completing collaborative work. A brief summary of the four stages is presented in Table 3), followed by detailed explanations. The participants included in the face-to-face focus groups were transitioning through these stages at differing, individual paces.

Table 3) Language Competence and Perception Development among Chinese Engineering Students in Four Stages

Stage	Traits	Time Frame
1) Shock	<ul style="list-style-type: none"> • Loneliness • Independence • Extreme communication difficulties in daily life • Limited interactions with non-Chinese peers • Majority of socializing with Chinese peers • Very poor English language skills • Perceive their English language skills to be a hindrance in communicating with non-Chinese peers 	Lasts between six months and one year after arrival in Canada
2) The brutal upward learning curve	<ul style="list-style-type: none"> • Chinese international students have gained basic communication skills to survive 	Begins around six months after arrival

	<ul style="list-style-type: none"> • Dramatic improvement of English language skills over the course of six months • Interactions with peers tend to be characterized as negative • Perceive their English language skills as inferior and regard improvement as a necessary evil 	
<p>3) Acceptance</p>	<ul style="list-style-type: none"> • Acknowledge that their English language skills are lacking certain skills • Actively seek out opportunities to practice and improve their English language skills • Begin to complete collaborative work with non-Chinese peers • Begin to develop pride and confidence in their English language development achievements • Low self-esteem but very hopeful • Develop aspirations to go far in academia/ their future career, point out that they first need to improve their language skills • Still perceive their English language skills as inferior but "It is the way it is" • Begin to regard their English language skills as a vehicle of opportunity 	<p>Begins around one year after arrival</p>

<p>4) Confident Mastery</p>	<ul style="list-style-type: none"> • Fluent or almost fluent speaker of English as a second language • Comfortable to complete collaborative work with non-Chinese peers but still prefer to work with Chinese international students • Very confident in their English language skills and ability to continue to improve • Fully able to equally participate in academic life (employed as TA's) • Aware of their weaknesses 	<p>Begins around four years after arrival</p>
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4.7.1 Stage 1: Shock

The *Shock* stage begins immediately upon arrival in Canada. Being unfamiliar with North American culture, combined with very poor English language skills, focus group participants reported that they lacked the necessary language competence to be able effectively communicate with non-Chinese peers, teaching assistants and professors, this phase is characterized by shock. The Shock stage can last up to one year until after arrival.

“In the beginning I was shocked about everything. I didn’t have friends. I was in (English as a Second Language) course with other Chinese students. I did not get along well with people in the beginning. I did things on my own in the beginning. There were so many difficulties I went through. My English was so bad. My English is still bad. Language is the most important and difficult thing to get into a medium.”

Due to the focus group participants' inability to communicate with non-Chinese peers during the Shock stage, they reported having experienced severe feelings of loneliness and chose to work with other Chinese international students only. In general, the majority of their socializing took place with other Chinese peers. This stage appeared to be a very memorable one to Chinese international engineering students included in the focus groups and they showed great relief to have outgrown and overcome Shock. In relation to perceptions of their own English language skills, participants felt that their foreign language competence level was a serious hindrance in communicating with non-Chinese peers.

4.7.2 Stage 2: The Brutal Upward Learning Curve

Within six months after arrival in Canada and having gone through the stage of Shock, participants described that they transitioned into the second stage of *The Brutal Upward Learning Curve*. During this stage, focus group participants continue to mostly interact with fellow Chinese international peers, especially in classroom settings. They also begin to complete collaborative work with non-Chinese peers.

Participants reported that the few opportunities they had to communicate with non-Chinese peers were mostly negative. They are generally mocked and excluded by classmates and teaching assistants due to their inability to efficiently express themselves. As a result, participants perceived their English language skills as inferior and began to regard drastically improving their English language skills as absolutely necessary during this stage. This sets the foundation for their dismissive attitude, as elaborated on in Category 2: Embarrassment. During this stage, Chinese international engineering students make significant progress in terms of their English language

development and begin to also gain cultural knowledge. This affirms the Van Elk model of communicative competence. It views linguistic competence as only one aspect of communicative ability amongst other competences, such as sociolinguistic, discourse, strategic, socio-cultural and social competence (Van Elk, 1986).

