LEARNING AS SOCIALLY ORGANIZED PRACTICES: CHINESE IMMIGRANTS FITTING INTO THE ENGINEERING MARKET IN CANADA

By

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A thesis submitted in conformity with
the requirements for the degree of Doctor of Philosophy
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Abstract

My research studies immigrants’ learning experiences as socially organized practices. Informed by the sociocultural approach of learning and institutional ethnography, I treat learning as a material and relational phenomenon. I start by examining how fourteen Chinese immigrants learn to fit into the engineering market in Canada. I then trace the social discourses and relations that shape immigrants’ learning experiences, particularly their changing perceptions and practices and personal and professional investments. I contend that immigrants’ learning is produced through social processes of differentiation that naturalize immigrants as a secondary labour pool, which is dismissible and desirable at the same time.

My investigation unfolds around four areas of learning. The first is related to immigrants’ self-marketing practices. I show that core to immigrants’ marketing strategies is to speak to the skill discourse or employers’ skill expectations at the “right” time and place. The skill discourse, I argue, is culturally-charged and class-based. It cloaks a complex of hiring relations where “skill” is discursively constructed and differentially invoked to preserve the privilege and power of the dominant group.

The second area is immigrants’ work-related learning. I find that workplace training is part of the corporate agenda to organize work and manage workers. Amid this picture, workers’ opportunity to access corporate sponsorship for professional development is contingent on their membership within the engineering community. To
expand their professional space, the immigrants resorted to learning and consolidating their knowledge in codes and standards, which serve as a textual organizer of engineering work.

The third area is related to workplace communication. My participants reported an individualistic communication ‘culture’, which celebrates individual excellence and discourages close interpersonal relations. Such a perception, I argue, obscures the gender, race and class relations that privilege white and male power. It also leaves out the organizational relations, such as the project-based deployment of the engineering workforce that perpetuate individualistic communicative practices. My last area of investigation focuses on immigrants’ efforts to acquire Canadian credentials and professional licence. Their heavy learning loads direct my attention to the ideological and administrative licensure practices that valorize Canadian credentials and certificates to the exclusion of others.
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Upon completion of my thesis, I want to extend my sincere appreciation to all my research participants. Without them generously sharing their stories and knowledge, this thesis would not have been possible. I understand that as I finish up my writing, many of my immigrant respondents have lost their jobs. I hope that with the tenacity that they have shown to start a new life in a foreign land, they would be able to weather this current economic recession.

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Dedication

To Jeff Jiefu Zhu: May you develop an unceasing curiosity for knowledge!
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Chapter One:
Introduction to My Study and the Thesis

Learning, commonly considered a private matter, has entered the realm of public policy, especially in the economic North since the 1990s (Hake, 1999). As a policy discourse, lifelong learning serves to champion the notion that individuals become entrepreneurs who can recognize opportunities, marshal resources, and make appropriate investment to achieve various goals (Reimers-Hild et al., 2005; Olssen, 2006). In its recent policy document, Knowledge Matters: Skills and Learning for Canadians, the Canadian government makes it clear that ‘[t]o remain competitive and keep up with the accelerating pace of technological change, Canada must continuously renew and upgrade the skills of its workforce’ (HRDC 2002). In the policy statement, skills are made an ideal learning object. There is, however, little information about what counts as knowledge and skills, and how certain kinds of skills come to be accepted as the legitimate learning objects. In this dissertation study, I foreground these questions and argue that in the case of immigrants, learning can be made a mechanism of neo-liberal control (Olssen, 2006) or a ‘technique of governance’ that reshape and subjugate immigrant learners/workers (e.g. Edwards, 2002, 2003; Fejes 2005).

The objective of my research is to understand the social organization of Chinese immigrants’ learning practices as they refashion themselves to fit into the engineering market, a key occupational field in the Canadian economy (Massé, Roy, & Gingras, 1998). Studies have rightly focused on uncovering barriers facing immigrants in their labour market integration process (e.g. Basran & Zong, 1998; Reitz, 2001; Salaff & Greve, 2003a, 2003b). There is however a lack of study of how immigrants learn to optimize their opportunities with(in) their targeted fields of practices (for exceptions see
Ng, Man, Shan, & Liu, 2006; Shan, 2009a). Even less is known as to the actual social processes that shape immigrants’ labour market learning experiences. My study fills these gaps in the literature.

Conceptually, my study is informed by the sociocultural approach of learning and the methodological approach of institutional ethnography. Aligning with the sociocultural perspective, I see learning as a material and relational phenomenon integral to our everyday practices (see also Fenwick, 2001; Lave & Wenger, 1991; Sawchuk, 2003; Vygotsky, 1978). Inspired by institutional ethnography, I conceptualize learning as a socially organized practice. In this study, the learning practices that I focus on include immigrants’ changing perceptions and practices, and personal and professional investments in their labour market navigation process. I am particularly interested in understanding the social discourses and relations that order immigrants’ learning practices and accomplish social and institutional management and control at the same time.

In the broadest term, my study finds that immigrants are systematically rendered a secondary labour pool that is at once dismissible and desirable. Immigrants’ learning and participation in the engineering profession often takes place in a limited social space defined by employers’ interest for profit and the social and cultural preferences of the dominant group. Specifically, I argue that the neo-liberal discourses around skills, training, communication, and Canadian credentials, as well as the social practices in which these discourses are enacted, such as hiring practices, the training agenda, organization of engineering work and workforce, and administration of licensure issues, all help coordinate immigrants’ labour market learning activities in Canada. While noting
the socially organized property of immigrants’ learning experiences, I also observe instances where immigrants learn to breach the normative practices in Canada and lead to changes in small yet significant ways.

In this chapter, I situate my study in the historical, social and economic context of Canada and introduce how professional immigrants’ employment outcomes are historically implicated in a gendered, racialized and class-based Canadian labour market. In particular, I focus on how immigration policies in Canada help shape “desirable” immigrants and how immigrants, particularly professional immigrants of recent years, fall victims to the promises and shortfalls of Canada’s strategies to recruit skilled immigrants (Mirchandani, 2004). I proceed to offer an overview of my research and the thesis.

Changes in Canadian immigration policy and in the composition of immigrant cohorts

Contrary to the dominant perspective that immigration is an outcome of people’s cost-and-benefit calculations (Borjas, 1989), migratory movements across national boarders is often decided by a host of structural factors, among which immigration policies are a significant one (Castles & Miller, 2003). This point becomes most evident in Canadian immigration history. Canada is a country dependent on immigrants for its economic and demographic growth (e.g. Denton, et al., 1997; Kelley & Trebilcock, 1998; Green & Green, 1999). Historically, Canadian immigration policy was overtly gendered, racialized, and class-based (Jakubowski, 1997). It consistently gave preference to white European (male) descents with sufficient means of support upon landing. For example, before the 1930s, there were four major categories of people permissible to enter Canada: 1) British subjects from the United Kingdom, Ireland, Newfoundland, New Zealand,
Australia and the Union of South Africa, who possessed sufficient means to maintain themselves before securing employment; 2) United States citizens possessing similar means of maintenance; 3) wives, unmarried children under 18, or fiancées of male residents in Canada; 4) agriculturalists with sufficient means to farm in Canada (King, 1947). Clearly, it was the white male Caucasians who had a certain amount of money that were most welcomed to Canada. Women and children’s admissibility was contingent on their relationship with male immigrants and male Canadians.

Asians were rarely deemed desirable immigrants. Yet, when there was a huge demand for cheap labour, they were actively recruited. For instance, thousands of young Chinese were brought to Canada as coolies for the construction of the Canadian Pacific Railway (CPR). As soon as the construction of CPR was completed, however, a head tax was imposed to discourage Chinese people from immigrating to Canada. The implementation of the Chinese Immigration Act in 1923 was meant to completely ban the Chinese from coming to Canada (Chui, Tran, & Flanders, 2005). These restrictive immigration policies and measures not only barred men from immigrating to Canada, but also prohibited the wives of Chinese male immigrants and their children from entry. In 1911, for every 100 Chinese women in Canada, there were 2790 men, and it took more than half a century for the gender ratio of the Chinese to approach equilibrium (Li, 1998).

In the 1960s, Canada substituted skilled immigration for family immigration as the major immigration category because the former was considered as posing less economic burden on the Canadian society (Boucher, 2005). In 1962, Canada revoked previous regulations giving special status to British, French and American citizens, and lifted limits set on immigrants from Asian countries (Green & Green, 1999). Preferably,
immigration status was to be granted to people by virtue of their education, training, skills and other special qualifications and their means to support themselves until they became established (Green & Green, 1999). In 1967, the introduction of the point system officially marked the end to Canada's overt discriminatory immigration practices based on racial and ethnic preferences (Satzewich, 1998). In principle, the point system extends Canada’s immigration invitation to anyone who is eligible. In essence, however, it is those who are in the right age bracket and who have the right work experience, the right education, the right language proficiency and the right financial resources who are most welcomed into Canada (see CIC, 2008).

Corresponding to the shift in the immigration policy, there has been significant demographic change in the immigrant cohorts in Canada in terms of race, gender and occupational compositions. One pronounced character of the current immigration pattern is that the number of immigrants from Asian countries has dramatically increased. People's Republic of China, for example, has become the number one immigrant source country for Canada since 1998 (CIC, 2007). The second feature is the rise in the number of skilled immigrants. In recent years, skilled immigrants (dependent and independent) coming through the point system account for more than 50 percent of all immigrants to Canada (CIC, 2007). The third feature is the increase of immigrant women from Asia. Unlike the traditional image of women trailing along their spouses, many of the women come to Canada as skilled immigrants, intending to pursue professional occupations (Raghuram & Kofman, 2004).
One other feature of current immigration is that recent immigrants are most likely to be trained scientists and engineers (Couton, 2002). In 2001, of the 44 percent\(^1\) of skilled immigrants who identified an intended occupation at the time of immigration, 63 percent indicated engineering (Lemay, 2007). Immigrants comprised 50 percent of all degree-qualified workers in the engineering field — 51 percent in the information technology field and 49 in the architecture and building field. Asia, in particular China, has become the major provider of the most recent immigrant professionals in science and technology (Lemay, 2007; Couton, 2002). In 2000, 39 percent of immigrants intending to work as engineers (all specialties combined) were from China (Couton, 2002). Indeed, immigrants of Chinese origin are twice as likely as the general population in Canada to work in natural and applied sciences (Chui et al., 2005).

**Shifting economic outcome of the recent immigrant cohorts**

While Canadian immigration policy has stopped its overt racist practices, immigrants, given their non-traditional origins, continue to occupy a secondary status in the host society and in the host labour market. For one thing, despite Canada’s preference for skilled immigrants minimally with university degrees and professional or occupational experience in their fields of training (Iredale, 2001), most of the skilled immigrants end up with jobs far from commensurate with their previous educational backgrounds (e.g. Basran & Zong, 1998; Chakkalakal & Harvey, 2001). Statistical studies have shown that the employment earning of recent immigrants has declined compared to that of their counterparts before the 1970s, and that there is a correlation between the scale of this decline and the changing composition of recent immigrants (e.g.

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\(^1\) In the landing papers, principle immigration applicants had their reported fields of practices identified, whereas dependent immigrants were designated as ‘new workers’.
A most recent study based on Canadian census 2006 (Statistic Canada, 2008) compares the earnings of immigrants of the core working age (25 to 54) in 2005 versus those in 1980. It finds that while immigrants earned 85 cents for each dollar received by native-born Canadians in 1980, the ratio had drooped to 60 cents for immigrant men and 56 cents for immigrant women in 2005. In the case of Chinese immigrants, their economic outcome significantly lags behind that of Canadians, and Chinese immigrant women’s economic outcome is far from comparable to either their male Chinese or their female Canadian counterparts (Wang & Lo, 2005).

The labour market outcome of immigrant engineers exemplifies the experience of the skilled immigrants in general. Boyd (2000, 1990), and Boyd and Thomas (2001, 2002) find that despite their higher educational levels, international-trained engineers are less likely to be hired in their professions than their counterparts educated in Canada; if they are hired, they are under-represented in managerial and engineer positions. The Council for Access to the Profession of Engineering (CAPE) (2005) conducted a survey of 802 immigrants with engineering backgrounds in Ontario. Of these respondents, 54 percent were not working, 30 percent were working in fields that did not relate to their fields of training, and only 16 percent were employed in engineering related jobs. Noting the absence of gender in studies of immigrant engineers, Slade (2003) investigated the experiences of a few international-trained female engineers and documented the marginal experiences of these immigrants in the engineering profession in Toronto, Ontario. Her work shows the ways in which intersecting gender and race relations work to the detriment of immigrant women workers in male dominated professions.
Alberta is the province that has “attracting immigrants” as one of its provincial priorities (AHRE, 2005). It is also the province that has benefited from both international and the highest inter-provincial migration. Nevertheless, there has been no shortage of reports of under- and un-employment of skilled immigrants in Alberta. Half of the immigrants with post-secondary credentials are not able to fully apply their prior education, training or experiences in Alberta (Alberta Learning & AHRE, 2004). A recent newspaper report entitled *Provincial Labour Shortage Bewildering to Newcomers* (McGinnis, 2006, February, 25) relates a story of an immigrant engineer working on an hourly rate of $8 in a gas station, which tells the experience of many new immigrants.

**Structural barriers or individual problems?**

On the one hand, immigrants with professional backgrounds are actively sought after by the Canadian governments. On the other hand, recent immigrants do not fare well in the Canadian labour market. The disjuncture between the promises and perils of immigration has led to a plethora of studies that try to explain the unfortunate labour market outcome of the recent immigrant cohorts. Areas frequently explored include the “human capital” and “social capital” skills of immigrants (e.g. Fagnan, 1995; Morawska, 1990), the structure of the Canadian labour market (e.g. Aydemir, 2003; Reitz, 2001) or a combination of the two (e.g. Salaff & Greve, 2003a, 2003b). Barriers identified typically fall under two categories: deficiency on the part of immigrants, and/or inhospitality on the part of the host society. The first perspective holds that recent immigrants are low in English proficiency (Boyd, 1990) and in "Canadian economy usable" literacy levels (Ferrer, Green, & Riddell, 2004). Cultural barriers are also found to be obstructing immigrants’ smooth entrance into the Canadian labour market (Bauder & Cameron,
The structural barriers identified from the second perspective include devaluation of immigrants’ credentials (e.g. Ferrer & Riddell, 2004; Galarneau & Morissette, 2008; Green & Worswick, 2004), demand for Canadian work experience (e.g. Chakkalakal & Harvey, 2001), and institutionalized racism and sexism entrenched in the host country (e.g. Ng, 1988; Man, 2004).

The under- or un-employment of professional immigrants is not particular to Canada. In Bagchi's (2002) study of professional immigrants in the United States, she finds that international-trained professionals, such as engineers, do not have the social ties or network needed to enter and succeed in their fields. Further, compared with their male counterparts, female professionals need even stronger social ties in order to be successful in their respective fields (except for nursing). Another US study by Goyette and Xie (1999) compares the labour market outcomes of women immigrant scientists and engineers with those of male immigrant and native-born female scientists and engineers. Their study finds that the disadvantageous employment situation of immigrant women may relate to their particular immigration path — as spouses of immigrant men.

In January 2003, the Canadian Council of Professional Engineers (CCPE), now named Engineers Canada, received funding from the federal government to launch a project entitled "From Consideration to Integration", which was to encourage occupational licensing and regulatory bodies to adopt best practices in foreign credential evaluation and to improve the integration of international-trained professionals into the Canadian workforce. According to this study, the negative employment outcome of international-trained engineers is both a structural issue and a result of cultural shock (Hawthorne, 2004). It is a structural issue because there is an oversupply of engineers in
recent years. It is a cultural shock in that "such high source countries/territories of immigrant engineers, as China, India, Russia and Pakistan do not have a licensing process. Graduates coming out of engineering school (in those countries) call themselves engineers and begin to practice" (Hawthorne, 2004, p. 36). Similar to what CCPE identifies, CAPE (2005) also finds that there has been an oversupply of engineers in Toronto. Based on this finding, CAPE submitted to the Cross-Canada Hearings of the House of Commons Standing Committee on Citizenship and Immigration that "future immigration policy for skilled workers should be developed in consultation with the Federal Government and post-secondary education institutions, provincial governments, professional self-regulating bodies and employers in Canada” (CAPE, 2005, p. 6).

Overview of the study and my thesis

While many studies have documented the barriers immigrants face in integrating into the Canadian labour market, there is little knowledge of how immigrants make their niches in their targeted professional field. There exist a few studies that look at how immigrants make their transitions into the Canadian labour market (Mirchandani et al., forthcoming; Ng, Man, Shan, & Liu, 2006; Shan, 2009a) or deal with workplace oppression and exploitation (e.g. Fenwick, 2008a; Shragge, 2004). Yet these studies often focus on low-end sectors. Further, they all attend to how immigrants, particular immigrant women, struggle at the individual levels, mobilizing collegial support and community resources. My study adds to the existent literature. It starts from the experiences of professional immigrants, who are active navigators of the host labour market; I am particularly interested in crucial and transitional moments when immigrants try to fit themselves into the Canadian labour market. Furthermore, my study is not
limited to the experiences of immigrants. Rather, their personal experiences furnish me with a standpoint as a researcher and direct my attention to the extra-local relations that participate in producing immigrants’ learning practices. The ultimate purpose of the study is to understand the social and institutional discourses and practices that order, organize and mediate immigrants’ learning experiences in the Canadian labour market.

   Conceptually, the study is informed by the sociocultural approach of learning (Vygotsky, 1978; Lave & Wenger, 1991) and the sociological approach of institutional ethnography (Smith, 1987, 1990, 2005). While the sociocultural approach of learning makes the social context essential to the formation and development of individuals’ mind and practices, institutional ethnography situates learning in a set of managerial and administrative discourses and courses of action that accomplish ruling in a late capitalist society.

   My field research took place in Edmonton, Alberta and Toronto, Ontario. According to a 2002 national survey of professional engineers, Ontario and Alberta are two provinces with a good concentration of registered engineers in the disciplines of civil, electrical, mechanical and chemical engineering (Ekos Research Associates Inc., 2003). One other reason for me to do my research in these two cities is that they are both popular landing cities for the Chinese; Toronto is on top of the list and Edmonton the fifth on the list (Chui et al., 2005). My third and major reason to choose these two cities is that, at the time of my study, Alberta was reported to be in dire shortage of engineering labour (Cross, 2006; 2006; HRE, 2005), and Toronto was claimed to be burdened with an oversupply of foreign trained engineers (CAPE, 2005). The different labour market
scenarios in the two cities, I believe, will offer me complementary threads of social
relations producing immigrants’ opportunities and practices at different places and times.

For the field research, I conducted life history interviews with fourteen Chinese
immigrants (five women and nine men) who had worked in the engineering fields in both
China and Canada — seven in Toronto and seven in Edmonton. I also conducted 17 key
informant interviews with employers, project managers, senior engineers, HR recruiters,
trainers and staff at licensure bodies. In addition, I observed a number of training events
and public forums related to immigrants’ integration issues. Throughout the study, I
collected and analyzed a range of public policies and materials to understand how
immigrants’ experiences are in part organized and mediated through these texts.

Before an overview of my thesis, there are three caveats that I need to make.
First, a typical institutional ethnographic study usually pursues one area of investigation.
In other words, an IE project is often geared towards putting together a puzzle that
explicates one particular problematic. Given that my study addresses a continuum of
people’s experiences — from how immigrants enter the engineering profession to how
they go about establishing themselves in the profession, four different problematics or
areas of investigation emerged during the course of my study. They are: immigrants’ self-
marketing practices, their work-related learning, their shift to individualized
communicative practices, and their licensure- and credential-related learning. These
problematics directed my investigation of the social relations shaping yet extending
beyond individuals’ experiences. They also became the organizing themes of my data
analysis chapters.
The second caveat has to do with the terms skill and culture that I use in the thesis. In my interviews, my research respondents actively constructed “proper” skills and different “cultures” for me. While I used my respondents’ original language (some after translation) to present their stories, it is not my purpose to generalize about the skill or culture in Canadian engineering workplaces. Instead, I endeavour to look beyond the dominant skill and culture discourses to unravel the social power and material discourses that produce legitimate “skill” or “culture”. That is, while I use skill and culture as key terms in my study, I treat them as ideological constructs that need to be deconstructed.

The third caveat is with regard to my gender analysis. In the course of my field research, gender is found to be a significant relation shaping both how the Chinese articulated themselves to the engineering market and how the engineering work and workforce is organized. For instance, gender relations are pronounced in the discourse around workplace communication culture, which I was able to elaborate (chapter six). Yet, it is clear that the engineering market is constructed as a masculine space in many ways, which warrants a discussion of its own. Given the already extensive scope of my thesis, I decided against an in-depth discussion on gender in my data analysis.

There are altogether eight chapters in my thesis. This first chapter introduces the research background and provides an overview of the study and my thesis. Chapter Two presents my conceptual framework. It surveys the dominant learning literature, where learning is largely conceived as an inner-directed process for individual people to acquire employment skills, cultural knowledge, communication competence, valuable credentials and so on. As an alternative, I treat learning as a socially organized practice. My conception is informed by the sociocultural learning perspective and institutional
ethnography. The sociocultural learning perspective prompts me to see learning as a set of socially mediated activities. Institutional ethnography makes it possible for me to conduct an open-ended investigation of the social processes shaping what seem to be individualized learning practices and engagements. Chapter Three focuses on my research methods, research process, and the research participants. It also brings out some empirical issues that I faced when reaching out to research participants.

My research findings are presented from Chapter Four to Chapter Seven. Chapter Four examines how immigrants strategize to enter the engineering profession and traces the social processes that shape immigrants’ practices marketing themselves. I show that core to immigrant respondents’ marketing strategy is to speak to the skill discourse, or employers’ skill expectations, at the “right” time and place. Their market-oriented learning prompts me to investigate the hiring complex where the skill discourse is produced and operated. I find first that the dominant skill discourse, which coordinates the learning efforts of immigrants and informs the work of people responsible for hiring, is culturally charged and class-based, privileging the dispositions and values of the dominant group. The subjective and coordinating properties of the skill discourses help naturalize the secondary status of immigrants’ labour in Canada. Second, while the skill discourses shape ways in which immigrants position and present themselves in the Canadian labour market, there is a complex of hiring relations bearing on immigrants’ opportunities at work. Among others, my study finds that employers invoke the notion of skills in contradictory ways to justify their different use of immigrant labour.

In the next three chapters, I look at immigrants’ efforts trying to get established in the engineering community, and explicate the organization of the engineering
profession in Canada, which shapes the learning experiences and learning loads of immigrants. Chapter Five focuses on immigrants’ work-related learning, which I call “legitimate peripheral participation” in their new work communities, as well as the social configuration of their participatory space. My study shows that immigrants have differential access to different learning and training opportunities. This becomes the problematic of this chapter and directs my attention to the training arrangement in engineering companies. My study points out that training is essentially deployed to support the management of work and workers. When it comes to high-end training or training for employees’ professional development, it is often in an individualized manner that corporations decide on sponsorship, which privileges the core workforce. Immigrants at the periphery of the engineering community or working on a contract basis are disadvantaged in the corporate training scheme. My immigrants’ limited participatory space in work related learning was expanded at two fronts. First, my respondents resorted to learning and consolidating their knowledge in engineering codes and standards, a textual organizer of engineering work. Second, when training becomes mandatory for employers, such as in the case of safety training, a more equitable participation space is extended to all workers, regardless of their employment status or membership within the engineering profession.

Chapter Six focuses on workplace communication. In my study, immigrant respondents were socialized to an individualistic communication “culture” that celebrates individual values and excellence, and discourages collegiality and personal connection at the same time. Such a culture, I argue, is discursively and materially constructed. I show that framing communication solely as a cultural or language issue obscures the gender,
race and class relations that assign differential values to different practices. Further, the project-based organization of engineering work and employer-centred managerial practices at some workplaces also help produce and perpetuate the value of individualistic communicative practices in the engineering profession.

*Chapter Seven* focuses on immigrants’ pursuit of Canadian credentials and professional licences. It takes as problematic immigrants’ strenuous learning efforts to obtain Canadian degrees and credentials. I argue that the licensure practices in Canada, which valorize Canadian credentials to the devaluation if not dismissal of credentials from other countries, make credential- and licence-related learning a special kind of labour and investment particular to immigrants whose educational backgrounds are not recognized in Canada. *Chapter Eight* concludes my thesis with a discussion of the empirical, theoretical and policy implications of my research findings, as well as the limitations of my study.
Chapter Two:
Social Organization of Learning: Towards a Conceptual Framework

The human phenomenon of learning has been extensively researched and theorized. A survey of the literature shows a number of ways in which learning is constructed, ranging from those that treat learning as an inner-directed cognitive practice to those that see learning as socially produced endeavours. My study falls in the latter tradition. Informed by the sociocultural approach of learning (e.g. Fenwick, 2001; Lave & Wenger, 1991; Leont’ev, 1978, 1981; Sawchuk, 2003; Sfard, 1998; Vygotsky, 1978, 1985; 1994) and institutional ethnography (Smith, 1987, 1990, 2005), I conceptualize learning as a relational and material practice that is organized through extended social discourses and practices.

This chapter is divided into four parts. In the first part, I examine the existent studies that focus on learning, and in particular immigrants’ learning, in our everyday life, and provide my critique of this body of literature. In the second part, I examine a spectrum of learning theories, including those that see learning as an individual-driven and inner-directed practice and those that see learning as socially produced endeavours; the latter provides me with the springboard to conceptualize learning as a material, relational and socially organized phenomenon integral to our everyday practices. In the third part, I introduce institutional ethnography and how it expands the ways in which learning can be understood and investigated as a socially organized practice. In the last part, I summarize my conception of learning and recap ways to map the social organization of learning.
Studies of immigrants’ informal learning experiences

In this section, I examine the empirical studies of learning in our everyday work and life, with special attention to studies that address immigrants’ learning in the host society. While acknowledging the importance of these studies, I also point out their limitations.

One significant breakthrough in the scholarship on learning is that it has gone beyond a focus on formalized and institutionalized learning. Quantitative surveys, for example, have documented the expansive phenomenon of learning (e.g. Johnston & Rivera, 1965; Livingstone, 2005, 2001; Penland, 1977; Sargant et al., 1990; Tough, 1978). Allen Tough is one of the pioneers in the field of informal learning in Canada. In his review (1978) of basic surveys and some in-depth studies of adult learning, he finds that between 70 and 100 percent of the respondents in different studies engaged in at least one major learning project in the year of study. A typical learner spent 10 hours per week learning in five distinct areas of knowledge and skills. The studies that Tough reviewed share a common definition of learning project or learning efforts:

In brief, a learning project is a highly deliberate effort to gain and retain certain definite knowledge and skill or to change in some other way. To be included, a series of related learning sessions (episodes in which the person’s primary intention was to learn) must add up to at least seven hours (p. 250).

Two descriptors are used to define learning here. First, what counts as learning has to be purposeful efforts to gain knowledge and skills. Second, the duration of learning has to add up to at least seven hours. One of the problems however is that these criteria, particularly the one about duration, are mechanistic and somewhat arbitrary. While such a definition of a learning project provides certain reference points in the study of learning, it is up to the researchers to produce learning projects out of people’s experiences or
accounts of experiences. Tough is also acutely aware of this limitation. He says: “the less training the interviewers have in understanding the concept of learning project and in probing skilfully for additional projects, the fewer learning projects they uncover” (p. 252).

A recent survey in Canada is the Work and Lifelong Learning project (WALL) conducted at the Centre for the Study of Education and Work (CSEW) located in the Ontario Institute for Studies in Education of the University of Toronto. The study provides general profiles of paid employment and unpaid work, such as housework and community volunteer work, and formal and informal learning activities of Canadian adults (Livingstone & Scholtz, 2006). It finds that in the new economy where work has become increasingly precarious, people have undertaken much more extensive learning efforts than what was discovered in surveys in the 80s and 90s. Among the 9,063 respondents, over 80 percent have engaged in work-related learning, and around 80 percent have learned in relation to their non-paid work.

There is no doubt that the WALL project breaks new grounds in the learning literature. In particular, it situates learning in relation to the large economic and social environments. Despite this progress, I argue that the project is also weakened by an arbitrary construction of learning, which is presented by Livingstone:

“Learning” involves the gaining of knowledge and skill or achieving understanding anytime and anywhere through individual and group processes. It includes formal schooling, and further or continuing adult education, as well as informal education or training and non-taught self-directed or collective informal learning. No account of “lifelong learning” can be complete without considering peoples’ informal learning activities. (Livingstone, 2005, p. 1) (Italicized is original emphasis).

In an early article, Livingstone defines informal learning this way:
Informal learning is any activity involving the pursuit of understanding, knowledge or skill which occurs outside the curricula of educational institutions, or the courses or workshops offered by educational or social agencies. The basic terms of informal learning (e.g., objectives, content, means and processes of acquisition, duration, evaluation of outcomes, applications) are determined by the individuals and groups who choose to engage in it. Informal learning is undertaken on one's own, either individually or collectively, without either externally imposed criteria or the presence of an institutionally authorized instructor (Livingstone, 1999a, p. 50).

Livingstone’s notion of learning remains descriptive. Unlike Tough, he does not impose a set duration as a qualifier for learning. Nevertheless, he also emphasizes learning as a way to acquire knowledge and skills; his conception of learning does not involve a critical understanding of what counts as skills or knowledge. In other words, in his conception, learning is defined in relation to skills as an object, whereas I maintain that skill itself is a social discourse that needs to be explored. While the WALL survey succeeds in documenting different forms of learning and work, and establishing a correlation between learning activities and the changing world of work, it does not answer how a particular form of learning is engendered.

Despite my reservations about the ways in which learning is conceptualized for the WALL survey, the survey itself does shed light on some aspects of immigrants’ learning experiences in the host labour market. For example, the survey finds that recent immigrants are more likely to “attend schools” than the Canadian born and the earlier immigrant cohorts (Ahmadi-Bidheni, 2006). This finding is corroborated by qualitative studies, such as those undertaken by Beynon, Ilieva, and Dichupa (2004) and Ng, Man, Shan, and Liu (2006); both studies show that immigrants are often compelled to pursue re-certification, re-training, and further education to improve their employment prospects in Canada.
In addition to (re)-schooling, immigrants are found to use volunteer work as a means to optimize their employment opportunities. According to the WALL survey, 57.9 percent of the immigrant respondents who have lived in Canada between six and ten years, and 44.7 percent of those who have lived in Canada for less than five years, have engaged in volunteer work, compared to 24.5 percent among the Canadian-born respondents (Slade, Luo & Schugurensky, 2005). However, does volunteer work benefit immigrants? Slade, Luo, & Schugurensky (2005), in their case study of 40 immigrants from 17 countries, find that while most of the research participants believed that what they learned through volunteer placements was valuable, only 13 percent of them found employment relevant to their education, skills, and professional experiences.

Recent years have witnessed an increasing number of studies in immigrants’ learning in the host labour market (e.g. Church et al., 2001; Fenwick, 2008a; Maitra & Shan, 2007; Mirchandani et al., 2008; Ng et al., 2006; Ng, 2000; Slade, Luo & Schugurensky, 2005; Shan, 2009a, 2009b). While not all the studies have a clear statement of what learning is, they all deal with the relation between individual and the social in the constitution of learning.

In her review of the research and theoretical work in workplace learning, Fenwick (2008b) sees eight ways in which the individual and the social or the collective are approached. They range from individual knowledge acquisition, where the individual learners are the unit of analysis, to mutual constitution, where the individual and the social are considered as an interrelated focus of study. Studies of immigrants’ learning experiences often take into consideration of the social context, although the kind of social context that researchers focus on is different. For example, Shragge et al. (2004)
conducted an ethnographic study of Filipina domestic workers to look at how the women learn to combat workplace abuse. The researchers point out that unions and community organizations condition and facilitate immigrants learning practices. When Maitra and Shan (2007) investigate the learning experiences of immigrant women working on contingent basis in Toronto, they give their attention to the individual workers and the interpersonal relations formed through and against an oppressive workplace environment.

Studies in the sociocultural tradition make it explicit that the goals and means of learning are afforded through the social context beyond the individual learners. For example, in Fenwick’s study (2008a) of immigrant garment workers’ experiences, she focuses on the sociality of the workers. She argues that the interpersonal and collective social interactions and networks among the women workers enable the workers to learn to survive their work, exercise resistance and form solidarity. Other sociocultural studies of immigrants’ experiences focus on the communities of practices to which newcomers are subjected. For instance, in Rismark and Stenoien’s (2003) study of a group of Polish health personnel in Sweden, they find that the openness of communities of work plays a significant role in shaping the way immigrants integrate into their new life and work spaces. In another study, Rismark and Sitter (2003) focus on the interactive qualities among newcomers and workplace practices in Norway; they further substantiates that the “invitational qualities of workplaces” (Billett, 2002a, p. 37), the structuring of work activities, the recognition of newcomers, and interactive opportunities with other workers provide immigrants with differential access to communities of work.

It has to be noted that the construction of learning in these studies is mostly based on people’s accounts of experiences without addressing issues around shifting
subjectivities (Merriam & Caffarella, 1999) or multiple perspectives (Kilgore, 2001). In fact, my study of professional Chinese immigrants’ learning experiences (Shan, 2009a) is one of the first to address how immigrants’ shifting identity form an essential part of their learning experiences. I find that immigrants’ (subjective interpretation of their) social encounters significantly shape how they learn to acquire new identities and identify employment opportunities in the host labour market. Meanwhile, how they perceive and perform the self has significant bearing on how they navigate the host labour market.

In this section, I reviewed a number of empirical studies, both quantitative and qualitative, that focus on informal learning, particularly immigrants’ learning experiences in the host labour market. While quantitative studies are an important way to document the scale and forms of learning, qualitative studies present ways in which people, especially the socially marginalized, learn in different social contexts.

There are, however, a few limitations to the existent literature. To start with, quantitative studies suffer from a descriptive, mechanistic and somewhat arbitrary definition of learning. Further, not all qualitative studies or case studies have a stated conception of learning. Those that do are in the sociocultural tradition and invariably take into account the social context of learning. The assumption is that the social environments external to the individual immigrants participate in constructing what is being learned and how. Despite the increasingly sophisticated treatment of learning, the current studies of learning often rely on experiences or people’s accounts of experiences to frame learning practices. I suggest that studies on immigrants’ learning practices in the host labour market can be strengthened by a more careful treatment of experiences. Under postmodern conditions, it is impossible to claim essential or authentic experiences.
When relying on experiences to elicit learning, it is important for researchers to address how they deal with the socially constructed property of experiences.

An individualized or social phenomenon? A critical review of learning theories

The above critiques of the empirical studies of learning also apply to major theories of learning. There is a spectrum of learning theories. At one end of the spectrum, learning is treated as an inner-directed psychological phenomenon. At the other end, learning is considered a socially formative phenomenon. In this section, I examine several theoretical endeavours to show both the progression and limitation of the theoretical work on learning. The learning theories that I look at include psychological learning, existential learning, transformative learning, Vygotsky’s sociocultural psychology, sociocultural activity theories, and situated learning. Psychological learning represents the dominant tradition that studies learning as an individualized skill and knowledge acquisition process; existential learning and transformative learning are endeavours to bring the social into the studies of learning; the last three learning theories are of the sociocultural tradition that understands learning as a material, relational and participatory process. My conceptualization of learning is in part informed by the sociocultural tradition of learning.

Learning as a psychological phenomenon

Learning is commonly understood as a psychological, mental and cognitive process engaged by individuals. Theorists in this tradition are often associated with psychology and cognitive sciences. Some of the key cognitive learning theorists include Jean Piaget and Noam Chomsky. Piaget by training was a biologist studying molluscs, but he undertook to study the development of children’s minds in the later stage of his
career. Among others, Piaget was interested in the role of maturation in children’s development. According to him, children are not capable of understanding their world and taking up certain tasks until they are psychologically mature enough to do so (Wood, 1998). In contrast, Chomsky, a linguist, philosopher and cognitive scientist believes in an innate capacity of learning. In his view, individuals possess instinctive knowledge, or innate schematism that enables our infinite linguistic expressions (Chomsky & Foucault, 2006). Children need only to acquire the necessary lexical items such as word and grammar to be able to produce different speeches.

Some other psychologists also try to discover other possible sources of learning and development. For example, Willard Frick (1987), a professor of psychology proposes that learning is rooted in what is called “the symbolic growth experience” (SGE). SGE “refers to those significant moments in life when we create personal meaning by symbolizing our immediate experience in the interest of heightened awareness and personal growth” (p. 406). According to Frick, “as we perceive the symbolic dimensions of our immediate experience, we become creative agents in our own learning and growth” (p. 406). He believes that each of us has “a sovereign organismic force for growth in personality”, or “a biological developmental tendency” (p. 414), which is assumed to be the driving force behind learning. In other words, we have an innate drive for self-perfection and self-actualization. This drive constitutes what he calls preconceptual growth forces. Together with cognitive and conceptual powers of the individual, the preconceptual growth forces help process, through association, objective event encounters.
What has to be noted is that the psychological theorization of learning is premised on a rational self, true perfection of humankind, and indeed “cultural and hegemonic blanket of individualism” (Cunningham, 1998, p. 15), all of which are key legacy of the Enlightenment movement (Kramnick, 1995). In all the above theories, learning is conceptualized entirely as an inner-directed individual process and an exercise of the mind. Individual learners are considered more as a rational and scientific entity than an embodied being produced in particular social condition. Furthermore, the social, or what is external to the learners, is considered merely as material of learning or triggers of learning.

Learning as an existential phenomenon

Peter Jarvis has for a long time tried to develop a holistic approach to human learning, or a theoretical and philosophical understanding of learning as an existential phenomenon (Jarvis, 1987, 1992, 2005). He believes that “learning is a human process, one in which people’s existence is assumed” (Jarvis, 2005, p. 9). In other words, Jarvis sees learning as an essential aspect of people’s lives. One of Jarvis’ biggest contributions is that he pinpoints and problematizes the Cartesian dualism underpinning many studies of learning that alienates the body and the mind. According to him, learning is:

the combination of processes where the whole person – body (genetic, physical and biological) and mind (knowledge, skills, attitudes, values, emotions, beliefs and senses) – is in a social situation and constructs an experience which is then transformed cognitively emotively or practically (or through any combination) and integrated into the individual’s biography (Jarvis, 2005, p. 9).

To Jarvis, learning, which occurs at the intersection of the individual beings and the social world, is a process where learners process their experiences in multiple ways. In his conception of learning, an important mechanism contributing to learning is
individual’s construction and procession of experience. Jarvis (1987) distinguishes between lifelong experiences and episodic experiences. While the meaning of lifelong experience is self-evident, episodic experience refers to the times when we become aware of the external world for a brief period of time. When our individual biography and our experiences at certain time stop being in harmony — a phenomenon called disjuncture, we seek meanings and understanding, which triggers learning (Jarvis, 1987).

As to the actual learning process, Jarvis uses the terms internalization and externalization to describe the cyclical and progressive nature of learning. According to him (1992), the processes of learning occur through our interaction with each other and with our experiences. The social world affects individual learners as we internalize objectified knowledge and culture. We also externalize our learning through social interaction and hence change the world. Central to his learning cycle and to our learning experiences is the transformation of experiences.

To Jarvis, learning is an interactive process that individuals conduct in the social world. In his existential learning, he is successful in making an embodied learner the centre of learning and his attention to the multiple ways in which experiences are processed is a huge improvement over pure cognitive learning theories. Yet he takes experience as “adult learner’s living textbook” (Lindeman, 1926, p. 10), or raw material to be processed by individuals (Michelson, 1996) through reflection, without addressing the nature of experiences.

**Transformative learning**

When it comes to adults, the most often used learning theories are what Kang dubs “adjective-plus-learning theories” (2007), such as experiential learning, self-directed
learning, and transformative learning, each of which emphasizes different dimensions of learning. Here, I investigate the feasibility of transformative learning for the study of immigrants’ learning in Canada, given that it is a theory created to study people’s transitional experiences in a new social context. For example, Taylor says:

As a sojourner travels to another culture to live for an extended period of time, he or she often experiences a transformation. It occurs out of a necessity for survival and out of a need to relieve the stress and anxiety often experienced as the stranger struggles to meet basic needs. It is a transformation that requires the stranger to look at his or her world from a different point of view - a perspective of the world that is often in conflict with his or her values and beliefs. The sojourner who is successful at working through and learning from these kinds of cultural experiences has the potential to become interculturally competent within the host culture, developing a “more inclusive, discriminating, and integrative perspective” (Mezirow, 1991, p. 167). (Taylor, 1994, p. 155).

What Taylor describes is a case of transformative learning. Transformative learning, first proposed by Mezirow (1978), deals with learning that takes place when people make transitions in life. According to Mezirow, transformative learning is “the social process of construing and appropriating a new or revised interpretations of the meaning of one’s experiences as a guide to action” (1994, p. 222-223). Human beings are meaning-seeking people (Jarvis, 1986, p. 6). Mezirow states that a person's meaning perspective is acquired often uncritically in the course of our childhood through socialization and acculturation. However, we do move towards reflexivity, and develop an enhanced level of awareness of our beliefs and feelings. Our acquired perspective or meaning schemes may undergo transformation when we encounter a disorienting dilemma or a radically different and incongruent experience that cannot be assimilated into our meaning structure. As part of our transformative learning, we may engage in critical reflection, explore different roles and options, plan a new course of action, assume new roles, and negotiate and renegotiate relationships (Mezirow, 1991).
The understanding of transformative learning has come a long way since Mezirow’s publication of his pioneering 1978 study of women returning to community colleges. For one thing, a number of studies have criticized Mezirow for ignoring the affective, emotional, social and contextual (e.g. Clark & Wilson, 1991; Lucas, 1994), and spiritual (Dirkx, 1997) aspects of the learning process, some of which are acknowledged by Mezirow in his recent works (2006, 2000). In a critical review of literature on empirical studies of transformative learning, Taylor (1997) points out that a holistic perspective needs to be developed in the field of transformative learning, and more attention should be given to the affective, un-conscious, and relational aspects of learning. In this review, Taylor proposes that affective learning has to take place before critical reflection can begin. Empirical studies reviewed in the same article also contradict the self-directed nature of transformative learning, and show "a learning process that is dependent upon collaboration and creation of support, trust, and friendship with others" (Taylor, 1997, p. 53).

So far, notwithstanding the progression, expansion and modification of the theory, transformative learning is perceived as an individual and instrumental way to adapt to the sociocultural context. That is, learning is seen to be a responsive process devoid of power relations. Some other key scholars on transformative learning take the tradition a step further. For example, O’Sullivan (2003), a Canadian transformative learning theorist, proposes an integrative perspective of transformative learning where learning is to achieve holistic improvement of the self and the social world. O’Sullivian states:

Transformative learning involves experiencing a deep, structural shift in the basic premises of thought, feeling and actions. It is a shift of
consciousness that dramatically and permanently alters our way of being in the world. Such a shift involves our understanding of ourselves and our self-locations; our relationships with other humans and with the natural world, our understanding of relations of power in interlocking structures of class, race and gender; our body-awareness; our visions of alternative approaches to living; and our sense of the possibilities for social justice and peace and personal joy (2003, p. 326).

Clearly, O’Sullivan helps to elevate the understanding of learning beyond rational perspective transformation. Yet, while he makes the individual an integral part of the social world, individuals are still the focus of analysis and it is not clear how the individual learners and the social world relate to each other. In view of a lack of consensus on transformative learning and a lack of clarity of the relationship between learning and the social environment, Daniel Schugurensky (2002) proposes that transformative learning should incorporate more systematically the influence of context. Yet, Schugurensky does not provide a direction as to how the relationship between individual learners and the social environments can be established.

Vygotsky’s sociocultural psychology

In the above learning theories, learners are made the focus of study. Although more and more attention is paid to the external learning environments, the social world and the individual learners are often posited as two separate but interacting entities. The sociocultural approach, founded by Vygotsky and resurrected in recent years, however stands the traditional notion of learning on its feet. Applying Marx’s dialectical materialism in the study of psychology, Vygotsky holds that social activities are constitutive and formative of the individual mind; this insight serves as the springboard for my project to conceptualize learning as socially organized practices. In this section, I briefly introduce Marx’s dialectical and historical materialism, before I present the
materialist sociocultural approach. I point out that while Vygotsky makes action, particularly tool use, a desirable unit of analysis for learning, he does not provide guidance as to how the social, cultural and historical processes can be methodologically brought into the analysis of learning.

One of Marx’s biggest contributions to our sociological understanding is that he creatively brings together Feuerbach and Hegel. In *Ludwig Feuerbach and the Outcome of Classical German Philosophy* (Engels, 1941), Marx purges the mechanism and metaphysics inherent in Feuerbach’s materialism, operationalizes Hegel’s dialectical method and comes to a dialectical and materialist understanding of the relationship between thinking and being, or between mind and matter (Engels, 1941). Marx insists that material lives are essential to the formation and transformation of people’s consciousness. According to him, the external world exercises influences on human beings and expresses itself in our head in the forms of feelings and thoughts, which, he emphasizes, become ideal power that comes back to shape and reshape the external world.

It has to be pointed out that by material life, Marx does not mean objective material conditions only. He also refers to the social world (in contrast to the natural world) in which human beings enter into relationship with each other, or the social relations to which people are subjected and in which we participate. The social relations proposed in Marx are not abstract notions, but the actual events in the social world. In “Thesis on Feuerbach”, Marx emphasizes that “the human essence is no abstraction inherent in each single individual. In its reality it is the ensemble of the social relations” (Engels, 1941, p. 84). One crucial social relation is the productive relation, at the centre of which is the division of labour. In Marx’s materialist conception of history, productive
relations are historically determined by productive forces, or the means of production such as tools, instruments, land, raw materials, etc.

Vygotsky’s cultural historical study of psychology (1978, 1985, 1994) is a “psychologically relevant application of dialectical and historical materialism” (Vygotsky, 1978, p. 6). To start with, Vygotsky’s theorization inverts the dominant image of learning. Instead of focusing on learners as the essential source of learning, or any internal drive of learning, he proposes that social conditions and social actions are primary to the formation of our consciousness. Following Marx, Vygotsky believes that it is through social production that human beings enter into specific relations with one another and it is in the labour process that human thoughts develop and mature. Further, he believes that changes in our social conditions can lead to new ways of thinking and acting.