Focus group participants gain significant knowledge concerning these competences during the Brutal Upward Learning Curve. Some participants seemed to be experiencing both Shock and The Brutal Upward Learning Curve simultaneously for at least a few months during their English language journey.

4.7.3 Stage 3: Acceptance

The third stage of *Acceptance* represents a significant milestone in the key assertion that language competence and perception development take place in four stages. While progressing through the Shock and the Brutal Upward Learning Curve stages, focus group participants explained that they improved their foreign language competence, gained cultural knowledge and experienced working with both Chinese and non-Chinese peers.

At this stage participants had also gained a clear awareness of their level of English language skill. They understand their weaknesses and strengths. Chinese international students make an effort to actively seek out opportunities to practice and improve their English skills.

Despite still perceiving their English language skills as inferior and displaying very low self-esteem, participants begin to develop confidence and appear as hopeful in the Acceptance stage. They accept the inferiority and delays in acquiring a satisfactory foreign language ability in comparison to non-Chinese peers.

The dismissive attitude described in Category 2: Embarrassment is fully developed now. In order to improve their English language skills, they have learned to dismiss embarrassment. Chinese international students now begin to work with non-Chinese peers more frequently and develop aspirations to continue their post-secondary education after completing their current degree.

The Acceptance stage, which begins around one year after arrival, is characterized by focus group participants perceiving their English language skills to be a vehicle of opportunity and success in their academic, professional and private lives. Especially in the Acceptance stage, Chinese international students consider collaborative work to be a significant opportunity to interact with non-Chinese peers.

4.7.4 Stage 4: Confident Mastery

Only two out of fourteen participants included in the focus groups had reached the fourth stage of *Confident Mastery*. These two participants demonstrated a highly developed level of foreign language skill in both spoken and written English.

The final stage appears to begin around four years after arrival in Canada. This means that the Acceptance stage can last several years before Confident Mastery is achieved. As the name indicates, this stage is characterized by the confidence participants displayed regarding their current level of English language skills and ability to further improve.

They are fluent or almost fluent English language speakers and do not pause to remember vocabulary or grammar. Formulations come to mind easily for these two participants. In terms of collaborative work, they are comfortable to complete assignments with non-Chinese peers. Nevertheless, they still prefer working with

Chinese international students due to the shared linguistic and cultural bonds with peers from their home country.

They are able to equally participate in academic life on campus and find employment as teaching assistants for example. Nevertheless, they continue to be aware of their linguistic weaknesses.

The two participants who had transitioned to the Confident Mastery stage did not view their level of English language skill to be a given. They perceived it as the result of years of effort, dedication and forcing themselves to overcome personal limitations when completing collaborative work.

Unlike the Acceptance stage, participants at the stage of Confident Mastery did not share the dismissive attitude their fellow peers at earlier developmental stages displayed. Instead of thinking that '*this is the way things are*', they were able to significantly improve and progress in their level of English language competence and did not allow non-Chinese peers to mock them and feel inferior.

It is not possible to predict whether all Chinese engineering students included in the focus group sample will transition through all four individual stages. Not all Chinese international students stay in Canada for as long as four years. Some only come for an exchange semester, or they are enrolled in a graduate program which takes around two years to complete and may therefore not be able to transition through all four stages.

5. Conclusion Chapter

The thesis project posed the question of how collaborative work with non-Chinese peers shapes the self-perceptions of English language skills by Chinese international students. Chinese international students are a significant resource of talent to the Canadian economy. Being one of the largest ethnic groups present in Canada, the presence of Chinese immigrants is also reflected by post-secondary campuses where one out of six international students is a Chinese foreign national.

Linguistic competence is an essential aspect that contributes to overall cultural integration. Chinese international students, however, tend to lack the necessary English language skills to be able to communicate with non-Chinese peers in the classroom. This is problematic considering that collaborative work has become an essential teaching strategy of instruction and assessment in engineering classrooms. There is very little research that focuses on the unique experiences of Chinese international students or their perceptions of their personal language barriers.

Overall, Chinese international students who participated in the focus group sessions had a very negative image of their level of English language competence. There are very few opportunities for Chinese international students to practice and actively improve their English language skills. Participants were, however, extremely capable of self-assessing their strengths and weaknesses. Immediately upon arrival in Canada, Chinese international students recognize that their English language competence and fluency is an important vehicle of opportunity. It is important to note that self-perceptions of English language skills change over time.