Inspired by Vygotsky’s work, Luria initiated and supervised a series of experiments known as the “psychological expedition” to Uzbekistan and Khirgizia in central Asia. In the 1930s, Uzbekistan and Khirgizia were undergoing profound economic and cultural changes. These experiments were designed to record the changes in people’s ways of thinking as these societies were changing from primitive economic relations to more complex forms of economic and cultural lives (Luria, 1931). The changing social milieu in Uzbekistan and Khirgizia enabled Luria to observe both “underdeveloped nonliterate groups living in villages”, such as illiterate women and peasants in remote villages, and “groups already involved in modern life”, such as collective farm workers, young people who had taken short courses and women students in teachers schools (Luria, 1979). Luria’s hypothesis in these studies was that new forms of economy constituted the conditions necessary to alter radically the content and forms
of people’s thoughts. He expected that the groups that were rarely exposed to new ways of life would think in relation to the physical features of familiar objects. Only those who had access to new forms of life would be receptive to life principles accompanying these social changes.

Luria’s hypothesis was tested with techniques assessing how the groups thought at three levels of analysis. These experiments began with how people linguistically code basic categories such as colour and shape. Next, they studied classification and abstraction. Last, they tested complex cognitive activities such as problem solving and self-analysis. The studies found that people in traditional communities often reasoned in reference to their immediate life experiences. For example, when they were asked to categorize items, instead of selecting and grouping similar objects, they chose objects that were “suitable to a specific purpose” (1931, p. 68). When they were asked to do logical reasoning based on two premises given by the researchers, they refused to make conclusion beyond their experiences. In contrast, those who had experiences in modern economy tended to think in the “right” ways or the researchers’ way. Luria therefore concludes:

In all cases we found that changes in the practical forms of activity, and especially the reorganization of activity based on the formal schooling, produced qualitative changes in the thought processes of the individuals studied. Moreover, we were able to establish that basic changes in the organization of thinking can occur in a relatively short time when there are sufficiently sharp changes in social historical circumstances, such as those that occurred following the 1917 revolution (Luria, 1979, p. 80).

Luria and his colleagues attributed hierarchical value to different ways of reasoning. Despite this, their experiments do point to the direction that social conditions help shape people’s ways of thinking. People who are subjected to social conditions similar to those of the researchers tend to think like the researchers.
As to how social changes bring about changes in the individual, Vygotsky introduces Marxist conceptions of labour and tool use to the analysis of psychology. He makes it clear that labour and tool use are the fundamental means relating humans to the natural and social environments. Through the use of tools, we not only change our surroundings, we transform ourselves. In other words, Vygotsky conceptualizes tools as crucial artefacts mediating between the self and the environment. Vygotsky’s mediating artefacts do not only include physical objects. They also refer to the sign systems, or the language and the writing systems that are created and changed in the course of human history. Language plays a significant role in Vygotsky’s sociocultural psychology, which is best illustrated by Wertsch:

Cultural tools such as language… are provided by the sociocultural context, on the one hand, and they are used by individuals as they operate alone or in social interaction while carrying out unique, concretely situated action, on the other. Because of their intermediary position in this formulation cultural tools provide a mechanism for analyzing the relationship between individual and sociocultural setting; in a sense they make it possible for the sociocultural context to be ‘imported’ into individual mental functioning. Through processes of ‘mastery’ and ‘appropriation’, cultural tools both “afford” and “constrain” what is termed “mediated action” (Wertsch, 1998) on the intermental and intramental planes. (Wertsch, 2000, p. 18-19)

When Vygotsky notes the social origin of language, he makes it possible for us to understand the socially constructed property of our subjectivities and our mental development. Vygotsky says:

All higher psychological functions are internalized relationship of the social kind, and constitute the social structure of personality. Their composition, genetic structure, ways of functioning, in one word, all their nature – is social. Even when they have become psychological processes, their nature remains quasi-social. The human being who is alone retains the function of interaction (Vygotsky, 1960, p. 198, as cited in Valsiner & Veer 2005).
In his study of children development, for example, Vygotsky argues that people’s higher mental functions (in contrast to the biological and lower mental functions) are developed through social interactions and communications. According to him, it is through social interactions that children come to learn the mind of culture, such as speech patterns, and the symbolic systems that are developed in history.

Vygotsky’s contribution to learning theory is of critical significance. First, he helps lay a dialectical and materialist foundation for our understanding of human development. Second, his creative use of tools and sign systems and his notion of mediation ground the learning process in social actions/interactions and practices. It has to be mentioned that despite Vygotsky’s revolutionary emphasis on the social nature of mental development, he falls short of making full use of his theoretical potential. In particular, his study stops short at addressing individual actions without explicating the broader cultural, historical and institutional context that bears on our learning experiences.

**Cultural-historical activity theories**

While Vygotsky’s method of study still remains at the interpersonal levels, his followers study learning by embedding the learners in larger social processes. The cultural-historical activity theory (CHAT) is developed out of the cultural-historical studies of psychology through the work of Leont’ev (1978, 1981) and expanded by a number of other researchers and scholars such as Engestrom. In this section, I review the major ideas of CHAT. I argue that while more and more additional theoretical categories and blocks are added to CHAT, the construct of activity or activity theory does not address the particularity of the learners or the possible and multiple ways in which learners may attribute meanings to their activities. Further, like most learning theories, it
does not address the socially constructed nature of experiences. Last, while it makes clear that the social context provides the goals and means of learning, it does not address the socially constructed property of these goals and means.

As a matter of fact, Vygotsky orients us to almost all the issues developed in the activity theory. Yet, the activity theory that we utilize today mainly draws from the framework elaborated by Leont’ev (see also Wertsche, 1979). Leont’ev (1978) starts his conceptualization with a critique of the use of activity in pre-, non-Marxist psychology or behaviouristic and “mentalistic” psychology. Such psychology, according to him, often studies internal and afferent activity. In contrast, Leont’ev proposes to investigate external and practical activity. Contrary to the view that internal mental function controls external practices, Leont’ev believes that actual practices are fundamental in shaping our subjective beings.

…consciousness is determined by people’s social being, which, according to Marx, is nothing other than the actual process of living. The process of living is the aggregate or, more precisely, the system of activities that succeed one another (Leont’ev, 1978, p. 46).

Leont’ev does not see consciousness as produced in a vacuum. In line with Vygotsky, Leont’ev sees consciousness as “co-knowledge”, or knowledge produced in social processes, and individual consciousness as derivative of social consciousness and language. In other words, he disputes the notion that individual consciousness is a precondition of learning residing within individuals, and proposes that activity and the formation of our consciousness should be the object of investigation.

Leont’ev sees internalization as an important mechanism of learning. His use of internalization however is drastically different from the mainstream conception. He says:
The process of internalization is not the transferral of an external activity to a preexisting, internal “plane of consciousness”: it is the process in which this internal plane is formed (1978, p. 57).

Leont’ev’s internalization process is the process where the subjective self is produced. Instead of importing the external activity into the internal world, internalization takes place as an integral aspect of activity.

In activity the object is transformed into its subjective form or image. At the same time, activity is converted into objective results and products. Viewed from this perspective, activity emerges as a process of reciprocal transformations between subject and object poles. According to Marx, in production the individual is objectivized, and in the individual the object is subjectivized (Leont’ev, 1978, p. 46).

Leont’ev’s major contribution to CHAT lies in his introduction of a construct of activity as a unit of analysis. According to him, an activity is embedded in the system of social relations. It orients the individual subjects in the world. Further, an activity has its own structure and has its own object, subject and mediation. By constructing activity as a system, Leont’ev warns against seeing activity as a bridge between an individual and the social world. Instead, he emphasizes that the social world provides the material conditions of the development of the subjective self.

We must make a special effort to warn against understanding human activity as the relationship that exists between individuals and the society confronting them….in a society, humans do not simply find external conditions to which they must adapt their activity. Rather, these social conditions bear with them the motives and goals of their activity, its means and modes. (1978: 47-48).

While Leont’ev’s major ideas, to a great extent, repeat Vygotsky’s major thesis, the systematic focus of activity originates with Leont’ev. As a way to build his activity theory, Leont’ev makes distinction among activity, action and operation. Operation is what forms an action, and it is a social construct in relation to instrumental conditions. Action is formative of activity and is subordinated to a conscious goal. Activity is driven
by a motive or motivational sphere of consciousness, and presupposes the achievement of a series of goals. Activities have to be realized in actions. The same action can be used to achieve different activities (Leont’ev, 1978). An activity analysis is to understand the systematic connections within an activity system. Central to an activity system is division of labour. As Leont’ev points out, it is the division of labour and social relationships binding participants together that subordinate a range of actions to one particular activity (Leont’ev, 1978).

While Leont’ev’s theory rightly focuses on labour as the force giving rise to consciousness transformation, his construct of objects, motives and goals in relation to operation, action and activity need to be scrutinized. According to Leont’ev, a fundamental characteristic of activity is object orientation. Through activities, we human beings are oriented to the external world. While an activity may seem to be without object orientation, or objectless, scientific investigation of an activity or an activity system necessarily requires discovery of its object (Leont’ev, 1978). That is, the whole theoretical construct of activity is premised on the researchers’ judgement of what the object of an activity is, which may lead to arbitrariness. The same problem besets the use of motives and goals. As human beings, we have different needs, and sometimes, our needs may contradict one another. In activity theory, these needs are differently translated into goals and motives by the researchers. The huge discretion of researchers over the delimitation of object, motives and goals poses a methodological question. That is, in activity theory, there is no discussion of the socially constructed property of objects, motives and goals.
Engestrom’s recent expansion of activity theory builds more concrete structures into activity theory to guide researchers’ analysis of learning. While Vygotsky focuses on mediation of individual activities, and Leont’ev different layers of an individual activity, Engestrom developed Vygotsky’s work into a model of a collective activity theory. Specifically, Engestrom advocates that study of mediational tools should focus on their relationship with other components of an activity system, the basic elements of which include object, subject, mediating artefacts (signs and tools), rules, community, and division of labour (Engestrom, 1987; Cole & Engestrom, 1993). In particular, Engestrom focuses on the process of social transformation, taking into account the conflicting nature of social practice in an activity system. Furthermore, noting the interconnectedness and transformative property of activity systems, his analysis is never restricted to one activity or activity system, but a network of activities.

One significant drawback of the activity system is that it does not attend to the particularities of individual learners, who may differentially participate in different places and may attribute differential meanings to their participatory experiences. In other words, while building a system or systems of learning based on people’s experiences and work, it does not address the socially constructed property of experiences. In particular, it is susceptible to the postmodern and poststructural challenges of authentic certainty or essentialist subjectivity (see also Bagnall, 1999; Briton, 1996; Usher et al., 1997; Usher & Edwards, 1994; Wilson & Hayes, 2000).

**Situated learning: legitimate peripheral practices and community of practices**

Another promising theory that situates learning in social practice is Lave and Wenger’s situated learning, also known as legitimate peripheral participation (LPP)
(Lave & Wenger, 1991) and community of practices (Wenger, 1998). Situated learning conceives learning as an integral aspect of social practices, through which our personal agency and the lived-in social world mutually constitute each other. The social world, in situated learning, is composed of a constellation of communities of practices, organized around a common membership and a shared repertoire of knowledge and practices (Wenger, 1998). LPP is mainly used to explicate learning as a process of participation engaged by people entering new communities of practices.

Situated learning, with its focus on LPP, is a significant breakthrough in learning theories for two reasons. First, it brings together the notion of identity construction and individual development within a particular social context (Handley, Clark, Fincham & Sturdy, 2007). According to Lave and Wenger (1991), “learning and a sense of identity are inseparable: They are two aspects of the same phenomenon” (p. 115). Wenger defines identity as “a layering of events of participation and reification by which our experiences and its social interpretation inform each other” (Wegner, 1998: 151). Similarly, Holland and Lave (2001) view identity as arising from the interplay between subjective formation and local practices. Informed by Bakhtin’s work, Holland and Lave highlight the dialogical relationship between “I” and “Other” which constitutes a social mechanism, contributing to the ongoing construction of identity.

The open-ended conception of identity makes it possible to discuss social differences, not as essential personal or social characteristics, but as materialist relations produced in our daily interactions and productive activities. Learning, as such, is a relational process where newcomers’ personal practices are informed by and informing social practices. On the one hand, the receptivity, affordability and constraints of
communities of practices bear on how people learn, what they learn (Billett, 2002a, 2002b) and, most importantly, how their identities are formed and re-formed as part of the learning process. On the other hand, as newcomers begin to claim their membership in the community and to establish their own identity, they constitute a force of change (Lave & Wenger, 1991).

The second distinct contribution of the situated learning approach is that it highlights the political importance of peripherality as a dynamic social space. According to Lave and Wenger (1991), peripherality, or the peripheral space, is of dual potentials. On the one hand, peripherality always suggests a lack of negotiation power as well as a lack of membership on the part of newcomers. Newcomers in general do not play a central role in established communities of work and they need opportunities or social spaces to become a part of the joint enterprise (Cope, Cuthbertson, & Stoddart, 2000). On the other hand, given that throughout our lives, we necessarily belong to different communities of practice, we become a nexus among communities of practices, which is in itself empowering in nature.

A central issue that Lave and Wenger do not address, however, is the question of accessibility of communities of practices (see also Case & Jawitz, 2004). It is important to understand that communities of practices exclude and include at the same time. As well, different communities of practices may demonstrate different accessibility and receptivity for different social groups. Accordingly, what Lave and Wegner construct as peripherality should not be considered a naturalized space of tolerance granted to all newcomers. Rather, it is important to understand peripherality as a space of power struggle. Another issue related to situated learning is that while it focuses on new versus
veteran membership, it does not address people’s differential membership based on employment status. Nor does it attend to how people’s different employment status bears on their participation practices in their new work communities.

**Limitations and contributions of the existent approaches to learning**

To understand immigrants’ learning experiences in the host labour market, I explored a spectrum of empirical and theoretical studies. The theoretical work that I examined range from those that understand learning as a psychological and individualized process, to those that construct learning as a socially formative phenomenon. One major difference between these theories is the ways in which they treat the relationship between individual learners and the social context (see also Fenwick, 2008b). While the former theories see learning as a cognitive happening where the social plays the role of conditioning, the latter theories see learning as a relational process where the social contexts offer the goal, means, and space of learning.

I see Vygotsky’s sociocultural approach of great value to the study of learning in our everyday work and life. It is his approach that first brings out learning as a material and relational process. I also see the unique contributions of CHAT and situated learning, two learning theories that figure prominently in the sociocultural tradition; the former highlights the significance of division of labour, and the latter makes it imperative to understand communities of practices as formative of learning and pinpoints issues such as membership and identity formation in the learning process. Yet each of these theories has its limitations. CHAT, preoccupied with constructing systems of learning, obscures the particularities of individual learners; situated learning focuses on the local communities of practices without attending to the larger social environment in which the local
communities of practices are embedded. One other major issue with these theories is with regard to the use of experiences. Most of the studies take experiences, or people’s accounts of experiences, as raw materials to construct learning activities and practices, without attending to the socially constructed property of experiences (Bagnall, 1999; Briton, 1996; Usher et al., 1997; Usher & Edwards, 1994; Wilson & Hayes, 2000).

Vygotsky’s sociocultural approach offers a material and relational perspective of learning that is useful for this study. My study also sees great value in certain elements of CHAT and situated learning. In particular, the role of mediation in CHAT, the attention to identity construction, and the identification of a peripheral space in situated learning all shed light on different aspects of my study. Yet given the above limitations of these theories, I turn to the sociological approach of institutional ethnography.

**Social organization of learning: the analytical power of institutional ethnography**

Institutional Ethnography (IE) is developed as a feminist sociology by the Canadian feminist Dorothy Smith. It shares with Vygotsky’s sociocultural psychology a materialist view of the world. Yet, unlike Vygotsky’s work, IE provides an empirical approach to investigate the socially constitutive property of experiences and learning in an open-ended manner. Specifically, it investigates the social discourses and social relations that extend beyond the immediate local, and the ruling relations that are rooted in the managerial and “political-administrative regime” (G. Smith, 1990, p. 635). This section introduces IE to the study of learning. To start with, I show how IE makes unique use of experiences and standpoint. It does not only account for the socially constructed nature of people’s experiences and subjectivities, it also makes experience a departure point of investigation. Secondly, I show how studies of learning can benefit from IE’s
critique of ideological practices. With this particular lens, an IE study of learning attends to the socially constructed property of learning objects. Thirdly, with its unique treatment of language and texts, IE provides a means of investigation to unravel the social organization of learning.

**IE, experiences and standpoint**

One way in which IE contributes to studies of learning lies in its unique treatment of experiences. Epistemologically, IE is in part informed by ethnomethodology (Garfinkel, 1967). Ethnomethodology does not take experiences as essential truths. Instead, it examines how people make sense of the world and produce the mutually shared social order (Garfinkel, 1967). It is interested in the procedures, practices and methods that people use in representing their experiences, rather than their experiences per se. In line with ethnomethodology, IE calls the construction of everyday reality into question. Specifically, IE starts with the experiences of people on the ground. It takes as problematic, or areas of further investigation (DeVault & McCoy, 2006), how our experiences are produced, and maps the social relations, and extended courses of actions shaping our experiences. It recognizes that our account “bears ineluctable traces of the social organization” (Smith, 1990, p. 217). In other words, language and thoughts expressing our experiences are implicitly informed by the social relations extending beyond particular individuals.

IE’s feminist roots also make it imperative for researchers to question an essentialist view of truth and experience. Smith embarked on the project to conceptualize IE as an alternative sociology because of her disillusion with traditional sociology that is patriarchal in nature. She criticizes traditional sociology because it objectifies
experiences and indeed “write(s) over and interpret(s) the site of experience” (1990, p. 31) from a detached and objective Archimedean standpoint. She argues that such a sociology denies and represses our embodied knowledge (Smith, 1990). As such, Smith argues that women intellectuals possess a bifurcated consciousness as they move between the conceptual world, or ideological methods of thinking and actions, and their practical and embodied knowledge.

While recognizing the socially constructed property of experiences, Smith does not render experiences invalid ground for research. Instead, she points out that our articulation of experiences is differentially organized as a social practice. Most importantly, IE takes people’s (accounts of their) experiences as the point of departure of a social investigation.

In IE, starting from people’s experiences is about taking and preserving the standpoint of people on the ground throughout the research (Smith, 1999). Standpoint is not an issue in any of existent learning theory. However, it figures significantly in IE research. Smith initially focused on women’s standpoint (Smith, 1987), but expands it to reference the standpoint of people in their everyday life, or the standpoint of the marginalized and exploited in her later work (2005). The use of standpoint in IE does not deny that people’s standpoint and knowledge is biased or interested. Smith says: “to begin from the standpoint of women [or people] is to insist on the validity of an inquiry that is interested and that begins from a particular site in the world” (Smith, 1990, p. 33). That is, Smith’s engagement of people’s standpoint is to speak from a site of consciousness that has not been written over by theorists or sociologists’ conceptual and methodological procedures. She says:
The standpoint of women situates the sociological subject prior to the entry into the abstracted conceptual mode,… that is the order of the relations of ruling (Smith, 1990, p. 28).

IE’s use of standpoint locates us in the particularities of people’s experiences, which can contradict objectified forms of knowledge integral to the organization of ruling.

People’s standpoint, or the particularities of their experiences, is valuable in IE because they can reveal social relations that are not visible from other locations (Smith, 1987, 2005).

[People’s] standpoint means beginning in the actualities of people’s lives as they experience them, and a sociology for people developed from this point d’appui orients to the social as it organizes people’s everyday/everynight living. It proposes to create a knowledge of the social grounded in people’s experiences of their own lives. It does not treat experience as knowledge, but as a place to begin inquiry. The aim of inquiry is not, as in established sociologies, to explain people’s behaviour, but to explain to people the social or society – as it enters into and shapes their lives and activities. (Smith, 1999, p. 96)

It is clear that Smith’s engagement of standpoint, be it of women, or of people more generally, goes beyond giving voices to women or to other oppressed groups. This notion of standpoint serves to designate a subject position for IE researchers. It provides an entry point into the social, which extends beyond people’s immediate experiences. In other words, adapting the standpoint of women or of the marginalized constitutes a political commitment to unravelling the relations of ruling that organizes our lives. For instance, when George Smith and his colleagues study the problems people with HIV/AIDS have accessing social services, they take up the standpoint of the people living with HIV/AIDS as the entry point of investigation (G. Smith, Mykhalovskiy, & Weatherbee, 2006).

Similarly, when Alex Wilson and Ellen Pence (2006) investigate the US legal interventions in the lives of battered women, they take the standpoint of indigenous ways of knowing in order to understand how non-indigenous judicial practices produce the
problematic experiences identified through indigenous methodology. When I (Shan, 2009b) examine how the credential and certificate regime shapes immigrant women’s retraining and re-education experiences, I do so not from a rational managerial or administrative perspective. I am politically allied with the interests of the women immigrants who participate in retraining and re-education. Standpoint is more than a lens of investigation. It is a political commitment to the interests of the socially marginalized and silenced.

In my dissertation research, I take the standpoint of the immigrant learners. I will start my study by examining immigrants’ learning experiences, paying particular attention to their transitional moments and significant personal and professional events in their efforts to integrate into the Canadian labour market. My focus however will not be on the similarity and differences in their experiences. Rather, my ultimate purpose will be to tease out the threads of social relations articulated through their experiences yet extending to the large managerial and administrative social regimes where ruling is rooted.

**Ideological practices, and the social production of learning object**

In my literature review, I find that some studies see learning object as a defining feature of learning activities, be it about particular kinds of knowledge or skills (HRDC, 2002; Livingstone, 2005), language (Kozulin, 2009, Liversage, 2009), heightened awareness (Frick, 1987), or membership (Lave & Wenger, 1991, Wenger, 1998). A most commonly assumed learning object is to acquire skills. The second contribution of IE to the study of learning is that with its critique of ideological practices (Smith, 1990), IE is well equipped to attend to the socially constructed property of learning objects, such as
skill, and enables us to understand how the social processes producing people’s learning objects bear on their learning experiences.

The most significant contribution of IE to sociology and I would argue, to the study of learning, is that it directs critical attention towards ideological practices, or ways of thinking that result in “a rupture between concepts and the actual relations it reflects” (Smith, 1990, p. 37). Smith’s critique of ideological practice is extrapolated from Marx’s analysis of political economy. In particular, she makes an analogy between how commodity, in its exchange terms, renders invisible the concrete process of production, and how abstract knowledge, such as concepts and categories suppress social relations that need to be explored instead of taken for granted.

…Marx views concepts and categories as expressions of social relations and hence as opening up a universe for exploration that is “present” in them but not explicaded. The problem of what we are calling ideological practices is that they confine us to the conceptual level, suppressing the presence and workings of the underlying relations they express. Thus Marx criticizes the “bourgeois economists” for treating as fact what has to be explained. Terms such as division of labor, exchange, and competition are the primitives of their theories. Such terms express social relations organizing the actual activities of people, but the social relations themselves are presupposed without being explored or analyzed. Ideological theories conceal the presence and workings of these relations. What I am calling ideological practices or procedures are the methods of reasoning that effect that concealment (Smith, 1990, p. 37).

According to Smith, abstract ideas and concepts are not necessarily ideological. They become ideological only when they are used as a natural and objectified ground to understand reality (Smith, 1987). Most importantly, Smith addresses ideological thinking and practices because they produce and perpetuate ruling:

The concept of ideology brings into focus the conscious production of the forms of thoughts by a ruling class or that section of a ruling class known as the intelligentsia, which serves to organize and order the expression of the local, particular and directly known into forms concordant with its interests, aims and perspectives (Smith, 1987, p. 55).
The danger of ideological processing of our experiences is that it selects and registers certain actualities while obscuring others (Smith, 1990, p. 34).

Ng (1995) uses the term “ideological frame” in a similar way. An “ideological frame” is the “accomplished character of ideological thinking and process” (1995, p. 36, italicized is my emphasis). She says:

[ideological frame] identifies ideology as processes that are produced and constructed through human activities. They are ways in which capitalist societies are ruled and governed …. Once an ideological frame is in place, it renders the very work process that produced it invisible and the idea that it references as 'common sense' (Ng, 1995, p. 36).

Like Smith, Ng makes it clear that it is important to address ideological thinking because they perpetuate the interests of the ruling classes.

An important manifestation of ideological thinking and practices is ideological discourses. Ideological discourses are “generalized and generalizing discourses, operating at a metalevel to control other discourses” (Smith, 2005, p. 224). They “control people’s desires, values, and authority by casting certain objects as desirable, good, and commanding status, while others are derided or count for little” (Fenwick, 2008b, p. 10). In other words, they are a tool of control and management, which is held by the ruling class and to which the grassroots people habitually consent. Smith is concerned about ideological discourses because they can be readily induced and actively enacted to preserve the existent power relations (Smith, 2005).

In some studies, learning is associated with certain objects such as knowledge and skills (HRDC, 2002; Livingstone, 2005), heightened awareness (Frick, 1987), language (Kozulin, 2009; Liversage, 2009), and membership (Lave & Wenger, 1991). It has to be noted that the socially constructed property of these learning objects has both a material impact on our learning experiences and a political bearing on how the learners
participate in the capitalist mode of life and production. The notion of skill is a case in point; how “skills” are defined directly shapes our learning experiences. Nancy Jackson (1994) for example shows how skills are measured and quantified in vocational training. She argues that such a construction of skills, with its intent to manage vocation learning, ironically has “the effects of disorganizing vocational activity” (p. 344) that would help learners to learn practical work. Sawchuk (2008, 2006) takes the Marxist lens of use value versus exchange value to show skill and learning as a socially defined phenomenon. According to Marx, we satisfy our needs through producing use value and exchange value in a capitalist society. All exchange value has use value, but not all use value has exchange value. Sawchuk then argues that not all learning is considered legitimate. Learning is only legitimate or recognizable when it is related to exchange value.

The problem is that sometimes, learning objects such as skill, knowledge, competence and membership are treated as a given without attending to how such objects are produced in the first place (e.g., Frick, 1987; HRDC, 2002; Lave and Wenger, 1991; Livingstone, 2005). Such an ideological practice, I argue, obscures the social processes and social dynamics that construct legitimate skills or membership at particular place and time. Again, using the literature of skill as an example, some studies take skill as a natural given, while others address how the notion is socially produced. As my brief review below demonstrates, those who take skill as a given reproduce the dominant notion of skill in an ideological way, whereas those who see skills as a social product offer options as to how ideological operation of skill can be breeched.

Attewell (1990) juxtaposes four different approaches to skill: positivist, ethnomethodological, neo-Weberain and Marxist. The positivists treat skill as a self-
evident notion that needs no explanation. In the most general sense, skill refers to individual attributes, such as educational levels, work experiences, or “the expertise, ability, or competence to undertake specific activities often acquired through formal instruction or work experience” (Brown, 2001, p. 21). The positivist approach reinforces the idea that skill is a property or a capital that can be acquired, measured, pinned down and managed. Such use or operation of skill, in the language of IE, is itself an ideological practice; positivists they make use of various constructs of skills without explicating how these notions are socially produced.

Ethnomethodologists, on the other hand, question “what is not skill?”. They endeavour to present the complexity of seemingly mundane tasks in different jobs (e.g. Rose, 2004). This conceptualization of skill, as Thursfield (2004) points out, is an interpretation rather than an explication. While it raises questions of the ways in which people define skill, the ethnomethodologist’s construction of skill cannot be used to study the conscious efforts that people make to learn new things and practices. Research that constructs everything we do as skilled renders the skills needed for particular tasks inconsequential (Thursfield, 2004).

In contrast with the above two approaches, the Neo-Weberian school takes the social constructionist route. Through looking at the social processes giving rise to certain kinds of skills or legitimate skills, the neo-Weberian school is able to uncover the social power involved in defining skills and assigning values to different skills (Littler, 1982). Examples of these social processes range from medieval guilds to modern day professional associations, which enable various occupations to seek monopolistic powers and to restrict entry, limit competition and determine access (Murphy, 1988). Recent
studies also emphasize the power at play in the naming of skills. For one thing, employers and employees may not appreciate the same things as skills (Green & James, 2003; Moss & Tilly, 2001; Thursfield, 2000); the effective skills named by employees may not be the nominal skills valued and thus rewarded by employers (Rigby & Sanchis, 2004).

The fourth way in which skill is studied, according to Attewell (1990), is in the Marxist tradition. Studies in this tradition often treat skill in an inconsistent manner and they use skill in all above senses. It is, however, noted that studies in this tradition are often informed by labour process theory, which is originally used by Marx to reveal the “mystification surrounding market relations where the ‘just equivalence’ of exchange obscures the exploitation of labour” (Knights & Willmott, 1990, p. 2).

The four approaches to skills demonstrate different ways approaching social concepts. The positivist represents the mainstream tradition where social concepts such as skill are ideologically taken as a given. The neo-Weberain school makes it necessary for us to investigate the social process and social power involved in the production of notions and concepts that many people take for granted. The Marxist tradition makes it imperative to conduct such an investigation in relation to the capitalist accumulation process.

The above discussion on skill has significant implications for my study. When I investigate learning as a socially organized practice, I avoid the ideological practice that takes learning object such as skill as a given. Rather, I will explore desirable learning objects are socially produced. To that end, in my study, I do not stop at what immigrants
learn in their labour market integration process. Rather, I will go a step further to unpack how their learning objects are socially constituted in relation to the labour process.

**IE, language, textual mediation and investigation of social relations**

IE does not only offer a unique treatment of experiences, and breaks away from ideological usage of learning objects, it also provides an empirical way to map the social processes organizing learning practices. Specifically, following IE as an investigative methodology for learning, I am able to map the social relations or the concerting social and institutional processes that produce people’s learning experiences at local sites.

From the lens of IE, it is in the social concerting and coordination of people’s activities that ruling is accomplished at multiple sites. In today’s society where specialization and bureaucratization have developed to an advanced stage, institutional procedures and practices necessarily constitute part of the ruling complex. The term “institution” in IE is not used to reference specific organizational entities. Smith says:

> We recognize institutions as functional complexes within the ruling relations. By “functional complexes” is meant nothing more than the observables of complexes of organizations and discourses that are focused on functions such as education, science, law, health care government corporate profitability, and so on. They do not become, in institutional ethnography objects of investigation as such. Rather, they come into view only partially as they are explored from the standpoint of people who in one way or another are involved in them (Smith, 2005, p. 68).

The purpose of IE is not to study particular institutions per se, but to map the social and discursive practices weaving together institutional complexes.

To understand institutional practices, IE makes great use of language and texts. It has to be mentioned that the social nature of language has been recognized by many scholars across disciplines. As already mentioned, Vygotsky expounds on language as a tool mediating the development of our mind. Karl Buhler (1990), well known in...
psychology for his multi-layer approach to language functioning, proposes that language is much more than representational. It structures the nature of experience. Similarly, Charles Taylor, in his “philosophical anthropology”, brings out the constitutive role of language. According to him, language creates a public space through making available shared meanings. It does not only express. It also leads to new forms of feelings. He says: “certain ways of being, of feeling, of relating to each other are only possible given certain linguistic resources” (Taylor, 1985, p. 10).

In institutional ethnography, Dorothy Smith also conceptualizes language as a social phenomenon. Specifically, Smith approaches “language as coordinating subjectivities” (Smith, 2005). Her conception primarily grows out of Volosinov’s interindividual territory and Mead’s theory of significant symbol. Volosinov (1973) maintains that words are of two sides and that language is a product of the reciprocal relationship between addressers and addressees. He believes that language organizes our sensory communities as interindividual territories. In other words, language creates a world in common for people communicating from different backgrounds and with different experiences. Mead’s significant symbol (1934; 1938), or vocal gesture, enables us to see language as more than creating a common space. According to him, the meaning of a significant symbol is contingent on the same response from both the speaker and listeners, an idea that is similar to Volosinov’s interindividual territory. Yet, Mead goes a step further. He locates significant symbols in social actions and argues that like physical gesture, significant symbols organize what actions come next.

Intrigued by the ordering property of significant symbols, Smith comes to see
language as “activities organizing other activities” (Smith, 2005, p. 79). Language, Smith says, “creates a new dimension of organization” (p. 82). According to her, in today’s society, language, particularly written text, is introduced into social acts to generate diverse courses of action. In particular, replicable texts serve as knots of social relations. As such, she makes textual analysis a significant means to explicate social relations extending across social locations.

**Summary**

In my study, I conceptualize learning as a material, relational, and socially organized practice integral to our everyday practice. As my survey of the learning literature shows, most studies of learning take the individual learners as the unit of analysis. The sociocultural approach presents a materialist alternative. It sees consciousness as a socially formative phenomenon, and makes it imperative for the researchers to consider individual learners and the social context as a whole in the examination of learning.

It has to be mentioned that studies on learning, particularly those in critical education, have addressed the constitutive power of the social context. For example, many critical educators have made it clear that learners are not freewill agents; rather, learning takes place only in relation to the social contexts, particular to the hegemonic and neo-liberal discourses and practices subjugating individuals in a particular society (e.g. Cunningham, 1993; Foley, 1999; Marsick & Watkins, 2001; ). Among others, Garrick (1998) is interested in how social discourses frame people’s learning experiences in particular ways. Mojab and Gorman (2003) warn us that under hegemonic capitalist condition, workers’ social interactions, when framed as a learning space, can be
commodified and become social capital for the production of surplus value. When Foley (1999) examines people’s learning involved in a range of social movements, he shows that they deploy creative strategies to unlearn oppressive discourses. In the meantime, he reminds us of the issue of power, particularly that of the hegemonic power of capitalism. He shows that not all struggles can override the dominant culture. Foley contends that to understand the complexity of learning, we need to make explanatory connections between the broad political and economic context, micro-politics, ideologies, discourses and learning. To liberate the selves or learners from oppressive discourses, Freire (1970) advocates critical learning that focuses on exposing oppressive elements in one’s life. Similarly, Cunningham (1993) calls for “counter-hegemonic struggle”. To that end, groups need to expose power relations in the social environments and develop strategies to bring about social change and individual transformation.

While the above critical scholarly works all theorize learning in relation to the social context, it is Vygotsky’s sociocultural psychology that first introduced a material paradigm and class perspective to the study of learning (Sawchuk, 2003). While I am inspired by the sociocultural approach, I also find that it is weakened by two problems that have troubled many other learning theories. First, it uses experiences to frame learning without addressing the subjective property of experience. Second, it does not address the production of learning objects beyond the immediate communities of practices.

Given my above reservation, I turn to IE as an investigative approach to learning. IE shares with the sociocultural tradition a materialist paradigm. It also successfully deals with the two issues with the sociocultural approach. First, IE takes into account of, and
most importantly makes methodological use of, our subjective experiences. Indeed, 
people’s subjective experiences provide an IE researcher with a standpoint to examine the 
social relations extending beyond yet shaping people’s experiences. Second, by focusing 
on the social and institutional relations that exercise and accomplish ruling, IE unravels 
ways in which ideal learning objects come into being.

In my research on immigrant engineers’ learning experiences, I start by looking 
at immigrants’ stories and accounts of their experiences. In particular, I examine their 
significant and transitional moments in the host labour market. Yet, it is not my intent to 
generalize and typologize people’s experiences. In fact, immigrants do not necessarily 
share similar experiences or perceive their experiences in the same way. Yet, their stories 
and endeavours orient me to the social discourses and sequences of social action beyond 
the local settings that shape what immigrants learn and how they fare in the host labour 
market.
Chapter Three:  
The Research

My research builds on my conviction that learning is a socially organized practice. My study not only documents how Chinese immigrant engineers make personal adjustments and professional investments in order to fit into the engineering market in Canada. Most importantly, it also unravels the social and institutional practices and discourses in Canada that shape their labour market strategies and struggles. In this chapter, I introduce the research questions and research design, present my research and data analysis methods, report the research process, particularly the problems I encountered during the outreach process, and introduce the research participants.

Research questions and research design

In this study, I ask two research questions. First, how do Chinese immigrants learn to optimise their opportunities in the engineering market in Canada? While looking at a continuum of their labour market experiences, I focus on immigrants’ transitional moments, strategies and struggles, especially their “successful” strategies, as well as their shifting perceptions when they try to integrate into the engineering workforce in Canada. These moments, strategies and struggles not only show how immigrants articulate themselves to the labour market. They also speak to the social and institutional practices and discourses shaping immigrants’ experiences (Campbell & Gregor, 2001; Smith, 2005).

My second question is: What social practices and discourses help organize and order immigrants’ legitimate learning experiences? With this question, I intend to put together pieces of the social and institutional processes, procedures and discourses that converge to produce “valuable” learning in the Canadian labour market. By illustrating
how immigrants’ learning in the labour market is socially organized in an empirical way, I attend to the issue of power and highlight how seemingly neutral social happenings produce differences along gender, race and class lines.

I chose to conduct my study in two sites: Toronto, Ontario, and Edmonton, Alberta. Toronto claimed to be burdened with an oversupply of immigrant engineers (CAPE, 2005), whereas Edmonton, and Alberta as a whole, was reported to be in dire need of engineering labour (AHRE, 2005) at the time of my study. I did not choose the two provincial capitals to compare the experiences of people at the two places. My choice was based on my belief that experiences of people in two different labour markets would offer me a complementary view of the social processes shaping immigrants’ experiences.

As part of my research design, I examine immigrants’ labour market learning experiences as they seek entry into the engineering profession, and participate in and establish themselves in the engineering communities. In the study, I made a point to recruit both female and male immigrants who came from China in or after 1998, when China became the top immigrant source country for Canada (Guo & DeVoretz, 2006). It’s my assumption that there might be gender differences both in the way immigrants manoeuvre in the Canadian labour market and the way the engineering market operates in Canada.

At the inception of my study, I imagined that immigrants’ experiences might direct my attention to a set of institutional processes. I prepared to interview people dealing with hiring, training and licensure matters about their work and practices to piece together the social relations and extended courses of action that coordinate immigrants’ experiences with(in) the engineering profession. While I began with an initial list of key
informants early on in my study, I also kept this list open. As my data analysis progressed simultaneously with my field research, my list of key informants expanded. In the later stage, I found that I needed to interview project managers or senior engineers to understand more of the organization of engineering work and workforce.

In addition to interviews, I also planned to attend forums, and collect relevant document and policies to become in tune with the most updated development in immigration and training issues. Through keeping track of the most current events, policies and practices, I was able to capture the nodes of social relations that may or may not be discoverable from interviewing alone.

Research methods

In this study, I used four research methods: life history style interviews (Cole & Knowles, 2001; Plummer, 2001) with Chinese immigrant, key informant interviews, event observation and textual analysis. I chose to collect immigrants’ learning practices through life history style interviews (see interview guide: Appendix One). My interviews with immigrants covered the duration from their graduation in China to the time of the interview when they had gained some experiences with the engineering profession in Canada. Life history interviews with immigrants made it possible for me to capture immigrants’ transitional moments and struggles, as well as their shifting perceptions when they tried to integrate into the engineering workforce in Canada, and to understand how immigrants “experience[d] their present in light of their past personal biography and their subjectively projected future” (Olesen, 2007, p. 44). Further, it helped me to attend not only to people’s conscious self-presentation, but also to its relation to the large social, economic and political environments (Olesen, 2007; Cole & Knowles 2001).
Life histories and narrative methods defy traditional positivist research criteria of validity, including objectivity, generalizability, and replicability. The personal biases and interests of the researchers and the research participants, as well as the interactive dynamics among them, shape the research process (Plummer, 2001). Yet, life history research is valid not because it produces “truthful” or “objective” representations of individual experiences. It is valid because it presents “subjective realities”, which reveal features of people’s consciousness and those of the social contexts that shape them. Furthermore, as Plummer (2001) suggests, researchers are endowed with great power as we bring in theoretical lens to work up the data. Being aware of such power dynamics, I conducted a “validity check” (Plummer, 2001, p. 157). I asked for permission from each interviewee to go back to them for clarification. I also transcribed and/or translated all my interviews and sent the transcripts to all my interviewees for verification unless they explicitly indicated that they did not need to read their interviews. In addition, I produced a preliminary research finding report in November 2008 and sent it to some of the immigrant interviewees that I was able to reach at that time for feedback. Three immigrant respondents wrote me with some feedback. For example, Ed#7 believed that I should not find fault with the licensure system in Canada, because “Canada needs a system to ensure that foreign trained engineers are up to standards”. Ed#6 questioned the hierarchical structure that I built into the engineering profession. He wrote: “the position of a designer may not necessarily be lower than an engineer. [A] designer may be in charge of a project, instead of an engineer”. I incorporated some of their feedback such as the one provided by Ed#6 into my final research findings.
My second research method is key informant interview. I conducted key informant interviews with employers, project managers, senior engineers, trainers, human resources recruiters and staff at licensure bodies to understand their work activities at different sites (interview guide: Appendix Two). The purpose of my key informant interviews is to understand how people conduct hiring and training at work, how the engineering work and workforce is organized, and how licensure matters are administered in Canada. In my interviews with key informants, I attended to how they conducted their work and took their work activities as factual knowledge (Smith, 1987), which enabled me to piece together a complex of social relations shaping immigrants’ chances and opportunities in Canada.

It has to be mentioned that one of the challenges of conducting interviews as part of an IE project is to avoid, or rather to identify and then unravel, “institutional capture” (Smith, 2005) or ways of talking that are part of the institutional procedures and discourses that override experiential talk and writing. For example, in my study, many interviewees talked about working on “contract basis” without explicating what “contract” means. It is only at the end of the project that I found out that “contract” is not solely an employment status out of individual choice. It is produced through the project-based organization of engineering work.

The third research method is to observe public training forums and workshops for immigrants. The purpose of event observation is for me to observe first-hand how skilled immigrants are oriented into their professional fields, and get a sense of how engineering companies recruit and what they expect from immigrants in particular. The fourth component of my study is textual analysis. I collected public policies and
documents as relevant to my study and analyzed how these texts participate in constituting immigrants’ struggles and strategies in the host labour market.

**Data analysis methods**

While analyzing my interview data with immigrants, I paid particular attention to how immigrants changed their perceptions and practices, and made personal and professional investigations. I grouped their experiences around four areas of investigation: learning to look for jobs, learning and training at work, learning to communicate at work, and learning to acquire Canadian credential and licences. I then tried to tease out threads of social relations extending beyond their immediate experiences and pin down these social relations in my interviews with key informants.

If I only partially used IE to analyze my interviews with immigrants, I strictly followed it to analyze my key informant interviews, event observation notes, and textual materials to explicate the actual social practices and discourses that call forth certain kinds of individual manoeuvring strategies rather than others. It has to be mentioned that institutional ethnography shares little common ground with ethnography or even critical ethnography. Ethnography was initially used by natural historians, missionaries and anthropologists in their colonial projects to describe and represent “other” cultures (Denzin, 1997; Marcus & Fischer, 1985; Stoller, 1999). The convention of ethnography has encountered great challenges from the postmodern and poststructuralist scholars and researchers (Brown & Dobrin, 2004; Taylor, 2002; Willis & Trondman, 2000). Critique is directed towards the positionality and subjectivity (or objectivity) of the researcher, the capacity of language to mirror reality, and the possibility to represent truth (Stoller, 1999; Willis & Trondman, 2000). Critical ethnography arises in response to the postmodernist
challenge; it is noted for being sensitive towards the dialectical relationship between the structure and the individual agency (Anderson, 1989) as well as for its liberating potential in that it challenges false consciousness and oppressive power (Thomas, 2003). In other words, in critical ethnography data are collected and coded to construct a culture with the researchers admitting to the subjective, partial and partisan nature of such construction at the same time.

Institutional ethnographic analysis is different from what could be offered by critical ethnography. IE research does not deal with generalization or representativeness of a particular culture. Rather, an IE project collects data to piece together what actually happens at different sites that constitutes ruling and management. In other words, while the ultimate aim of critical ethnographic analysis is to build and produce a culture, or a reified account and narrative of culture, institutional ethnographic analysis is to unravel our actual doing at different social sites so as to be critical of grand narratives, mystical cultures, naturalized discourses, or hegemonic ideologies that dominate how the society is organized.

When I look at the interviews and my conference observational notes, I do not code data for general patterns or themes. Rather, I organize data by areas of investigation and map the actual social happenings that shape people’s labour market struggles. That is, I mainly focus on people’s work in managing the workforce, the immigrant labour force in particular. I wish to understand how people’s work across social sites converge and diverge at the same time to produce particular struggles for immigrants. When I examine my textual materials, including policy documents and texts, I do not only look at the ideological underpinning of the textual documents. I also treat texts as a participating
actor in courses of action (Smith, 2005), or as an active part of the social process that
order and organize immigrants learning efforts in the host labour market.

In my attention to the social relations or courses of action at multiple sites, I also
pay particular attention to gender, race and class relations as conceptualized by Ng (e.g.
1984; 1991; 1993; 1998). In standard sociological usage, gender, race and class are
treated as factors or analytical categories that designate particular social phenomena or
social problems. Ng proposes an alternative perspective where gender, race and class can
be mapped empirically in people’s actual activities (e.g. 1991; 1996; 1998). Her
conception of these relations is not meant to explain why things happen, but rather how
they happen. Primarily concerned with the labour market experiences of immigrants, her
approach is foremost informed by Marx and Engels (Ng, 1996). Instead of using class as
a theoretical concept, she sees class as the ways in which human activities are organized
in relation to the productive processes of a particular society, and proposes that it is a
social relation discoverable in our everyday practices (Ng, 1996).

Gender and race relations, according to Ng, are constitutive features of
productive relations (Ng, 1998). They are not terms to designate biological differences.
Rather they refer to the processes whereby certain differences between groups of people
are objectified and valorized to preserve the interests of those in power. Further, she
insists (1998) that gender, race and class relations are not distinct from each other. Rather,
they are inextricably linked. Together, they articulate people differently to a certain mode
of production and/or social formation. They are the social properties that characterize the
present era of capitalism. People from different social locations are implicated in
producing and reproducing these relations at different historical moments. Following Ng,
it is through examining the diverse ways in which people relate themselves to the labour market and to each other that I analyze the gendered, racialized and class-based relations that shape immigrants’ learning experiences in Canada.

**The research process**

I started my field research in September 2006. I completed all my interviews in November 2007. My last event observation was in April 2008. I continued collecting and analyzing policies and documents until I finished the first draft of my thesis in November 2008.

I contacted immigrant engineers mainly through word of mouth. I emailed my friends and relatives who have connections with Chinese engineering professionals in Toronto and in Edmonton, and asked them to spread the word of my research, and pass around my information letter (Appendix Three). I also posted my information letter on some popular Chinese websites in Toronto and in Edmonton, such as [www.rolia.net](http://www.rolia.net) in Toronto and [www.edmontonchina.ca](http://www.edmontonchina.ca) in Edmonton. Altogether, I had 17 immigrants approach me. Most of them came through word of mouth and four of them found my research information on the Internet. A majority of the people responded to my study with the intention to share their experiences so that other immigrants did not have to go through the struggles that they had gone through. Each of the interviewees signed a consent form (Appendix Five) and filled out a demographic form (Appendix Six).