Collaborative work with non-Chinese peers is an integral opportunity to do so. Non-Chinese peers then point out mistakes to them and therefore foreign Chinese students acquire new words, grammar and cultural knowledge. Collaborative work is therefore an important chance for Chinese international students to reflect on their English language competence and significantly shapes their perceptions of their own English language skills.

Despite the great importance of collaborative work in English language development, they prefer working with fellow Chinese international students. They can communicate with each other in their native Chinese language, which therefore lessens the burden of the language barrier. Also, focus group participants appeared to value the cultural bond they have with Chinese students.

Participants perceived their English language competence as a tool to achieve success in their academic and social life. In addition, English language improvement was regarded as highly necessary. In order to achieve this, fears, embarrassment, and personal limitations must be set aside and overcome. Although participants displayed low self-esteem and feelings of inferiority, a dismissive attitude towards negative experiences resulting from working with non-Chinese peers helps them achieve this.

The three factors, referred to as categories, which contribute most to English language self-perceptions by Chinese international engineering students when completing collaborative work are efficiency, embarrassment and confidence. Efficiency is extremely important to Chinese international students. Participants want to solve their assignments quickly and produce work that is high in quality. Perceived

language barriers slow down the process of completing assignments collaboratively, and therefore decrease efficiency. As a result, participants avoid working and communicating with non-Chinese peers. In the rare instance of them working with non-Chinese peers, electronic devices help Chinese international students facilitate communication and avoid moments of linguistic difficulty.

Due to their lack of verbal English language skills, they often feel embarrassed about their inability to communicate. This reinforces their preference to work with Chinese international students while avoiding interactions with non-Chinese peers. Focus group participants described a fear of native English language speakers. They feel elevated levels of pressure when communicating English with Canadian students for example. When working with a fellow international student who also speaks English as second language, Chinese international students feel that their language barrier is not as significant. They therefore feel less stressed and embarrassed. This is an especially important insight since fearing instances of embarrassment leads to an increase in foreign language anxiety among Chinese international engineering students.

The third category is confidence. Focus group participants described feeling simultaneously embarrassed and confident at times. The dismissive attitude that Chinese international engineering students adopt in regards to negative experiences working with non-Chinese peers helps them overcome low self-esteem and feelings of inferiority. As a result, they accept their level of English language competence and a strong sense of confidence emerges. Confidence drives their internal desire to further develop their English language skills. The dismissive attitude is a conscious survival

mechanism that helps Chinese international students to move past their negative experiences and embrace pride instead.

Achieving fluency is a desired goal of Chinese international engineering students. Focus group participants considered fluency to be a concept similar to being an English language native speaker. Only very few Chinese international students are able to achieve fluency because it takes them around four years of practice and exposure to arrive at such a high level of foreign language competence.

Self-perceptions of English language skills by Chinese international engineering students change over time. Essentially, their perceptions of their own language competence are part of a personal journey of self-development. In the form of a key assertion, the focus group results strongly suggest that language competence and perception development take place in stages. Participants described a non-linear four stage process. Participants progress from Shock, to the Brutal Upward Learning Curve, during which Chinese international students acquire the necessary basic language skills to pass their classes. They eventually accept their level of English language competence in the Acceptance stage. In this stage the focus group participants adopt the necessary dismissive attitude to move forward and develop motivation and confidence in their ability to improve. The final stage of Confident Mastery is only achieved by very few Chinese international students. It is characterized by high levels of confidence. At this stage, Chinese international students achieve fluency and are able to comfortably communicate in English. Their self-perceptions of English language transition from very poor to suddenly very strong. This key assertion could be applied to other language acquisition contexts as well. In addition, the key assertion that English language

perceptions and development takes place in four stages addresses questions of changes in identity and provides new insights into the acculturation process.

The literature review is skeptical of the increased possibility to enhance communication skills through collaborative work. However, focus group participants emphasized that collaborative work with non-Chinese international students and Canadian domestic students are an integral opportunity to reflect on their English language skills and to improve their level of foreign language competence. The literature also emphasizes the role of the foreign language communicator in creating language barriers. Participants, however, suggested that native speakers and non-Chinese peers in general play an integral role in fostering these language barriers. This presents a serious gap in the literature. Furthermore, although professors demand more assignments and projects to be done collaboratively since post-secondary engineering classrooms are transitioning towards an interactive, problem-solving curriculum, engineering students do not necessarily communicate more with their peers.