I ended up interviewing 14 of the immigrant engineers (I interviewed 16 of the immigrants who responded to my study. Yet, two of them worked as scientists rather than engineers). Among these engineers, seven (two female, and five male) worked in Edmonton and seven (three female, and four male) in Toronto. In my interviews with
immigrants, I focused on their career paths in both China and Canada with an emphasis on their stories strategizing and struggling to enter and establish themselves in the engineering profession in Canada (see interview guide: Appendix One). It was, however, not easy to interview people from a field of practice that was foreign to me. As part of my study was about how immigrants did their jobs, I got questions from the interviewees such as “Is that detailed enough for you?”, or direct comment such as “I do not need to describe all the details, as they may not be relevant to your study.” I was initially too ready to bow to the techno-condescension and stopped pursuing questions that, in hindsight, I should have pursued. Over time, however, I learned not to hide my embarrassment and started asking questions about the jargons they used, such as “contract”, “budget”, “details”, “calculation book”, “fatigue design”. Some of the terms are drawn from the institutional discourses of the engineering profession. Not all of their explanations of these terms were relevant to my study. Yet some of them, such as contract and details, turned out to be crucial for my analysis in the latter stage.

The same problems existed during my translation process. Sometimes, it was hard to translate some engineering terminologies. For example, “grout” and “concrete” did not make much difference to me. It was hard for me to imagine what a “gird” was. At times, I had to go back to my interviewees and ask for the “right” translation. Through conversations with my interviewees about the right translation, which unfortunately I did not record, I learned more about the work of engineering professionals. Although my thesis is not based on a detailed and “accurate” understanding of engineering terminologies, my casual conversations with the interviewees certainly helped me understand more of engineers’ work.
Typically, my interviews with immigrants took two hours. The longest was four hours. Given that many of the immigrants were constrained by time, I had short conversations with a number of them four or five times before I finished my interviews. All interviews were taped except for Ed#3 (see Table One), who requested not to be taped. Ed#7 and To#5 made it explicit in the middle of the interview that once I finished transcribing and/or translating, I should delete their audio documents. All immigrants received an electronic transcript of my interviews except for Ed#1 who expressed no desire to read or receive her transcript. To#5 gave me substantial feedback and modified his transcript. As there was more than two years between many of the interviews and the time when I tried to send them my preliminary findings, only Ed#6, Ed#7, and To#6 provided feedback to the interview data. I suspect that some of them have changed jobs, such as Ed#3, because the email addresses that they gave me are no longer in use. Others might have simply lost interest in my study given that the economy had slowed down significantly from the time when I conducted my interviews and the time when I sent them my report.

While talking with Chinese immigrants, I started mapping the kind of institutional processes that came into view through an examination of their experiences. My attention was subsequently directed to immigrant training services, HR recruiting practices, the organization of engineering work and workplace, as well as the licensing practices in Canada. With this preliminary map, shortly after my interview with the second immigrant, I started contacting key informants.

My outreach work to key informants was tortuous. Initially I approached employers and HR recruiters through direct contact. I attended a job fair in Toronto on
Sept. 21, 2006, where there were around 30 engineering companies recruiting new graduates, and distributed my information letter (Appendix Four). That was the first time that I got a sense of the macho culture in the engineering field. To start with, there was a lack of representation of visible minorities by the booths. In addition, although a good number of women showed up for the recruitment fair, they were mostly HR recruiters.

My journal entry reads:

> I was not surprised to see that majority of the [staff] by the booths were white males. ...One third of the people or less by the booths were women who appeared to be mostly HR personnel, white and black. Majority of the women were a little bit over 20, with a few around 40. Two of the women looked like immigrants from East Europe. I saw only one second-generation Asian [male] working for some [IT] company. [In contrast] there were surely a lot of Asian students, mostly male [moving] around [looking for jobs] (Field notes, Sept, 21, 2006).

> It was not easy to interest people with my study. In a few cases, I, along with my study, was received well. In most cases, however, I sensed indifference and suspicion.

The following are parts of my record of my negative experience.

> The third man that I talked with was with a stern face. He was a project manager… [from a water management company]. He was around 40 years old. While listening to me, he moved no muscle on his face, not even his mouth. I asked him if I could contact him later. He eventually said yes. But he made me so nervous that I forgot to ask him for a name card and he did not offer one to me either. Later on, I sneaked back and “stole” a name card on the booth table. I do not think he was interested in my study at all (Field notes, Sept, 21, 2006).

> It was indeed a daunting encounter. Yet, I continued approaching the next person.

> The fourth man that I talked to was actually a manager of an international company that has a branch company in China. He was enthusiastic more about China than about my study. He introduced me to his HR manager, who was a Russian immigrant woman. He invited me to contact him as well as his HR manager. I was on cloud nine (Field notes, Sept, 21, 2006).

My journey continued now on a more positive note:
Opposite to [the booth of the fourth person I approached] is an engineering and construction company. All the people in front of the booth were young women. I talked with a white woman and she led me to her boss, who was a black woman in her mid 20s. I related to the woman my request again. She apparently did not know what I was talking about. She asked me who had agreed to participate in my study. I was very much surprised by her cautiousness and lack of judgement on her own. I then assumed a selling pitch. Very confidently, I said: “quite a number.” She gave me her name card and asked me to contact her later. I do not think that she would eventually agree to take my interview (Field notes, Sept, 21, 2006).

My next encounter was my biggest setback in the job fair.

The next man that I tried to talk to read my information letter on the spot. In the middle he said that my use of “personnel” was outdated. Now people use the term “human resources”. Although a bit embarrassed, I was grateful for his comment and thanked him for pointing it out. It did not take him long to read through the information letter, after which, he said: “employers would all be suspicious of the study”. …I asked why employers would be suspicious of my study. He said: “call me in my office” and brushed me off. [Now] I started to doubt the value of my study. I actually started asking myself if there is anything insidious about this study that is repressed in my sub-conscious (Field notes, Sept, 21, 2006).

I never found what it was about my study that was suspicious to employers. I tried to get in touch with this particular person to find out. After three phone calls and two emails without response, I gave up. As an endnote to my experience in the job fair, I approached 10 people from different companies. I later followed up with all of them at least once over the phone and twice with emails. Unfortunately, only one of the people that I met in the job fair responded to and participated in my study.

After what happened, I started complaining about the difficulty I was having reaching out to key informants in front of my friends, colleagues, even new acquaintances at different occasions. It was through these friends, colleagues, and acquaintances that I got connected with most of my key informants. Given the change in my outreach method, I had little problem recruiting key informants in Edmonton. Through the help of one of my schoolmates at OISE, whose parents were established
engineers in Edmonton, I connected with a few project managers. Then I participated in a skill and learning conference at University of Alberta in October 2006. In the conference I was able to get to know some immigrant trainers. Through the trainers, I was connected with a number of employers and HR managers and recruiters. I was amazed at the quick results in a city about which I knew so little.

In addition to employers, HR recruiters, engineering managers, senior engineers, and trainers, I also emailed the Professional Engineers Ontario (PEO) and the Association of Professional Engineers, Geologists, and Geophysicists of Alberta (APEGGA). My emails were returned with positive responses. I was able to meet and talk with a registrar and a former registrar officer from these organizations. Both of them had thorough knowledge about the licensure procedures.

My outreach efforts in Toronto and Edmonton enabled me to experience first-hand the kind of barriers that immigrant engineers may have to face when they first come to Canada. I have developed a strong sense that the engineering profession is a tight knit circle. Without relevant social networks or the right connections, it can be hard for newcomers to make inroads into this circle.

All my key informant interviews were between half an hour and one hour. The interviews focused on the jobs that the informants performed, the criteria that they used for recruitment, their training arrangement, and their experiences working with immigrant engineers from China (interview guide: Appendix Two). Most of my interviews took place over the phone given geographical and time constraints. All interviews were taped and transcribed verbatim. At the beginning of the interviews, I obtained either written or oral consent from all my interviewees (Appendix Five). At the end of the interviews, I
offered to send the transcripts to all of them, all declined this offer except for On-key-05, who also requested that her audio document be deleted right after the transcription work was done.

I also observed three public events or training sessions for skilled immigrants. One was the Internationally Educated Professionals conference (IEP) held for immigrant professionals on October 18, 2007. One was the Career and Diversity Forum on November 22, 2007 held by G-force, a leading Canadian company specialized in workplace diversity management. The third one was an immigrant training session held by G. Raymond Chang School of Continuing Education at Ryerson University on May 13, 2008. I observed the work being done to facilitate immigrants’ integration into the Canadian labour market as well as to teach and manage the immigrant labour force. My observation notes recorded who were present (or absent) in the events, what the speakers tried to teach immigrants in order for them to find jobs or to get established in their respective workplaces, how immigrants received the information, and responded to the teachings, and what social relations and social discourses converged in these forums.

Throughout my research, I collected various policies, public documents, newspaper clippings, professional journal articles, job ads, Workers’ Compensation Act, and public documents related to engineering licensure practices in Ontario and in Alberta. My textual analysis went hand-in-hand with my field research. In my textual analysis process, I tried to pin down the social relations mediated through texts and to map the extended courses of action that these texts participate in organizing (Smith, 2005) and that bear on immigrants’ learning efforts in the Canadian labour market.
The research participants and their positions in Canada

At the time of the interviews, six of my immigrant respondents were between 36 and 40, four between 31 and 35, three between 41 and 45, and one between 46 and 50. All except for one interviewee were married. All the married ones except for one had at least one child. Interestingly, eight of these immigrants had a spouse who also had an engineering background.

The tables in the next two pages offer a brief summary of the professional and training backgrounds of the immigrants. To protect the anonymity of my research participants, I use a coding scheme; “Ed” means Edmonton, and “To” means Toronto. Before immigrating to Canada, one of them held a doctoral degree; seven of them had at least one master’s degree; the remaining six had a bachelor degree. They were trained in civil, electrical, mechanical, chemical, and electrical engineering in China.

They all had engineering work experience in China. All of them, except for To#6 who graduated in 2001, were posted by the government to their first jobs, although they had different degrees of discretion over their job assignment. Many worked in their fields of training right after graduation by shadowing senior engineers. Some of them were put in a position in a specialized position other than what they were trained for. For example, one woman, To#3, was trained as a biology and chemistry teacher in China. She switched to work in a chemistry lab as her parents were engineers and needed her to be by their side. She was able to make the switch because the company where her parents worked was a state-owned company and had a policy to allow her to join the company based on familial reasons.
Table One: Demographic information of immigrant interviewees in Edmonton

<table>
<thead>
<tr>
<th>No.</th>
<th>Gender</th>
<th>Year of immigration</th>
<th>Educational Level</th>
<th>Age</th>
<th>Employment before immigration</th>
<th>Current employment in Canada</th>
<th>Current Income</th>
</tr>
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<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Degree</td>
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<td>Position</td>
<td>Field</td>
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<tr>
<td>Ed#1</td>
<td>F</td>
<td>2001</td>
<td>Master</td>
<td>31-35</td>
<td>Engineer</td>
<td>Civil</td>
<td>60,000-69,999</td>
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<td></td>
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<td>Bachelor</td>
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<td>Civil</td>
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<td>China</td>
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<tr>
<td>Ed#2</td>
<td>F</td>
<td>2003</td>
<td>Bachelor</td>
<td>36-40</td>
<td>Engineer</td>
<td>Civil</td>
<td>70,000 and up</td>
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<td></td>
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<td>Civil</td>
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<td>China</td>
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</tr>
<tr>
<td>Ed#3</td>
<td>M</td>
<td>1998</td>
<td>Master</td>
<td>46-50</td>
<td>Senior Engineer</td>
<td>Mechanical/</td>
<td>70,000 and up</td>
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<td>Civil/Hydro</td>
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<td>Bachelor</td>
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</tr>
<tr>
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<td>Mechanical/</td>
<td>70,000 and up</td>
</tr>
<tr>
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<td></td>
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</tr>
<tr>
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<td>M</td>
<td>2003</td>
<td>Master</td>
<td>41-45</td>
<td>Manager</td>
<td>Mechanical</td>
<td>100,000 and up</td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
<td></td>
<td>Project Manager</td>
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</tr>
<tr>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Mechanical</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ed#6</td>
<td>M</td>
<td>2003</td>
<td>Bachelor</td>
<td>36-40</td>
<td>Engineer</td>
<td>Civil</td>
<td>100,000 and up</td>
</tr>
<tr>
<td></td>
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<td>China</td>
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<tr>
<td>Ed#7</td>
<td>M</td>
<td>2005</td>
<td>Master</td>
<td>36-40</td>
<td>Engineer</td>
<td>Civil</td>
<td>100,000 and up</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Civil</td>
<td></td>
<td></td>
<td>P.Eng.</td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>China</td>
<td></td>
<td></td>
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</table>
### Table Two: Demographic information of immigrant interviewees in Toronto

<table>
<thead>
<tr>
<th>No.</th>
<th>Gender</th>
<th>Year of immig.</th>
<th>Educational Level</th>
<th>Age</th>
<th>Employment before immigration</th>
<th>Current employment in Canada</th>
<th>Current Income</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Degree</td>
<td></td>
<td>Position Field</td>
<td>Position Field</td>
<td></td>
</tr>
<tr>
<td>To#1</td>
<td>M</td>
<td>2001</td>
<td>Bachelor</td>
<td>Civil/Hydro</td>
<td>31-35</td>
<td>Assistant Engineer</td>
<td>Civil/Hydro</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>China</td>
<td></td>
<td>Test Engineer</td>
<td>Electrical engineering</td>
<td>P. Eng.</td>
</tr>
<tr>
<td>To#2</td>
<td>F</td>
<td>2004</td>
<td>Bachelor</td>
<td>Mechanical</td>
<td>41-45</td>
<td>Research Associate</td>
<td>Civil</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>China</td>
<td></td>
<td>Field</td>
<td>Civil</td>
<td>Specialist</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Master</td>
<td>Civil</td>
<td>41-45</td>
<td>Field</td>
<td>Civil</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>USA</td>
<td></td>
<td>Field</td>
<td>Civil</td>
<td>Specialist</td>
</tr>
<tr>
<td>To#3</td>
<td>F</td>
<td>2001</td>
<td>Master</td>
<td>Chemistry</td>
<td>36-40</td>
<td>Chemical Engineer</td>
<td>Chemistry OIL industry</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Teacher's Certificate</td>
<td>Education</td>
<td>China</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Java Programmer Certificate</td>
<td>Computer</td>
<td>Canada</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To#4</td>
<td>M</td>
<td>2000</td>
<td>Bachelor</td>
<td>Mechanical/ HVAC</td>
<td>36-40</td>
<td>Engineer</td>
<td>Mechanical/ HVAC</td>
</tr>
<tr>
<td>To#5</td>
<td>M</td>
<td>2001</td>
<td>Master</td>
<td>Civil</td>
<td>36-40</td>
<td>Engineer</td>
<td>Civil</td>
</tr>
<tr>
<td>To#6</td>
<td>M</td>
<td>2006</td>
<td>Doctor</td>
<td>Civil</td>
<td>31-35</td>
<td>Senior Engineer</td>
<td>Civil/Hydro</td>
</tr>
<tr>
<td>To#7</td>
<td>F</td>
<td>2001</td>
<td>Bachelor</td>
<td>Mechanical/ HVAC</td>
<td>36-40</td>
<td>Engineer</td>
<td>Mechanical/ HVAC</td>
</tr>
</tbody>
</table>
In China, all of the immigrants started as assistant engineers, and became engineers five years after they joined the workforce. Some of them changed jobs in China but mostly between state-owned companies or institutes. Three of them even worked in foreign ventures before immigration (To#1, To#6, Ed#5); one set up a small engineering company (To#5). Prior to moving to Canada, they worked as engineering company owners (Tor#5), project managers (Ed#2, Ed#5), and engineers or senior engineers (the rest) dealing with design, project conception and management.

In Canada, they had different starting points. Eight of them took up what they called “breaking neck” labour in the service and manufacturing sectors before they moved into the engineering fields. Two began their lives in Canada as graduate students (Ed#3, To#2). One still conducted his business in China (To#5) when he first landed in Canada. Only three people directly joined the engineering profession (To#1, To#6, and Ed#7) within three months after landing.

When they eventually entered the engineering profession in Canada, they took up a range of jobs. Below, I provide a description of the jobs that they occupied. It is important to note that the organization of engineering, including job titles, varies from country to country and perhaps from time to time (see, Whalley, 1984). What I described here is based on the reports of my research participants. Many immigrants started as a drafter or a draftsperson. As a drafter or draftsperson, people use AutoCAD to computerize engineers’ or designers’ designs and blueprints. Some started higher, as designers, which mean slightly different things in different companies. In some companies, a designer does exactly the same job as a draftsperson. In others, a designer might be given some calculation work to do, or be allowed to participate in project
conception processes. Some designers may also be a project team leader. A number of the immigrants started as engineering specialists. An engineering specialist is someone who does the work of a licensed engineer, but a licensed engineer has to supervise and sign off on his or her work. Usually a specialist is given a piece of designing work from a project. For many immigrant specialists, their major responsibility is calculation and modeling. Depending on which company they work for, their relationship with the project engineers, and how busy their project engineers are, specialists may be assigned other tasks. They may be sent for on-site inspection, entrusted with costing and budgeting, or asked to be in charge of a whole project. In addition to the aforementioned positions, To#3 started her para-engineering work as a lab technician mixing chemical elements to produce cosmetic products, and Ed#4 started his engineering career in Canada as a project manager in a maintenance company.

Although I focused on the experiences of people from the traditional engineering fields, such as civil, electrical, mechanical, chemical, and electrical engineering, it did not reduce the heterogeneity of the data that I was dealing with. For instance, these immigrants worked for a range of companies. The majority of the people I interviewed in Toronto worked for small- to medium- sized companies dealing with commercial businesses, except for To#1, who worked for two international companies. The majority of the people I interviewed in Edmonton worked for big companies dealing with industrial businesses such as oil, gas and chemical production and constructions, except for Ed#5 who worked for a maintenance company.

In terms of salary levels, immigrants in Edmonton were making much higher salaries than those in Toronto (see also Vu, 2006). Among the immigrant interviewees in
Edmonton, one made between $60,000 and $69,999 per year. All others made $70,000 and above, which was the highest salary range I had in my demographic form initially. In the later stage of the study, I expanded my salary range on the demographic forms. Both Ed#6 and Ed#7 checked off $100,000 and above. In Toronto, only one person (To#1) made over $70,000. All others were making below $50,000 a year, with one making less than $30,000 annually, and one (To#5) reporting $12 an hour for his first drafter’s position (by the time of the interview, To#5 had moved back to China and resumed his business in China).

In addition to immigrant interviewees, I also interviewed a number of key informants who had knowledge about different aspects of the organization of the engineering profession. Table Three shows the position of my key informants. In the coding system, I am using “AB” for Alberta, and “ON” for Ontario. In Alberta, I talked with three immigrant training staff (in one interview), a senior engineer, an HR account manager, a principle and engineer, an HR manager, a project manager, an HR recruiter, and a former registrar officer at APEGGA. In Ontario, I interviewed an employer, a team leader, a recruiter, two project manager/engineers, one senior engineer, one training manager, an HR manager, a registrar at PEO and a researcher who investigated the skill needs of different engineering companies in Canada.

Summary

In this chapter, I introduced my research questions, research and analytical methods, my research process and my research participants. In my study, I do not treat immigrants’ labour market struggles, strategies and efforts as individualized phenomenon. I embed
Table Three: Key informants and their positions

<table>
<thead>
<tr>
<th>Key informants</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>KeyAB1</td>
<td>Immigrant training staff (three interviewees)</td>
</tr>
<tr>
<td>KeyAB2</td>
<td>Senior engineer</td>
</tr>
<tr>
<td>KeyAB3</td>
<td>Project manager</td>
</tr>
<tr>
<td>KeyAB4</td>
<td>HR manager (with an engineering company)</td>
</tr>
<tr>
<td>KeyAB5</td>
<td>Principle and senior engineer</td>
</tr>
<tr>
<td>ABKey6</td>
<td>HR consultant (with a recruiting company)</td>
</tr>
<tr>
<td>ABKey7</td>
<td>HR account manager (with a recruiting company)</td>
</tr>
<tr>
<td>KeyAB8</td>
<td>Staff at licensure organization</td>
</tr>
<tr>
<td>KeyON1</td>
<td>Business owner/engineer</td>
</tr>
<tr>
<td>KeyON2</td>
<td>Team leader/engineer</td>
</tr>
<tr>
<td>KeyON3</td>
<td>Business owner/Recruiter</td>
</tr>
<tr>
<td>KeyON4</td>
<td>Senior engineer/project manager</td>
</tr>
<tr>
<td>KeyON5</td>
<td>Training manager</td>
</tr>
<tr>
<td>KeyON6</td>
<td>Registrar at PEO</td>
</tr>
<tr>
<td>KeyON7</td>
<td>Researcher</td>
</tr>
<tr>
<td>KeyON8</td>
<td>Engineer</td>
</tr>
<tr>
<td>KeyON9</td>
<td>Project manager/engineer</td>
</tr>
</tbody>
</table>

their changing perceptions and practices in the social discourses and relations weaving through the engineering profession. For my study, life history interviews help me understand immigrants’ practices in relation to their own biographical past and projected
future, as well as the social milieu in which their practices take place. Institutional ethnographic analysis helps me to understand the social discourses and social happenings that delimit immigrants’ learning space and shape their learning practices.

I need to reiterate that it is not my intent to do a comparative study when I chose Toronto and Edmonton, two provincial capitals in two provinces that claimed different supply and demand scenarios for engineering workers. As a matter of fact, immigrants reported diverse experiences, which correlated not only with the place where they looked for jobs, but also with the type of company they worked for, as well as the time period when they were looking for jobs. My study is not to pinpoint the impact of location, company type, or economic time on immigrants’ labour market outcome. Yet, immigrants’ differential experiences in relation to locations, company types and time of their labour market entrance speak of ideological, discursive as well as material relations that construct their opportunities and shape their struggles and strategies on the ground. They are also telling of the complex ways in which gender, race and class relations work together to make certain kinds of learning a positive experiences for immigrants at times, and render their efforts futile at other times.
Chapter Four:
Discursive Skill in Operation:

Immigrants’ Market-oriented Learning and the Hiring Complex

The worker becomes a slave of his object (his labour), first, in that he receives an object of labour, i.e. in that he receives work; and secondly in that he receives means of subsistence. Therefore, it enables him to exist, first as a worker; and, second, as a physical subject. The extremity of this bondage is that it is only as a worker that he continues to maintain himself as a physical subject, and that it is only as a physical subject that he is a worker (Marx, 1961, p. 71).

When exchange relations prevail, paid employment is not only a way of life. It is the way of life. When immigrants move to Canada, most of them look for employment to sustain their livelihood. In this chapter, I show how my immigrant respondents work their ways into the engineering market in Canada and map how their learning experiences are organized through what I call a “managerial and administrative hiring complex”. I argue that the hiring complex, informed by the dominant skill discourses or employers’ skill expectations, and capital’s interests in maximizing profit, not only dictates what immigrants learn, but also shapes how they fare in the host labour market.

In this chapter, I start by reporting how my immigrant respondents positioned themselves and developed strategies to enter themselves to the engineering market in Canada. I show that in order to find their entrance to the job market, the immigrants learned to market themselves through speaking to the skill discourses at the “right” time and place. Immigrants’ market-oriented learning constituted the problematic of this chapter. It prompts me to investigate and inquire into the hiring complex particular to the engineering profession. By the hiring complex, I refer to the work relations of people at different sites dealing with hiring matters. I show that the hiring complex in the engineering profession is primarily network-dependent and project-based. Further, it
operates within a discursive construction of hard versus soft skills, which are culturally charged but most importantly class-based. Employers, depending on their labour needs, tend to magnify or minimize the significance of certain skills, such as communication, in order to realize their best economic interests. Immigrant engineering professionals who are perceived to be different are made into a secondary labour pool that is dismissible and indispensable at the same time.

**Immigrants learning to enter the engineering profession**

In this section, I examine how immigrant respondents refashioned and repositioned themselves in the host labour market in order to enter the engineering profession. In particular, I focus on three strategies that the immigrants used to optimize their job opportunities in Canada: marketing the self, aiming low, and becoming mobile workers. The first strategy shows how the immigrants are socialized with a commodified view of the self and developed marketing tactics to promote themselves in the host labour market. The next two strategies indicate how they learned to answer the need of capital while learning of their secondary status in the Canadian labour market.

By presenting immigrants’ individual strategies, by no means am I making generalizations about Chinese immigrants as a group. In fact, some of my immigrant respondents totally submitted to the “logic” of the capitalist labour market, i.e. the dominance of exchange relations, whereas others were still grappling with or coming to terms with it. By focusing on what the immigrants understood to be “successful” strategies, however, I am able to see the social relations ordering their “valuable” learning practices. Specifically, my study shows that immigrants’ job search practices are
significantly shaped by employers’ skill expectation and the dominant skill discourses, as well as the perceived labour market demand.

**Learning to market the self**

One of the strategies that a number of immigrant interviewees found important is to self-marketing. At the centre of their marketing practices is to change from presenting what they can do and who they are, or in Marxist language, what their use value is, to communicating what employers look for, or what their exchange value is.

Coming from a socialist market economy, few of the immigrants had experience looking for jobs in a “free” capitalist market economy. China used to practice state posting for university graduate students, and workers’ labour market mobility was restricted by the residential registration system (Knight & Song, 1995; Li & Zax, 2007). It was not until the end of the 1980s that China adopted a new policy: “Job Assignments for Graduate Students from Higher Education”. This policy encourages workplaces to make merit-based recruitment decisions and makes it possible for students in many disciplines to look for jobs. Despite this policy, at the time when most of my Chinese interviewees graduated, state planning was yet to completely give way to market regulation (see Knight & Song, 1995). All my immigrant interviewees, except for To#6, who graduated from a Ph.D. program in 2000, were posted to their first engineering job with state-owned workplaces. Most of them stayed with their first jobs until immigration, except for To#1 and Ed#5, who moved on to work in foreign ventures, and To#5 who resigned from his job to open his own business.

Upon landing, few of the immigrants were familiar with job search practices in Canada. It took a while for them to construct a “proper” résumé and an “engaging” cover
letter, and to learn job search strategies such as cold calling and cold visiting. At the time
of the interviews, all immigrants had developed their own philosophy and tactics about
self-marketing. To#4, for example, was sensitized to the notion of commodified labour
before immigration through an encounter with a colleague from the US. He said:

I have an [American colleague] in China [from an international program]. He [gave me some advice about life in Canada]: “when you are looking
for a job, you are a commodity”. “You need to sell this commodity”. “Everyone is a commodity”. “When you look for jobs, you are selling
yourself”. “You should see how much money you are worth. If you are
worth much, you do not have to sell yourself short”.

For many of these immigrants, they started to learn of the ruling power of the
exchange relations when they had to translate their work experiences into a marketable
résumé. To many of the interviewees, a résumé initially meant a brief written account of
their educational and professional qualifications and experience. Over time, they came to
see a résumé as a document produced for the consumption of employers and started using
résumés to speak to the skill expectations of employers. For example, To#6 related his
changing job search practices this way:

Initially, I put in my résumé what I was good at. I did not try to match
myself with what was written in job ads. They did not even give me an
interview opportunity. Later, I tried to align myself with what is required
in the job ads. I put exactly the kind of skills that they required [in the job
ads]. But of course, you should not lie. What you should do is to put down
what you have that can match the job. Actually if you do not study their
job descriptions, and you present who you are, experts could still tell that
both résumés are the same although the presentations are different.
However, if they do not pay close attention, they would dismiss those
experiences as irrelevant.
While initially he presented who he was, and how he could be useful, he later learned to bracket certain aspects of the self and shaped himself into a “product” demanded by employers. To a certain extent, while operating in an exchange relation, their notions of the self changed as well. In the language of Marxism, he learned to present his potential exchange value instead of his use value.

It has to be mentioned that one crucial problem that many of the immigrants were faced with was language. Yet, my careful reading of the data also shows that it was not so much through showcasing their English facility as communicating their productivity that immigrants won their first opportunity in the engineering profession. For example, Tor#05 related that for his first interview with his first employer, he did not know how to respond to the simple greeting “how are you”. He also had difficulty describing his past experiences in China to the interviewers. He however managed to demonstrate his expertise with a pen and paper and eventually got the job.

My data also shows that communication is never a one way practice. It is always a two-way street. For example, Ed#6 had problems communicating his off-shore experience to employers working on on-shore projects. He had ten failed interviews before he finally landed his first engineering job. Ed#6 mentioned that he kept rephrasing his experiences so that people who were not experts in the structural fields could understand his experience. On the other hand, he emphasized that he was recognized by the first structural engineer who interviewed him. What Ed#06’s story shows is that although often people put the onus of communication on the speaker rather than the receiver, in practice, it takes both the speaker and the receiver to make communication
possible. Yet, in many cases, it is the immigrants who are expected to make themselves understood, recognized and appreciated.

It has to be noted that immigrants’ marketing endeavours should not be considered an individual practice. Rather, it is often a familial strategy. Eight of my immigrant interviewees had a spouse with engineering backgrounds as well. Yet these families tended to invest in the male first for their professional job opportunities. It is often the male spouse who went out to learn, for example, English and job search strategies while the wives took up service jobs to sustain the family first (see also Shan, 2005). The only case where the husband did labour intensive job to support the wife’s re-schooling decision was because he “[was] a man” and he [had] the “responsibility to protect the woman.” (Ed#5)

In most cases, when asked why the husband was the first person to focus on locating a professional job, a few immigrant respondents reported that the husbands’ English was better than their wives. Such a claim may have certain material ground. In particular, it has to do with immigrants’ different professional exposure prior to immigration. Among my five women interviewees, only one, To#7 participated in company-sponsored English training in China. In contrast, four of my male interviewees, ED#3, Ed#4, To#1 and To#5, were sent by their companies to work and study in the US and in Canada for between a month and a year. To#04, a male interviewee, almost got an opportunity to be trained in the US, but he gave that opportunity to his wife. He said:

[In my workplace in China] I joined the Motorola project first, ahead of my wife, as I was more experienced. The head of the institute asked me whether they should send me or my wife aboard. He told us to make the decision between us. He said that after this project, there would be another
[plan] to send people over to the US. He said that I would have far more opportunities than my wife. So I gave this opportunity to my wife.

The uneven gendered dynamics that comes with men and women engineers’ career opportunities in China is reinforced during the immigration process. It enters into the way in which engineer couples negotiate their job opportunities in Canada, and decides who in the family can focus on professional job search and when to do so.

**Identifying a field and niche to target — aiming low**

While being able to speak to employers’ labour and skill need is crucial for immigrants to get into the engineering market, being able to do so may involve downplaying their employment goals. Table Four below contrasts immigrants’ first engineering jobs and fields in Canada with their last jobs and fields in China. Except for one (Ed#5), all other immigrants started their engineering career in Canada at a lower level than their last positions in China. The majority of them got their first engineering jobs as draftspersons, technicians, or designers. Such a change was not only a downward mobility. It sometimes meant changes to a different field with a perceived labour demand. Ed#6, for instance, shifted from off-shore structure design to on-shore structure design. Ed#4 switched from industrial automation to chemical design. To#3 changed from wastewater treatment to cosmetic lab work.

Instead of belabouring the point that immigrants are largely under- and un-employed in Canada, which is well expounded in a number of studies (Boyd, 2000; Boyd & Thomas, 2001, 2002; Slade, 2003), I focus on how my immigrant respondents came to identify the field and niche that they planned to target, which involved learning of their secondary employment status in Canada.
Table Four: Last position in China and first engineering position in Canada

<table>
<thead>
<tr>
<th>No.</th>
<th>Last employment before immigration</th>
<th>First employment in the engineering job in Canada</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Position</td>
<td>Field and place</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Field</td>
</tr>
<tr>
<td>Ed 01</td>
<td>Engineer&lt;sup&gt;2&lt;/sup&gt;</td>
<td>Civil/industrial structural</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Specialist (Edmonton, AB)</td>
</tr>
<tr>
<td></td>
<td>Engineer</td>
<td>Civil/industrial structural</td>
</tr>
<tr>
<td>Ed 02</td>
<td>Engineer</td>
<td>Civil/industrial structural</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Specialist (Edmonton, AB)</td>
</tr>
<tr>
<td></td>
<td>Senior engineer</td>
<td>Mechanical</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Technician (Manitoba)</td>
</tr>
<tr>
<td>Ed 04</td>
<td>Engineer</td>
<td>Mechanical/Industrial Automation</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Designer (Edmonton, AB)</td>
</tr>
<tr>
<td></td>
<td>Project Manager</td>
<td>Mechanical</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Project manager (Edmonton, AB)</td>
</tr>
<tr>
<td>Ed 06</td>
<td>Senior Engineer</td>
<td>Civil/off shore structural</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Designer (Calgary, AB)</td>
</tr>
<tr>
<td></td>
<td>Engineer</td>
<td>Civil/commercial structural</td>
</tr>
<tr>
<td>ED 07</td>
<td>Engineer</td>
<td>Civil/commercial structural</td>
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<td></td>
<td>2</td>
<td>Designer (Calgary, AB)</td>
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<tr>
<td>To#1</td>
<td>Engineer</td>
<td>Electrical</td>
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<td></td>
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<td>Engineer</td>
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<td></td>
<td>Research associate</td>
<td>Civil/wind engineering</td>
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<td></td>
<td>2</td>
<td>Specialist (Toronto, On)</td>
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<td></td>
<td>Chemistry engineer</td>
<td>Chemistry/waste water treatment</td>
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<td></td>
<td>2</td>
<td>Technician (Toronto, On)</td>
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<tr>
<td>To#4</td>
<td>Engineer</td>
<td>Mechanical/ HVAC</td>
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<td>2</td>
<td>Draftsperson (Toronto, ON)</td>
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<tr>
<td>To#5</td>
<td>Engineer</td>
<td>Civil/commercial structural</td>
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<td></td>
<td>2</td>
<td>Draftsperson (Toronto, ON)</td>
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<tr>
<td>To#6</td>
<td>Senior Engineer</td>
<td>Civil/Hydro</td>
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<td></td>
<td>2</td>
<td>Draftsperson (Toronto, ON)</td>
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<tr>
<td>Tor#7</td>
<td>Engineer</td>
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<td></td>
<td>2</td>
<td>Draftsperson (Toronto, ON)</td>
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2 For a description of all positions, please refer to page 77-78.
There seem to be many ways in which immigrants learn about the host labour market: from a training program, from a book, from an acquaintance or a friend, etc. Among them, studying job advertisements was a major way of learning. For example, To#5 related that once he decided to look for a job in Canada, he started paying attention to the newspapers.

When I decided to look for an engineering job, I looked at the job section [of Toronto Star] more carefully. I also went on some job search engines … in the job ads, I found that [many engineering companies] needed AutoCAD 2000, and Microstation for example. … I made a few Chinese friends [here], who have engineering backgrounds as well. I invited them over to my house for beer. One of them gave me a few tips about AutoCAD. We also exchanged information on Microstation.

If To#5 studied job information to identify what technical knowledge he needed in order to get into the engineering profession, To#7 looked at job advertisements to identify job niches with which she might have a better chance.

I: At that time, I was applying for CAD drafter. At that time, they were looking for CAD drafters.
S: In China, do we have distinction between engineers and drafters?
I: In China, no. We have only engineers [doing all jobs].
S: How did you get to know the difference then?
I: Here, [my husband and I] sometimes go on-line to look at other people’s résumés. We also look at job advertisement and information. We see that they have designers and drafters. We think that drafter positions are lower. As we were new, we thought those would be easier for us.

It is clear that To#7 tried to align herself with the skill and labour demand of employers through downplaying her job expectation. A drafter is not expected to design or conduct calculation work. The job of a drafter is to computerize the blueprint and the design work
of engineers. In China, there was no corresponding position. Yet, just because this position required little of her expertise, To#7 decided that she had a better chance with it.

Not only did my immigrant respondents downplay their employment expectations, some immigrants also decided to switch their fields of practice. In the case of To#6, he could not stand the owner of the first company where he wrote and deduced engineering formulas; so he tried to change jobs. Interestingly, he did not intend to change back to mechanical engineering, his field of training in China. Instead, he started to switch to structural design through attending a training program at a private school in Toronto.

Actually I am not very interested in structural work, not in residential structural work. I am always interested in heavy mechanical engineering, as I studied mechanical engineering at school. I studied things about cranes. So when I chose to do my post-graduate program [in China], I chose hydro-power. I wanted to be involved in the Three Gorge program. Actually I was involved in part of the Three Gorge program. The major reason for me to study structural [in Toronto] was that I did not want to stay with the previous company any more. As long as I could find a place and leave that company, I would be fine. I could not find any other channels. … residential structure had a bigger market. There are a lot of job ads for structural engineers.

There is little wonder that when immigrants tried to locate a field to target, they relied heavily on job advertisement and information, which related employers’ skill expectations and labour needs. The possible pitfall, however, is that job information may not be accurate all the time. In the fifth annual International Educated Professionals (IEP) conference in Toronto, Damindra Dias, the first female and the first visible minority recruited to the management cadre of Kellogg Canada, the first Female Finance Director
and first ever female Chief Executive Officer (CEO) of a Division of the Kellogg Company, currently an employment counsellor, revealed the following:

…some of the websites have jobs that do not exist; only 50% of the jobs [posted] are real. Some companies use job search engines to promote themselves (Field notes, October 18, 2007).

While reading job advertisements is an important means for immigrants to learn about the Canadian labour market, job advertisements do not accurately reflect the labour market demand. Given that immigrants have little other source of information to guide their employment strategies, they are further put into a disadvantageous position.

**Becoming mobile workers at the beck and call of capital**

Some of my immigrant interviewees, particularly those in Edmonton, pointed out that being at the right “place” and “time” was one crucial condition for people to get jobs. All my Toronto interviewees chose Toronto as their landing city except for two (To#3, and To#6). None of my Edmonton interviewees chose to land in Edmonton except for one (Ed#5). One of my interviewees relocated to Edmonton for post-graduate study; five of them relocated for job-related reasons.

Ed#4 was a senior engineer in a big oil field in China. He initially landed in Vancouver in 2001. A year later, he moved to Alberta in search for a job. This relocation decision came about after he carefully processed a mix of information. First, he was constantly told by his fellow Chinese that it was impossible for newcomers to find professional jobs.

Lots of people in Vancouver did not believe that it was possible to find [professional] jobs for new immigrants. [My fellow Chinese] did not see any possibility to that. None of them found a professional job. All were new immigrants; many went back to school.
It does not take long for immigrants to learn of their negative employment prospects in Canada. However, Ed#4 did not give up his search for a professional job. He was then directed to look for a job in Alberta after a few encounters with employers.

When I first landed in Vancouver, I did not know much really. After a year, I found out that it was very hard for people like us to find jobs in Vancouver. …I went to see a few managers in engineering companies. I thought that if it was possible, I should go back to designing work. I talked with these managers … and got to know that there had been people leaving Vancouver and that a lot of people had been laid off (in Vancouver) and gone to Alberta. I was not familiar with Alberta at that time either. …(but) I thought to myself that I was not going to work at labour job all my life.

Ed#4 avoided competing in a market where local engineers were having problems locating jobs. He subsequently moved to Alberta.

In some cases, immigrants made a point not to compete in a market where job opportunities were rare. For example, To#5 did not think that it served any purpose to look for jobs when the labour demand was low. He suggested:

[T]ake a look at the number of [job advertisements] in your field, you will know how much a chance you have… in the latter half of 2004, you could see that the engineering market in Alberta was getting better. The number of jobs on Workopolis and Monster for civil engineers was going up. I heard that people started to get phone calls from Alberta. [You then should] start looking [for jobs] seriously.

For To#5, learning about the demand and supply situation of the labour market was also about learning their secondary positions in the labour market. For him, in a labour market

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3 Workopolis and Monster are two job search engines.
where there were not enough jobs for the locals, it made no sense for immigrants to look for jobs.

To make space for themselves in the labour market, many of my immigrant respondents were compelled to be mobile at the beck and call of capital. In my email communications with my interviewees, Ed#7 offered me some updated information of himself:

….. you must [have heard] about the [additional] 20% oil royalty [proposal]. [My company] had a few projects suspended, but [it] [already] hired additional hands for those project[s]. I heard that they would lay off people. As a contact worker, I will be among the first [to leave]. I am looking for jobs again, and I might take up a job in Saskatoon [which is likely to be the second Alberta]. (Personal communication, September 21, 2007)

Ed#7, as well as a few other interviewees in Edmonton, was concerned with the possibility that the oil economy in Alberta might sharply decline. At the time when we communicated over emails, because of the possible royalty hikes, many oil companies slashed or threatened to cut back their investment in Alberta. That some of my immigrant respondents were compelled to ride the economic tide tells of insecurity that they felt in a fickle capitalist market where they enjoyed but a secondary status in the labour market.

In this section, I showed how immigrant respondents took on new practices and repositioned themselves in order to enter the engineering profession. At the centre of their strategies was to address directly employers’ needs and skill expectations at the “right” place and time. In other words, the skill discourses, disseminated in part through job advertisement and job-related information, coordinated immigrants’ efforts positioning and presenting themselves in the Canadian labour market. Immigrants’ market-oriented
learning directs my investigation to social processes that lead to immigrants’ learning efforts in the next section. In particular, I look into the hiring practices where the notion of skill is constructed and operated by people across social sites.

**Mapping the managerial and administrative hiring complex**

As I have shown in the last section, the labour market learning experiences engaged by my immigrant respondents are mediated through employers’ skill expectation as well as their perception of the labour market needs. Taking their particular learning experiences as the problematic, I am prompted to inquire into the social relations that actively organize immigrants’ learning practices. This complex of social relations, or “a managerial and administrative hiring complex”, I argue, is both discursively constructed and materially operated through the work of key stakeholders in the hiring processes. In this section, I first examine how the dominant notion of skill is discursively constructed by looking at the accounts of my key informants. I then, in the next three sub-sections, examine the hiring practices of immigrant training services, recruiting agencies as well as engineering companies respectively. Through this empirical examination, I show how the skill discourse is enacted and at times reconfigured in the actual recruitment process to serve employers’ interests for profits.

**The dominant skill discourses**

The socially and discursively constructed property of skill has been well recognized. In particular, critiques have been directed towards the gendered, racialized, and class-based property of skill (e.g. Cornell, 1987; Darrah, 1997; Green, 2001; Jackson, 1991). Among others, feminist research has pointed out that the abilities that women acquire often go unnoticed and unrewarded (e.g. Kessler-Harris, 1982; Ng, 2000,
2005); women’s entrance into male dominated jobs may also lead men to “reassess” the "skill extent" of their jobs (Cockburn, 1983). Further, research has extensively documented that the definition of legitimate skill in the capitalist market often serves to preserve the interests of the dominant white and male powers. For instance, when Moss and Tilly (2001) assess employers’ desire for hard skill and soft skills in the context of the United States, they find that managers often conflate appearance, ways of talking, self-representation with possessions of soft skills. Hence, they argue that the increased desire by employers for soft skills serves to exclude non-white applicants, and add to the segregation of the labour market along the racial line.

The focus on skill itself is essentially a class phenomenon closely related to the labour process. In the Coming of the Post-industrial Society (1972), Bell lauded the revolutionary role of information knowledge and technical skills. Today, more and more personal traits are attributed as skills, such as reliability, punctuality, responsibility (Payne, 2000; Oliver & Turton, 1982), and “right attitudes and dispositions towards work” (Stasz, 2001, p. 386). This expanded definition of skill correlates with, and indeed supports, the shift of industrialised nations towards a service economy, where personal emotions, attitudes and ways of presentation are made relevant in employers’ profit-making process.

It needs to be pointed out that gender race and class relations are often intertwined and interwoven in the definition of skills. For example, Collins (2002) studied a garment factory that moved jobs away from unionized women workers in the US to search for inexperienced workers in low-wage regions. Interestingly, the managers of the factory justified the move by portraying garment skills as naturally occurring resources for
women in developing countries. This case clearly shows how gender and race relations intersect with the labour process to preserve employers’ interest in maximizing profits.

My study adds to the discussion of the social construction of skill. Through examining what skills meant to my key informants involved in hiring practices, I show that the construction of skills is closely related to people’s respective social positions and is deeply implicated in a hegemonic project in naturalized, objective, and/or cultural terms to preserve the existent social order and social power, which is white and macho.

Fourteen of my eighteen key informants are employers, HR managers, HR recruiters, project managers and senior engineers who were involved in hiring for engineering companies. Without exception, all key informants related that they determined job applicants’ desirability by assessing their “hard” versus “soft” skills. Hard skills refer to technical expertise required for particular positions. According to the key informants, hard skills are often easy to observe by looking at people’s educational and work backgrounds. Compared with hard skills, the notion of soft skill is less than straightforward. All except for one key informants mentioned communication as a soft skill. Other soft skills mentioned include being personable, teamwork, and leadership. Below are the criteria used by KeyAB5, a senior engineer and principle, to assess job applicants:

Well, the background, the technical background. You know, if people came from a reputable university that is well-known to us so that we can gauge their education. The companies that they worked for, their previous experience, types of projects that they worked for before. So we value solid technical skills, but we also value the so-called ‘soft skills.’ Good communication, good ability to relate to people, good ability to listen and understand your clients’ needs. We’re a service company, right, we’re
consultants, so we need to be very attuned to clients and their needs. So the whole area of communication is very important to us. Both oral communication, but also written communication, because our product, the product that we finally sell, is a report, that needs to be well-written, communicated well.

At first sight, this particular construction of skill, which typifies the responses of my informants, seems to be objective, rational, and profession-oriented. A closer look at this particular construction shows that it is exactly through such a construction of skills that the existent power relations and social order are preserved and reproduced.

What KeyAB5 related above shows a sentiment common among many employers: they do not want to take risks by hiring someone whose background is little known; they would like to have a great deal of assurance. When employers use proxies such as university and company names as a way to evaluate people’s hard skills, they disadvantage job applicants from countries not well known to Canadians.

It is no news that immigrants’ credentials and work experiences are discounted in Canada (e.g. Reitz, 2003; Shan, 2009b). What has to be pointed out is that not all immigrants’ credentials are discounted in the same way. Esses, Dietz, and Bhardwaj (2006) studied the response of Canadians to immigrants’ résumés from different countries. They find that indeed prejudice plays a role in discounting immigrant skills and experiences. Most interesting is that credential discounting becomes most evident when the job applicant is an immigrant from a non-Western country. For the Chinese immigrants, their credentials and work experiences are “automatically” devalued.

In her emphasis of technical and communication skills, KeyAB5 conveyed a sense of detachment and objectivity, which is a fundamental assumption of the
engineering profession (Carter & Kirkup, 1990). While she argued that oral and written communication skills are needed given the nature of consulting services, what is downplayed is the kind of communication linked to social relationship, which is often associated with femininity and subjectivity (Carter & Kirkup, 1990). That is, when she underscores business or business-like communication, she also downplays the kind of communication that helps build a collegial environment.