Motivation appears to be the prevailing factor that drives foreign language self-perceptions and improvement. The literature review positions personality, gender, and cultural background as decisive factors that shape how individuals approach foreign language competence. However, the focus group findings suggest that these factors can be overcome out of sheer will and determination in the Chinese international engineering student context.

Chinese international students show a clear preference to take on tasks that involve minimal communication with non-Chinese peers. They consciously apply measures to reduce communication with their group mates by using social media platforms to exchange information and by only discussing results once the project is completed. Focus groups also affirmed that Chinese international students encounter language barriers, difficulties forming social relationships and cultural differences. The individual obstacles are interrelated and demand conscious effort and work to improve and move ahead.

It does not really matter how participants perceive their English language skills. They demonstrated a dismissive attitude and decide that the long-term gain outweighs the temporary pain of forcing themselves to consciously search for opportunities to improve and practice their English language skills.

Focus group participants attribute their English language skills a functional and practical meaning through which they should achieve social upward mobility and prestigious status among their Chinese international student peers. The focus group findings also partially refute the literature in terms of Blanche and Merino's assumption that foreign language learners' self-assessment is very much impacted by opinions of instructors. Focus group participants demonstrated exceptional insight into their own strengths and weaknesses and were very capable of self-assessing. This is one of the most surprising findings of this thesis. The finding of being able to consciously decide to not be bothered by and ignore feelings of inferiority and low self-esteem and then move past is unexpected.

Self-perceptions and development of English language competence are directly tied to identity and acculturation. Because all of these factors are interrelated and directly connected to success and literal survival, Chinese international students do not have any other choice than to adopt a dismissive attitude when interacting with non-Chinese peers in collaborative work contexts and therefore have to set aside rules of nominal language development.

5.1 Limitations

There are certain limitations to keep in mind regarding the results of the thesis research project. First, only a very small sample was included in the face-to-face focus groups. Over 40% of Chinese engineering students approached did not meet the set criteria to qualify for the focus groups. The criterion of having to have completed a minimum of one assignment with a non-Chinese peer eliminated the most interested candidates. As a result of this, 4% of all qualified potential participants were included in the focus groups. The results only capture one example out of many. This is reaffirmed by the fact that the thesis does not produce a theory but a key assertion for further development. The results are not broadly representative of the experiences of Chinese international students across Canada.

Furthermore, thirteen out of fourteen participants were male. Therefore, the thesis results deliver a gendered perspective and strongly limits the applicability of the results to the female Chinese international student context.

Also, the selected method of coding adds certain limitations to the validity of the presented results and conclusions. Coding is generally carried out by several researchers

in order to avoid bias and to depict a reality that is as close to the truth, as described by the participants, as possible. Using coding to analyze the focus group results was approved by the Research and Ethics Board of the University of Ottawa. One of the pre-set conditions included in the notice of ethical approval for the thesis project is that only the principal investigator and the thesis supervisor have access to the audio recordings and transcripts of the focus groups. This is meant to protect the participants' identities. Therefore, it was not possible have several people code the transcribed data.

5.2 Ideas for Further Research

The Literature Review Chapter and the Analysis and Discussion Chapter deliver insights into how collaborative work with non-Chinese peers shapes perceptions of their own English language skills by Chinese international students. However, the findings also offer ideas for possibilities of further research since new questions developed throughout the research process.

Only 1 out of the total 14 focus group participants was female, which is disproportionate to the overall gender distribution among Chinese international students in Canada. Roughly one third of all focus group candidates approached were female. The lack of female candidates committing to the face-to-face focus groups suggests that there may be a gender dynamic that impacted female Chinese engineering student's decision not to participate. Further research could unveil the reasons behind this potential gender dynamic.

The focus group participants described their relationships with teaching assistants as especially problematic. Participants reported that teaching assistants have

very little patience for their language barriers and are unwilling to invest the patience and empathy necessary to connect with Chinese international students. Further research could look into the dynamic between teaching assistants and Chinese international students in Anglophone post-secondary engineering classrooms.

The literature emphasizes the role of the foreign language learning in creating foreign language barriers. However, native speakers play an integral role in putting up these language barriers. Their role in creating language barriers and intensifying them ought to be explored in further research.