The issue of communication, it should be emphasized, is a common concern of my respondents. To many people, communication competence is a matter of language and a matter of speaking and writing to convey meanings. In my study, KeyOn7, a freelance researcher on skill needs of the engineering profession, gave more thoughts to the issue of communication. He pointed out that communication is in part about different valuation practices that conveniently distinguish “us” from “them”:

[recruiting practices are]… heavy, heavy, heavy on the soft skills, and the communication skills, and again, the ability to integrate and communicate with people that are… that are not the same. … the people who have well-developed… social skills [are] people who are … like them……‘cause if you look at the worldview of a newcomer, compared to someone who grew up in Toronto, [who] went to UofT, did the engineering… and then you have a younger person and a mid—an older-person…there [are] quite a few differences. And essentially it comes down to where people’s values are, what they believe in, in the context of who they are.

That is, English communication skill is far from solely a language issue. What KeyOn7 implies is that communication is essentially about cultural value.

While not denying that English communication is a culturally-charged phenomenon, I wish to push the argument further by arguing that the discursive emphasis
on cultural differences serves to preserve relations of difference and obscure issues of power. To start with, the hyper-tension around English language is deeply problematic. In Mirchandani et al.'s (forthcoming) study of immigrants’ contingent worker in call centres, retail stores, and garment factories, they argue that privileging English is key in preserving the domination of certain groups over others. Slade (2008a), drawing on Miles and Brown’s work on ethnicization, argues that language is “one of the signifiers around which the labour market exclusion of immigrant professionals is organized (p. 47)”.

Amin (Amin & Kubota, 2004), reflecting on her experiences teaching English as Second Langue teacher in Canada, poignantly points out that accents, “like race, are a linguistic manifestation of nativism and constitute a new and effective form of racism” (p113).

I argue that constructing communication as a cultural phenomenon is itself a discursive way of downplaying the social relevance of race while privileging local trained engineers. Such a construction manifests the social anxiety towards immigrants from non-traditional immigrant source countries as they bring with them different values and practices, which may undermine the established practices and shared values in the Canadian society (see also Dunk, 1996) and threaten the white supremacist power.

It has to be pointed out that the culturally-charged notion of skill is not only racialized. It is also a class-based phenomenon (see also Cornnell, 1987; Darrah, 1997; Green, 2001; Jackson, 1991). My key informants have at times attributed differential social significance to different kinds of skills (or personality) depending on their business needs. For example, amid the overwhelming emphasis on communication, KeyOn1, a small business owner in Toronto, did not think that communication should be a concern. Rather, he saw “loyalty” as the most important criterion in his assessment of job
applicants. He complained that many of his employees, after getting their work experience, moved on to bigger companies that offered better salary packages. Obviously, when KeyOn1 emphasized loyalty as the key criterion, he was speaking from his position as an owner of a small engineering company that had a hard time retaining employees. Interestingly, loyalty is not mentioned by any other key informants, not even by those whose companies (mostly large engineering companies serving the oil and gas industry) were facing huge turnover rate in Edmonton. While some of these employers expressed concern over the huge turnover rate, they counted on attracting employees from other companies to meet their labour demand. Instead of extolling loyalty, they emphasized offering competitive packages and training benefits in order to retain and attract employees.

As my analysis so far has shown, the skill discourse, as constructed by the key informants, is essentially gendered, racialized (culturally-charged), and class-based. It serves the productive process while at the same time preserving the dominant white male power. This discursive construction of skills does not operate in the abstract. Rather, it is produced and perpetuated in how the hiring work is actually conducted. Below, I piece together the hiring practices in the engineering field where the skill discourse is enacted to produce opportunities for immigrants.

**Canadianizing immigrant labour: the work of immigrant training services**

More than half of my immigrant respondents used immigrant training services, and one (To#5) actually landed his first job in the engineering profession through an employment service program. My study shows that immigrant services do play a role in assisting immigrants in their job search process. In practice, they impart hands-on job
search strategies by “Canadianizing” immigrants’ behaviours and practices so that immigrants’ labour can be marketable in the Canadian labour market.

In my study, all immigrants mentioned that immigrant services can be an important resource for them. For example, To#7 recounted:

When we first came, life was kind of tough. I then started doing labour work in a restaurant while [my husband] was studying LINC (language instruction for newcomers). At night, he would also go and work four hours in a food court. …Anyway the material [that was useful to us] is Scott’s [Toronto Business Directory]. There are a few directories that are similar to it, [which] list company information according to disciplines. My husband discovered it when a LINC teacher took him along with other students to Toronto Reference Library.

As a side note, although immigrant training services are open to all immigrants, immigrant professionals do not have equal access to these services given their division of responsibilities at home. In the case of To#7, the woman was the main provider of the family while the husband was the one exploring job resources in order to get into a professional field.

Aside from leading immigrants to employment resources, immigrant services also equip immigrants with different job search strategies. In the IEP conference, I, along with a number of other immigrants, went through some job-related training. Many of the seminars in the conferences were hands-on. For example, Dias, an immigrant employment counsellor instructed us to “make our résumé Canadianized”. She taught the audience what a Canadian résumé looked like and shared with us why our résumé has to be Canadianized. Here are my notes taken at her talk:
Employers receive 600-800 résumés per job advertised. You already lose
your opportunity if the first few lines do not capture the HR people’s
attention…. Guess who the HR recruiters are? … They are most likely to
be 24-30 years old blond Mary. …they are not going to have heard the
name of the big bank you worked for in India. You need to “put a
preamble to your companies not known to Mary”. You have to “make
your résumé Canadian”. You have to “make yourself sound very Western”.
You have to use terminologies used in Canada, you have to show: “you
asked for those skills, and I’ve got them”. You have to “show I have these
soft and hard skills that match the job posting” (Field notes, October 18,
2007).

To a great extent, immigrant training encourages immigrants to reconstruct themselves
(V. Smith. 2001) in order to market themselves. It is also noted that such services do not
only teach people what is acceptable and desirable in Canada. They also directly
participate in producing desirable workers for the capitalist labour market. For example,
To#5 attended two immigrant training programs in Toronto. While he initially resisted
the teaching at the first training centre, he became a “best” student at the second one.

Below is his experience on the first program.

I was passing my time at [the first training centre]. There was an instructor
that I did not like at all. She talked to us in a very condescending
manner….I was a difficult student for her. At one time, she kept on talking
about “Canadian ways” and “Canadian styles”… I questioned her and
said: “Isn’t Canada a multicultural society?” Now that I think about it, I
was not being fair to her. She was just doing her job. And indeed,
wherever you go, you have to play the rules if you want to integrate into a
new society.
To#5 reported that this particular center also reached out to employers. When employment opportunities emerged, the staff would convene and discuss who they would send to meet the employer. To#5 was never sent for an interview because he was not considered “employment-ready”.

To#5 learned his lesson the hard way and became a “teacher’s pet” in the second training program where he “even erased the blackboard for the teachers”. He started to see that “Canadians need personal space, and they do not like it when you get too close to them”, and that “it is considered rude if [people] speak loudly”. To a great extent, he was learning to take on and perform the habitus (Bourdieu, 1972), or ways of acting and valuation, of the mainstream. Through the second co-op program, he was connected with a paid work placement as a draftsperson in an engineering company.

Whether To#5 was faking his obedience and conformity in the second program is beyond the scope of this study. What is clear is that when helping immigrants enter the Canadian labour market, training programs also relay to immigrants the preferred behaviour patterns and valuation systems of the Canadian society. Going through immigrant training programs could be a significant moment for immigrants to ‘re-form” their social values and “re-mode” their personal practices.

**Skill matchmaking and beyond: the work of recruiting agencies**

To understand the complexity of hiring practices in Canada, it is important to understand the work of recruiting agencies. Below, I look at the work that recruiting agents do, the relationship between recruiting agents and job applicants, as well as between recruiting agents and employers.
To many immigrant interviewees, using job agencies was a new concept. They were not always clear about the role of job agents. An introduction from KeyAB7, an account manager at a recruiting company sheds light on the role of job agencies.

[Recruiting business] is as old as capitalism. The very nature of the capitalist exercise is that if you are worth $10 per hour, the employer is going to charge $15 per hour for your services. And that $5 an hour is, for lack of a better term, profit, goes to the owner of the business. And that process has been going on for hundreds of years. Anytime you work for any company, it is going on. The owner of the business is making more money off of you than they’re paying you. … So the only difference between what I do and what has been going on for hundreds of years is that it’s all that we do. It’s all that I do. It’s not, I mean we don’t provide an additional service. We, we are, we just help companies find people and then once they find them, we put ‘em on our payroll. That’s all we do, we don’t… an engineering company will hire an engineer and pay that engineer $80 an hour, and bill that same engineer out for $200 an hour. And that difference goes to the owners of the engineering company. It’s the same process, it’s just that we don’t do engineering, we just find people.

Recruitment businesses exist to serve employers’ labour need as well as people’s needs for jobs. It is part of the complex division of labour in a market economy. The commodity that recruitment businesses deal with is labour, or in Marxist language, labour power. Recruiting agencies look for it with the sole purpose of selling it. While the recruiters for engineers do not charge job candidates for a fee, they do get paid from the companies receiving their services. Some get a lump sum of money from the hiring companies and then stop having anything to do with the job candidates. Others make the job candidates their contract workers and put them on their payroll; that is, engineering
companies pay the recruiting agencies regularly, and the recruiting agencies pay the employees out of their accounts, taking away a percentage of salary from the employees.

In their search for labour, recruiting agents in part go by the skill requirements specified in job advertisements. For example, KeyON3, an owner of a recruiting agency and a recruiter herself, related to me one of the first steps she followed to find the right candidates:

I would [use software] just for résumé screening. Résumé screening just gives you the right résumé to look at. If AutoCAD is mandatory and it is not in the résumé it is pointless to move on …if… you want to find such and such and then you want to type the key words in [the software]. … like a sieving process… it is very preliminary. And you only need to type in things that are absolutely mandatory. You do not want to lose the ones that are valuable just because you do not know what keywords you should put in.

At the core of the recruitment business is for recruiters to match people with employers’ skill demands. This skill-matching exercise seems to be a straightforward process. Yet a complex of relations between the recruiting agencies and job candidates, and relations between those recruiting agencies and employers complicates the picture.

To start with, immigrants reported that job agents could be their friends and foes at the same time. Given that selling others’ labour (power) is the primary source of profits for recruiting agencies, some immigrant interviewees found that job agents were “actually on their side”. For example, To#1 said:

The agent actually stood on my side. [S/he] changed my résumé.
Originally, my résumé was two pages. As my format was not good, they changed it and it became two and a half pages. So I was surprised to hear that my manager said that my résumé was two pages and a half. Actually
the agency changed my résumé. Of course they changed only the format but not the content.

Selling the labour (power) of job applicants is the common goal of both job applicants and recruiting agencies. Because of it, job seekers and recruiters may actually be in a competitive position. To#5 recounted the following:

One time, I got a phone call from a job agent. We had a good conversation. I told her to send me more details about the company to which she was trying to sell me. She would not give me the name of the company, and I was told that the company would not accept individual résumé. I told her that I had to prepare myself for the company. She sent me a few lines. I copied and pasted one line in google [an Internet search engine], and I found the name of the company that was recruiting. What is interesting is that on the company’s website, it says that it welcomes job applications.

Job agencies and job applicants may also be allies because their common goal is to market the labour of the job applicants. Yet they can also become competitors for the same reason. In either case, recruiters and recruiting companies are one important player in the labour market, which adds to the complexity of the labour market relations that immigrants have to navigate.

It has to be noted that recruiting agencies are not unlike job seekers. The only difference is that if job applicants try to market themselves and connect themselves with the labour market, job agents specialize in marketing job candidates and networking with employers. As shown above, part of the job of recruiting agency is to find the “right” job applicants. One other major part of the recruitment business is to work with different companies on hiring matters. In other words, recruiting agencies need to connect with
employers and develop insider knowledge about various companies’ hiring needs. My study shows that job agencies develop different networks with different companies, employers and managers, which show some administrative uncertainties inherent to the hiring process. The following is KeyOn3’s account of the ways in which she worked with different companies:

[In terms of recruiting] some companies will have better planning than others. … But again, if you look from the businesses perspective, some companies are kind of messy, not process driven. So you have 20 middle managers, each has his (sic) favourite recruiting company. Some go front doors and some go backdoors, sideways. Some could just get a job without interviewing. I’ve done it all. But the vision for us is that they are all clients. Then we can work with it. Larger organizations… sometimes, process oriented sounds nice but sometimes, there is a lot of bureaucracy.

From the employer’s perspective, sometimes, the hiring web woven with different recruiting agencies could be an administrative “hassle”. In an article in Canadian HR Reporter, Vu (2007) reports the problems facing Nancy Elson, a recruiting lead at Siemens Canada, an engineering services firm employing just under 8,000 employees at 17 locations across Canada. In this company, hiring through temporary or staffing firms represents 10 percent of the overall recruitment. Before Nancy joined the company, there was no standard practice as to which manager was hiring from which agency; each manager had his/her preferences. After she joined the company, a centralized recruiting team of four was established to try to reduce the company’s use of recruitment agencies. Yet, she found it hard to stop other recruiters from “selling” people to department managers. That posed a “hassle” for Nancy, as she would not be able to keep track of all job applicants in her database.
All the stories of how hiring agencies work with employers or vice versa point to a complex of administrative relations. There is no doubt that hiring agencies work to match job candidates with employers’ skill demand. In other words, employers’ skill demands coordinate recruiters’ work, particularly their work in identifying potential job candidates. Yet, what is clear is that the kind of recruitment network, or hiring channels that job candidates tap into, also bears on their job opportunities and chances. For example, Ed#7 related the following:

Sometimes, recruiters will tell you that you can only get the job through them …, and that might be true. My agency is very capable. I think his company has a large network with different [engineering] companies. It works mostly with big companies. At one time, I had an interview with one company [through the agency], and then never heard back from the company. The agency told me that the project that I was meant to get in was suspended. Two months later, the agency arranged a second interview for me, and with a different project manager. This time, I was accepted right away. But I did not accept the offer…. I get a feeling that personal relations can be very complicated in that company and I do not want to step into a mine field.

This particular recruiting agency actually got Ed#7 interviews with different companies and asked him to choose one. Eventually, he became a contract worker for this agency and started working for one of its clients (companies). His story shows vividly the complicatedness of the hiring complex of which job applicants may not be aware and yet in which they are deeply implicated. Ed#7 said that this was the best agency he has ever worked with because it could “sell” him to companies that other agencies could not. That is, the same person with the same skill profile may be received differently by the same company simply because of a different middle person.
Employers’ hiring practices

One central piece of the hiring complex is how employers hire. In this section, I look closely at employers’ hiring channels and needs, as well as how they recruit at different time and place. I show that employers’ hiring channels are largely network-dependent and that their hiring needs are often project-based. The former makes the engineering market less than amenable for immigrants, whereas the latter essentially renders immigrants a secondary labour pool that is desirable and dismissible at the same time. I start by examining the hiring channels and hiring needs of employers. I then look closely at how employers differentially invoke on the discourse of skills at different times and places to serve their interests for profits.

Network-based hiring channels and project-based hiring needs

Engineering is a very strange industry, and it is very much based on networking. It is based on networking, and who you know. It is like … We are in the same team. We change team, but the players remain the same. … You know if [one company] does not get [one project up for bid], another is staffing up because they are getting [it]. People will move because they want to work…If you recognize the company, you are right for the picking. That may be a perspective for the immigrant type of focus. When immigrants come to Canada, they do not have any of those networking. That is also a negative. So they do not have the relationship. They are unknown…

In the above account of KeyOn9, a project manager, it is clear that hiring practices in the engineering profession are both network-dependent and project-based.

Lack of social network is reported to be holding immigrants back in the host labour market (e.g. Bagchi, 2002; Behtoui, 2007; Srinivasan, 2007). My study does not focus on the availability of social network for immigrants. Instead, it shows how the
hiring practices are dependent on personal network and contingent on the size and scope of engineering projects. My key informants reported a number of hiring channels for engineering companies: referrals, internal posting, attracting new graduates, selecting from unsolicited résumés, external posting (on newspapers or on the Internet), using head-hunters or job agents, and using job fairs. Often, each company uses a number of hiring channels at the same time. Yet, many key informants related that networking, or internal posting and internal referral were a most common practice for their respective companies. This corroborates the picture presented by Dias in the IEP conference in 2007. According to Dias, not all jobs in Canada are publicly posted. Forty to forty-five percent of the jobs in Canada are filled through contacts; twenty to thirty percent of the jobs are not advertised widely; more companies seek referrals from their employees; and referrals lead to sixty percent of filled jobs (Field notes, October 18, 2007). That is, hiring in Canada is largely based on a close-knit social and professional network.

Not only are hiring practices network-dependent, they are also project-based. In other words, many engineering companies are largely dependent on a contingent workforce that can be amassed and dismissed at times. Many studies are concerned about the use of temporary workers in low-wage sectors (see Vosko, 2000, 2003; Sassen, 1999). My study clearly points out that employers in high-end professional sectors also depend more and more on a flexible workforce (see also, Barley & Kunda, 2004; Smith, V. 1999). According to Watlington and Radeloff (1997), the world of work has changed since the recession at the start of the 1990s, in particular in the US. Most engineering work now is project- or problem-based with clear beginning and end. Firms contract and expand their workforce depending on the size and number of projects, which involves a cost of hiring
and releasing. To minimize such a cost, more and more firms resort to the use of contract or contingent labour (Watlington & Radeloff, 1997).

In my study, the use of contract workers is more pronounced in Edmonton than in Toronto. Whereas all except for one immigrant respondent worked as contract workers in Edmonton, all interviewees worked as permanent staff in Toronto. This difference may have to do with the fact that all my interviewees in Edmonton except for one were working in oil and gas related industry, which is a cyclical in nature (Ranson, 2001; 2005). According to a 1995 report by APEGGA, the cycles of boom and bust in the energy industry during the 1980s has restructured the employment patterns in the engineering industry. Permanent employment with one company became less likely. Instead, contracting and consulting arrangement started to become the norm (Ranson, 2001). While contract work is most pronounced in Alberta, it has to be mentioned that some of the people working on so-called permanent terms in Toronto were not all confident that their jobs were permanent. As To#5 mentioned, “there is no permanent job in Canada as there is no permanent business”.

The network-dependent and project-based hiring practices make the engineering community simultaneously tight and loose. It is tight in that the network-based hiring complex makes it hard for immigrants to enter the engineering community. It is loose as the project-based engineering work requires a workforce that can be assembled and disbanded at short notice. In other words, the project-based hiring need means that a reserved labour pool has to exist to support peak seasons. Immigrants, who are “culturally” different from the mainstream society and who do not have the necessary
network are conveniently made into this secondary labour pool that is disposable and yet indispensable at the same time.

In my study, the secondary status of immigrants’ labour becomes most clear. For one thing, at times of economic expansion, employers may actively reach out to immigrants and ethnic minorities. In Edmonton, where the claim for skill shortage was widespread at the time of my study, employers reportedly tapped into the immigrant labour pool through non-traditional hiring channels. For example, KeyAB1, a trainer at an immigrant-training center in Edmonton, related the following:

Employers are hiring [our program participants]... you know [employers] are in a tight position. They need people to fill in the seats for projects. …at the end of the program, there are some employers who say they want to first pick on our graduates, you know [laugh] and ask that their résumés be forwarded to them.

In addition to approaching immigrant-training programs, some employers also resorted to ethnic professional association. KeyAB6, an HR manager, said:

I would say they… some of these associations are fantastic and we certainly do go through a lot of the immigrant associations. There’s some…, there’s some very good… we’ve actually been involved with many associations from, you know, the Columbian Immigrant Society to the Indian Immigrant Society to… we’ve, any number of associations from different cultures.

My key informants all pointed out that the expansion of hiring channels was prompted by the “fuelling” oil economy that started only in the past few years. This phenomenon shows that hiring networks can be stretched and broadened based on project needs. In other words, the desirability of workers is not so much constructed in relation to
worker’s individual capabilities, as in relation to employer’s needs. This point becomes most clear when I look at how employers utilize the skill discourse to justify different ways to hire immigrants at different economic times and places.

**Differential invocation of the skill discourses**

In the last subsection, I demonstrate that the hiring practices particular to the engineering profession are project-based and network-dependent, which puts immigrants at a disadvantage in the hiring complex. In this subsection, I draw on specific cases to demonstrate how employers utilize the skill discourse to naturalize different ways to use immigrant labour. In particular, I look at how employers make use of immigrants’ “lack of communication skills” in varying ways in their recruiting practices.

In my study, many people reported that Chinese immigrants had strong technical skill, particularly in Math, but weak communication skill. While many would argue that communication skill is what is limiting Chinese immigrants’ employment prospects, I find that sometimes, their “lack of communication skill” becomes the very reason that they are desirable, especially for employers who try to keep down labour cost. In contrast, when devaluing and under-ranking immigrant workers does not work to the benefit of employers, “lack of communication skill” is not used as a reason to exclude immigrants or to depress workers’ wages.

In Toronto, some of my interviewees reported that immigrants, who speak English as a second language, constitute a major labour force for small employers surviving on small profit margins. Here is To#5’s experience:

[The employment centre] introduced me to meet a Chinese employer [in Toronto]. [The employer and I] spoke in Chinese with each other…. In two or three sentences, he knew that I was more than capable to do the job.
He said that he would like to hire me at $8 an hour and that he would offer me the position on an on-call basis. He is an independent practitioner, working from the basement of his home. I did not take the job. It was not so much about money. It was really that it did not make any sense for me to give up my business in China to work for another Chinese for $8 an hour. I later introduced [a Chinese friend] to the boss. I told my friend that it was up to him whether to take the job or not.

An entrepreneur himself in China, To#5 has his own analysis of this particular phenomenon:

You cannot really blame the employers for paying you low. The owners might have worked for some [big engineering] companies before. They decided to have their own business, probably because they were not treated fairly by their bosses – the boss that I told you about in [Toronto], later on I learned, was laid off from [a big company] in the 80s – all Chinese in that company were laid off. It is hard for such small employers to get big projects. Most of them work on small projects contracted out from bigger companies, crust from big cakes, you know. They had to compete, really compete, say by cutting down [labour] costs. If they do not get projects, they of course have problem providing you with good salary.

In the case of To#5 himself, his first two jobs in Canada were with two small companies, where he was paid $12 and $12.5 an hour respectively. Ironically, immigrants, who are “not desirable” because of language differences and lack of Canadian backgrounds, are turned into a cheap labour supply for small employers.

The desirability of immigrants’ labour is not only shaped by small employers’ needs for cheap labour. At times of labour needs, employers may also look more closely at their limited labour supply to identify if someone could be a valuable addition. To#7 related that her first employer tried to get to know her despite her English:
The day when I went [for interview], they were very busy. The HR person who took me in did not say much but got a designer [for me]. The designer gave me a blueprint with a lot of markings. I was told to sit down and complete the drafting work. I spent the whole day there before I completed it. I went home only after I finished the work. And then when I called [to find out the result], they told me that they would hire me … I said, there was [not even an oral interview]…The designer told me that we already communicated through the drafting work…they later paid me for that day’s work.