The focus group results propose that language competence and perception development take place in four stages. These results are only based on four focus groups with a total of fourteen participants. This key assertion and its stages would need to be further investigated and researched in a longitudinal study in order to develop a theory. This would enable to quantify the results and to create more nuanced descriptions of the individual stages and perhaps even correct them. The key assertion is closely tied to identity development and acculturation. The proposed four stage structure is similar to the five stage model of culture shock according to Adler (Adler in Pedersen, 1995). Further research could focus on how the two models relate to each other and whether perceptions of English language skills by Chinese international students impact the culture shock process.

5.3 Practical Implications

It appears that there are many stereotypes surrounding Chinese international students enrolled at North American post-secondary institutions. These stereotypes intensify when a Chinese international student is pursuing a degree in science and

technology. Language barriers and valuing a different set of norms do not necessarily equate shyness and passiveness.

The Literature Review Chapter shows that there is only minimal research that focuses on the Chinese international student experience, especially in regards to their level of English language competence. There is general a lack of interest for the perspective of the Chinese international student and how their views and self-perceptions are affected by negative experiences with non-Chinese peers.

Chinese international students are in need of inclusive environments in which communication barriers are not perceived as a hindrance to social inclusion but a common issue that can be resolved together. The fact that the majority of participants who attended the sessions mostly did so to be able to practice their English language skills in an informal setting shows how eager and willing Chinese international students are to improve their level of competence.

As with most issues that focus on the integration and acculturation of newcomers into a foreign society, the key to inclusiveness is access to knowledge (both linguistic and cultural) and exposure. If both sides are able to gain a basic empathetic understanding of each other's struggles, conflict can be avoided, communication is facilitated and social relationships are formed.

The knowledge gained from this thesis can help post-secondary institutions, communities and policy makers to set the conditions to create a more inclusive environment that welcomes Chinese international students and other newcomers. Fostering an understanding for the experiences of newcomers is only beneficial to

Canadian society and inevitably necessary to empower these newcomers. Such an environment can be created through language improvement resources, programs and workshops that teach both Chinese and non-Chinese parties about each other's expectations and experiences. This in-depth understanding can help post-secondary institutions, communities and policy makers learn from past mistakes and make improvements for the future.

Canada has decided to bring Chinese international engineering students into the country to receive educational training. Therefore, the necessary steps need to be undertaken to make Chinese international students (and all other newcomers) feel welcome in Canada. North American society must expand its open mindedness past Western norms and learn to respect Chinese international students and acknowledge their struggles.

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Appendix A: Focus Group Questions

- How long have you been in Canada?
- Do you enjoy your program?
- Do you find going to post-secondary school in Canada to be a satisfying experience?
- Did you learn to speak English before coming to Canada?
- How did you feel about your level of English language competence when you arrived in Canada?
- How do you find the instruction style of professors?
- Do you feel included in the classroom?
- Do your professors ask you to complete collaborative course work with peers?
- Do you generally complete collaborative course work with Chinese or non-Chinese peers?
- Do you feel more included when you are completing collaborative course work with Chinese or non-Chinese peers?
- Are you able to efficiently express and communicate your ideas and thoughts?
- Do your English language skills affect how you express and communicate your thoughts and ideas when completing collaborative work?
- Does collaborative work with non-Chinese peers affect how you perceive your English language skills?
- Does collaborative work with non-Chinese peers change how they approach you in the classroom?
- Do you find collaborative work to be a satisfying experience?

- Do negative collaborative work experiences make you feel lesser about your English language competence?
- Are language barriers an issue when completing collaborative work with non-Chinese peers?
- Do you feel as confident completing collaborative work with non-Chinese peers as with Chinese peers?
- Did you feel nervous in the beginning when asked to communicate in English with classmates?
- Has how you feel about your English language skills changed over time?
- Do you feel that how your English language skills have developed over time will affect your future career and/or private life?
- Do you consider yourself to be an extroverted or introverted person?
- Does your introversion or extroversion affect your willingness to communicate with non-Chinese peers?
- Is learning to speak a foreign language important in urban Chinese culture?
- Are you satisfied with your English language skills?
- On a scale of 1 – 10, with 1 being the lowest and 10 being the highest, how would you rate your level of English language competence?