While not every immigrant respondent who did not speak perfect English was underpaid, employing yet underpaying immigrant professionals was not a rare practice. Nor was it a practice particular to smaller companies. For example, my interview notes with KeyOn8, a senior engineer, shows the following:

She said that the supply situation in the engineer profession varies from discipline to discipline. She heard anecdotally that some immigrants, who may not have the language skills, are paid less salary and as such become financially desirable to employers. For example, there is a research group that speaks their own language either Mandarin or Cantonese to each other. Among the group, the supervisor, who could communicate bilingually, becomes the only communicator beyond the group.

Given that these immigrants were not good “English communicators”, employers seemed to have done immigrants a favour by simply hiring them, and it seemed to be perfectly justifiable that these immigrants were underpaid although their expertise and strength in research were put into productive use. What is obscured is that immigrants who speak English as a second language are easily rendered a key and yet cheap labour pool to support employers who choose to keep their labour cost low.
What is interesting is that the scenario reported in Edmonton was drastically different. Many people indicated that immigrants were not only welcomed in the labour market, but they were paid just the same as the locals. The staff at the employment training centre told me that their trainees were sought after despite their less than satisfactory communication skills.

I01⁴: In terms of skill levels for applicants to the program, the skill level and the language level of the applicants have actually come down a bit in the last year, and a year and a half. That is because the economy is so hot that those people with higher level of technical skills and higher language skills are getting jobs on their own. …

I02: we are saying that this is premature. So there, … because they don’t have the kind of knowledge they need about diversity in the workplace and cultural issues there. And very often they don’t have the language skills.

I01: Maybe they don’t have the language skills, but employers are hiring them anyway out of… you know they are in a tight position. They need people to fill in the seats for projects. You know this person comes along, and maybe their language is not adequate, but they will team them up with someone else on the staff who is from that country, so (that person) works as a translator slash team partner. (laugh) So they are compromising in order to get their technical skills, but in fact the new employee doesn’t have all the skills, the soft skills that are necessary as well.

I02: [The companies] are paying [them] same wages [as other employees] regardless.

KeyAB08 had the same comments.

…some of the companies, some of the large companies – they are the whole premise of APEGGA, ‘cause we also license corporations as well as

⁴ There are three interviewees in the interview. I use I01, I02, and I03 to distinguish them.
individuals – have even set up areas in their office that are very specific to various cultures because they have no choice but to hire people whose English skill is not as good as it needs to be. So that they are putting people together in the same area so at least they can converse freely, and hope of course in the longer term, they will be able to break up and those groups of people will be better integrated.

To many people, what is related above is simply a phenomenon that comes with a good economy and a shortage of labour. Should we then assume that a booming economy is the solution to the under- and un-employment of immigrants? Or should we believe that within a good economy, employers simply become so benevolent that they choose to accommodate immigrant workers who do not speak English well and not to underpay them? What Ed#7 related below offers an alternative view:

What we have are all big projects, you know, big projects from oil companies. We are not paid by our [engineering] companies. We fill out time sheets. Our company submits our time sheet to the oil company to claim payment as per our ranks. It does not serve anyone’s purpose to devalue our work. We work just the same as the locals. And you know, compared with [other commercial or public businesses], [oil companies] do not care about cost as much. They want work of best quality. When people bid for commercial businesses, [however], they certainly have to try to reduce cost in order to be competitive. In the first company where I worked [in Calgary], I came across a blueprint for a Walmart store. It was done by a company with less than 10 people…. Let me tell you this, it was not a piece of fine work.

Ed#7’s observation might be too broad a generalization. Yet, what is clear is that the profit margins of big companies in part depend on how the companies rank them as
engineering practitioners. As such, it does not serve employers’ interests to devalue the work of immigrant engineering professionals.

The contrasting reports from people in Toronto versus people in Edmonton are not simply geographical differences. Rather, they point to different ways employers extract surplus value from employees. In the cases reported in Toronto, employers, particularly those living on small profit margins, try to reduce labour cost in order to be competitive. The language deficiency discourse conveniently justifies underpaying immigrants. Nevertheless, when it does not benefit employers to under-rank immigrant labour, the issue of communication becomes less relevant. Clearly, it is not so much individuals’ “communication skill”, but the ways in which “communication skill” is worked up in different sites in relation to the best interests of the employers that shape how immigrants fare in the host society.

**Summary**

In this chapter I started with an examination of how my immigrant respondents learned to enter the engineering profession. As I have shown, at the centre of immigrants’ labour market strategies is to refashion their ways of presentation and to speak to employers’ skill discourse and labour need. Their market-oriented learning embeds them in a hiring complex where the notion of skill is discursively constructed and differentially operated to preserve the interests of the dominant group. In my map of the hiring complex, I bring together the hiring practices of different stakeholders at different sites such as immigrant training programs, recruiting agencies and engineering companies. I demonstrated that immigrant training services often work to prepare immigrants to become “marketable commodities” in Canada. I then unravelled the ways in which the
seemingly straightforward skill-matchmaking exercise by job agents is complicated by a set of ad hoc relations that recruiting agencies build with both job applicants and employers. Last, I showed that the network and project dependent hiring practices in engineering companies essentially make immigrants a secondary labour pool at the beck and call of capital’s needs. Amid this large picture, I show ways in which the same skill discourse is differentially invoked to satisfy employers’ need for maximum surplus value. The converging and at times contradictory ways in which the skill discourse is invoked to exclude immigrant labour, in particular, point to the problematic nature of our commonsense use of skill.

My findings in this chapter contribute to the literature on learning as well as skills. In particular, my study shows that learning is not an individualized practice. Not only are the means and goals of learning social in nature, these means and goals of learning are also socially constructed. In particular, my study shows how the dominant notion of skill is discursively configured and operates to shape immigrants’ “valuable” learning practices.

The other issue that my study is able to raise is the correlation between learning or skilling and jobs. Today, learning to improve employment skills has officially been made a rational route to better jobs in the knowledge economy (e.g. Hake 1999; HRDC, 2002). In the province of Ontario, the ministry of Citizenship and Education is funding ‘bridging programs’ to assist immigrants to fit into the engineering market (Ontario Ministry of Citizenship and Immigration 2007a). In February, 2007, the Ministry in Ontario announced an additional $29 million investment to expand programs province-wide for skilled newcomers (Ontario Ministry of Citizenship and Immigration, 2007b). Yet, amid
the popular call for skilling and lifelong learning, there is a lack of attention directed to
the demand side of the labour market (Cruikshank 2001, 2002; Livingstone, 1999b, 1999c). My explication of the hiring complex as it is related to the engineering field shows the ways in which white power is naturalized in the definition of valuable skills. Such empirical knowledge, I hope will help equalize the playing field for immigrants who are different from the dominant group.
Chapter Five:

Immigrants’ Work-related Learning and the Social Configuration of its Boundary

While getting a job in their intended or targeted fields was a huge step for my immigrant respondents, it was far from the only challenge that they had to deal with. Among others, they found it hard to become part of their new work communities. My examination of immigrants’ workplace experiences shows two kinds of learning endeavours made by immigrants. The first is their work and profession related leaning, which is the focus of this chapter. The second is their changing communicative practices at work, which is the focus of Chapter Six.

In this chapter, I look at immigrants’ work-related learning experiences, and examine the ways in which their learning was enabled and/or constrained in Canadian workplaces. I show that the space for immigrants’ work- and profession-related learning is shaped by a complex of institutional and organizational relations. First, employers’ varying investment in training essentially serves as part and parcel of the organizational mechanism managing workforce. Second, the individualized ways in which corporations administer high-end training put at a disadvantage immigrant workers at the periphery of the profession. Third, the textually organized engineering work offers immigrants a space of professional development but in a limited manner. Last, my study shows that it is only with state intervention or regulation, for example in the matter of workplace safety, that the participation space is expanded to all workers, regardless of their membership, including immigrants.

This chapter is divided into three parts. The first part focuses on immigrants’ work- and profession-related learning and training experiences. In the second part, I take as problematic the uneven space provided for immigrants’ work-related learning and
inquire into the organization of workplace training opportunities in engineering workplaces. This chapter ends with a recap of the research findings.

**Immigrants’ training and learning experiences**

Studies of workplace learning, particularly those using Lave and Wenger’s lens of legitimate peripheral participation, show significant differences in the forms and extents of participation for newcomers across places (see Fuller, Hodkinson, Hodkinson & Unwin, 2005, Fuller & Unwin, 2003; Hodkinson & Hodkinson, 2004). In the meantime, researchers also come to see that workplace training and corporate control make certain kinds of practices, or communities of practices more permanent than others (Farrell, 2004; Gee, 1997). In my study, while research respondents reported a range of learning opportunities and experiences at work, I identify converging ways in which corporations afford newcomers spaces to develop their work-related knowledge and practices. In this part, I introduce how immigrant respondents’ developed their work- and profession-related knowledge, paying attention to who shoulders the cost of learning.

With regard to immigrants’ training opportunities and learning experiences in Canadian workplaces, my data reveal three interesting phenomena. First, my immigrant respondents were often oriented to their work and workplaces in an informal manner. Second, in terms of areas of training, all immigrants received safety training; a few also reported workplace English training; yet, rarely did they receive any workplace sponsorship for professional development. Third, In contrast to the varying training opportunities enabled through their workplaces, the immigrants made consistent effort to expand their knowledge base in engineering codes, standards, protocol and other textual materials related to engineering theories, theorems, and practices.
Workplace orientation

In terms of workplace orientation, immigrants reported mostly informal training and learning opportunities. When they started working, some of them were directly involved in small pieces of work; some were given workplace materials to study; some also received informal yet systematic peer support. All orientation was informal, and yet instrumental in bringing workers to the productive process. For example, when To#1 started his first job in Canada, he was given small jobs as a way to bring him up to speed at work.

There was no formal training. But there was training-in-kind. At the very beginning, I did a lot of small work, such as paper work. For example, by the time we finish designing something, there might be 20 blueprints in a set. In the project management system, the blueprints, fixed with a cover, need to be compiled for distribution. That kind of job is not intellectual work. You only put the number of blueprints, that is that. I did that for one or two weeks. Through [the paper work], I got to know the work over there and got to know people of different departments. …[as to the design work] I started with small jobs, designing small parts. At the very beginning, they used me as a draftsman. They selected a part of a draft, and changed the measurements of the part, using a pencil (or pen). They would then ask me to redo a blueprint. I would then produce another blueprint for them. I would then sign as designer and my manager would sign and approve it. That is how it was. Later, the parts that I worked on were larger and larger.

Clearly, To#1’s participation at work was enabled through “growing involvement” (Lave & Wenger, 1991, p. 37) at work. Many studies have pointed out that employers see “growing involvement” an important way to induct new employees to
workplace practices (e.g. Collin, 2002; Fuller & Unwin, 2003; Hodkinson & Hodkinson, 2004). Ed# 2 had the same experience at the beginning of her first job.

[There was no training], no. They treated me as an experienced worker. They gave me something to check. Of course, they would not give you a large project. There is always a process involved. They found me some small jobs to do, for example, helping others to check drawings. Then you would be more familiar with the work.

Some companies provided workers with reading materials as a way of introducing them to workplace practices. In the case of To#2 and To#6, for their first jobs, were asked to read a bunch of materials at the beginning of their employment. Their employers tested them to see if they understood the materials before giving them specific tasks. When To#6 moved on to his second job in Canada, he was also given some reading materials so that he would familiarize himself with the work standards in this company.

I: After I joined the [second company], I did not have much to do in the first day. They gave me a detail used internally to read and to learn how they approach design.
S: What is detail?
I: It was like a design standard used inside the company.
S: A standard used internally?
I: Yes, it varies from company to company. It is roughly the same across companies, but they take different approaches. And the next day, he gave me the blueprint that I should work on so that people could use it right away.

A few other immigrants also related that they had access to workplace procedures and work standards, as well as designs, both electronically and in hard copies. While To#6 was the only one who was asked to spend a day studying design standards, other
immigrants related that they would read and study various materials at work whenever possible.

Clearly, in the above cases, there was no formal support system offered to immigrants, or in a broader sense new workers. When these new employees had questions, they would either consult with their colleagues and friends, or search for resources themselves. My finding corroborates those of other studies that point out the commonality of peer support at work (e.g. Hodkinson & Hodkinson, 2004; Maitra & Shan, 2007). My study also shows that in some companies, management actually co-opted peer learning as a para-formal way of training (Garrick, 1998; Maitra & Shan, 2007), which is particularly true in some big companies. For example, Ed#3, Ed#4, Ed#5, Ed#6, and Ed#7 related that some of their workplaces systematically encouraged peer support into. Here is the mentorship program Ed#3 received:

…. there is a mentoring program in [this company]. Every new employee is assigned a mentor with whom s/he meets once a week. They can ask the mentor any questions. As part of the mentor program, each new employee is given a 50-dollar coupon. S/he is expected to use the money for a lunch meeting with the mentor (interview notes, August 24, 2007).

Ed#7, for a while, worked in the same company as Ed#3. According to Ed#7, the above mentoring program worked for some but not for others.

I went to lunch together with my mentor who was a senior engineer,— a very nice guy. … white, and a real gentleman. When I had questions, even as small as filling out a time sheet, … he would stop what he was doing to help me. But not everyone was lucky. My other colleague, …yes, Chinese. He invited his mentor to lunch a few times and was told that his mentor had no time. He then said that I was more than a mentor to him and treated me to lunch with that coupon, (laugh). … no, no one followed up with
how you used the coupon, or how the mentor thing went. It all depended on your luck, and who was assigned to you as a mentor. After all, it is not a job for anyone, not for you [as a protégée] or for the mentor.

Clearly, mentorship programs mentioned above are meant to facilitate newcomers’ integration into their new workplaces, and some people benefited from such programs. Yet, it has to be pointed out that co-opting peer support into a mentoring program serves to objectify collegial support as a universal and natural phenomenon. What is left unattended is the power dynamics complicating the interpersonal relationships at work such as the racial dynamics that may exist among the employees.

In this section, I reported the kind of workplace orientation immigrant respondents received to bring newcomers to the production process. It has to be mentioned that although the kind of orientation they received was informal, as some immigrants mentioned, they shared similar experiences with other new recruits. However, the same cannot be said for all kinds work-related training, which is reported below.

**Differential access to training opportunities**

Lockhead’s study (2002), based on the 1998-99 Workplace and Employee Survey (WES), has documented that immigrants are less likely to receive employer-sponsored training than their local counterparts although they tend to invest in career and job-related training. When it comes to workplace-sponsored training other than workplace orientation, immigrants may as well enjoy varying entitlement to different training and learning opportunities. In my study, all immigrants received some kind of safety training; some also had English training opportunities through workplace sponsorship. Yet, rarely did they receive high-end or professional training.
To start with, all immigrant respondents reported that they had at some time received safety training at work in one way or another. For example, To#5, in the first company where he worked, was asked to go through safety training this way:

Before they took me to [construction] sites – this is something that I felt good about Canada, the second boss gave me a videotape to watch and lent some gears for me to try on at home. It was a tape about on-site safety. After that, I was given a test at work. After the test, I was given a certificate.

Ed#7’s safety training in one of the companies was computer-based.

There was computer-based safety training [in the company]. Before you go on site, you need to pass the computer-based test. It is not difficult. But you have to find the time to go through the training on the computer.

In the case of Ed#1, her safety training was provided by the factory where she was sent to conduct on-site inspection.

In the factories, they have a lot of policies and a lot of, for example… say if there is an emergency situation, you [need to] know to whom you should report… there are safety issues and the orientation is not an easy process…. yes, people from the factories. Everyone goes through a safety orientation. You must follow them. …It was not easy to pass the exam.

Workplace safety training is the only training to which immigrants had easy access, regardless of their employment status or membership within their new work communities. While some immigrants praised Canadian workplaces for providing them with safety training, it needs to be pointed out that such training opportunities were not provided out of employers’ own accord. Rather, as I will show in part two, state
regulations specify that safety training a desirable mandatory practice in many workplaces.

In addition to the commonplace safety training, some immigrants also received workplace-sponsored English training intended for newcomers. Ed#1, Ed#2, Ed#3, and Ed#7 all reported English training provided through some of their workplaces. Ed#1 considered her English training helpful.

When I joined [this company], they invited an English teacher to teach us Friday afternoon. The training was helpful. … it was mainly around communications skills and pronunciation. For the Chinese, the biggest problem was pronunciation. If you do not pronounce in the right way, other people would not understand you. The teacher also taught how to write emails and things like that… the training was about a year.

Ed#3, one other recipient of English training commented on his English training this way:

The training started right after work. Everyone was tired. People were dosing off [in the class]. Plus, what was taught was not closely related to his work. He as such slacked off. According to him, it does not take an English teacher to teach English. As a matter of fact, specialized English teacher may not know his field. He said that he learned more from interacting with his colleagues (Interview notes, August 24, 2007).

By reporting immigrants’ mixed feelings and opinions towards these newly emerged English training programs, I am not making any evaluative comments on specific training programs. Yet, it is important to note that these English training programs were new, and only reported in big companies in recent years when the economy in Edmonton was dependent on immigrant labour.

Compared with the universal safety training, and occasional English training, rarely did my immigrant interviewees receive company sponsorship for professional
development, or training that could directly contribute to expanding their mobility and participation at work. In most cases, when asked about company policies around workplace sponsorship for professional development, my interviewees expressed that they did not know or that they never asked. Among all the interviewees, To#4 was the only one person, whose employer offered to pay for his P. Eng. application fee, and Ed#5 was the only one who identified and took certain courses paid by his workplace.

**Learning engineering codes, standards and theories**

In the last section, I made it clear that immigrants had differential entitlement to different workplace training sponsorship or learning opportunities. It needs to be pointed out that immigrants’ work-related learning is not limited to these (para)-training occasions. Most notably, some immigrants took initiatives to expand their knowledge in, and become adept at using Canadian codes, standards, and engineering theories and practices. For example, To#4 related the following.

The one-year experience as a drafter worked for me, too. It kind of helped me immerse in the work. Here they have their own practices. I had a lot of things that I did not understand. But I read. There was no one teaching me. So I learned both about designing and report writing. And then I read the codes and other documents. I had also 7-year experiences in China, so things became easy for me later.

Similarly, Ed#6 mentioned that he learned Canadian codes and standards and actively exchanged information with his first employer as a way of learning.

The other thing is that my boss was familiar with Canadian codes. I then read Canadian codes a lot. Often I would also discuss with him about the codes. That was also an opportunity of mutual exchange.
All other immigrants mentioned that it was important for them to learn the codes and standards in their respective fields. To#2, To#3, To#6, Ed#2, Ed#3, and Ed#6 all mentioned that they used their spare time studying work-related codes, standards and/or consulting the Internet and other kinds of textual materials for related theories and practices. The case of To#5 was unique. He said:

One most important thing is that you have to have a solid foundational knowledge in your field. When I had spare time, — I had a lot of spare time because there was not much work for me [in the third company], I studied the company design protocol … No, my job was not to design. But as I had the idea of coming back to China, I used all my spare time studying their management systems, written materials, including report format. It is like exposing myself to international practices.

With regard to code- and standard- related learning, it can be said that these immigrants were motivated learners. In the meantime, it has to be noted that these seemingly “individualized” learning process essentially entered immigrants to the repertoire of knowledge in the community of practices (Wenger, 1998), or the engineering practices in their respective field and workplace.

In this section, I examined immigrants’ work and profession related learning. I have shown that immigrant respondents’ work orientation was often informal, and that they might not have the same kind of access to workplace-sponsored training opportunities as other employees. To integrate into Canadian engineering workplace practices, they all placed great emphasis on learning Canadian codes, standards, and other materials on engineering practices. Taking immigrants’ uneven training and learning opportunities as a problematic, in the next part, I examine ways in which immigrants’ legitimate peripheral participation is socially configured.
Social organization of immigrants’ work-related learning

In this section, I examine key informants’ accounts as well as relevant public policies to identify the social relations and practices that shape the space of immigrants’ work-related learning. In particular, I find that employers’ varying training investment, which constitutes part of the corporate management and control scheme, and their membership-dependent administration of training decisions, put immigrant or contract workers at the periphery of the profession. In the meantime, I find that the textually mediated property of engineering work makes it imperative for immigrants to study materials related to engineering practices, although such kind of learning provides immigrants with only a limited space to manoeuvre in their work communities. I further show that state intervention in workplace safety matters is significant in extending training entitlement to all workers, regardless of their membership at their workplaces.

Varying training investment

While my immigrant respondents reported low levels of workplace support for their work-related learning, my key informants reported a range of training scenarios that both converged and diverged with immigrants’ accounts. Such an inconsistent picture directs my attention to accessibility, distribution and entitlement issues of workplace-sponsored training. I find, in particular, corporate deployment of training is closely related to the organization of work and workforce, which put workers in a position to receive training management deemed useful for productive purposes. In addition, when it comes to high-end training or training for workers’ professional development, management’s sponsorship decision is often based on the kind of membership workers claim at work, which directly leads to differential training opportunities for immigrants.
Training investment as a managerial and control mechanism

Studies have shown that companies do invest in training (Livingstone, 1999b). Although not comparable to what companies spend in the OECD countries or in Japan, statistical evidence shows that employers in Canada do play a central role in financing adult education and training (e.g. Betcherman, Leckie, & Mcmullen, 1997; Statistic Canada, 2001). My study does not show quantitatively how much money employers invest in training. Yet, it shows clearly the social relations shaping varying corporate training investment. Specifically, I argue while at the first glance, companies’ training investment varies in relation to company size (e.g. Betcherman, Leckie, & Mcmullen, 1997; Statistic Canada, 2001), a closer analysis of my data reveals that corporate training investment scheme is often deployed in relation to the organization of corporate production and the management of the labour force.

Studies have shown that large and high-tech companies tend to invest more in training. Smaller firms and organizations that depend on temporary, casual, or part-time workforces are less likely to offer training or adequate training for the workers (Senge, Kleiner, Rober, Ross & Smith, 1994). In a study based on the 1998 Adult Education and Training Survey, Statistic Canada (2001) finds that medium and large firms are twice as likely as smaller firms to financially support training for their employees, and that high-tech companies tend to invest more in training. My study also shows that smaller employers tend to have a lean budget for training whereas bigger employers operate with a formal and institutionalized training plan. KeyOn2, a team leader in a small company, attributed this phenomenon to the different profit margins between small and large companies. While profit margin may correlate with the extent of training provided at different workplaces, my study also direct attention to the instrumental role of training.
Specifically, I find that employers’ varying training investment is often made to support the organization of work and management of labour. KeyOn1, an owner of a small company, related the following with regard to the training arrangement at his company.

Yeah. We do provide training obviously. In various forms … hands-on, on the job. Basically he or she will shadow us, or a senior engineer for a little while until he or she gains the confidence in it. Being a small team concept here, pretty well training’s every day. The fact is that, you know, I ask individuals to be integrated into a team, you’re constantly learning from everybody at any given time. Unlike larger companies that, where you have formal training set up in place… [in] larger corporations, each individual is dedicated to a task and training is not part of his requirement to offer to the junior staffs, so proper training is required for that sense. But in a smaller company, you’re at a personal level. So, you know, you don’t have this competitive edge or anything like in the big corporations. So therefore training’s provided constantly, every day, even at the oldest level, you know, the seniors learn from the juniors, and juniors learn from the seniors. So we’re trying to… again, team concept is important to us.

According to KeyOn1, workers in smaller companies are not dedicated to one task; they are expected to cover different aspects of the productive process. By encouraging workers to learn from each other, smaller employers can make maximum use of the limited number of employees. In other words, the training arrangement related above is deployed to suit the small-scale production arrangements.

In contrast with smaller companies, all my key informants from big companies reported systematic and institutionalized training. For example, KeyAB6, a project manager from a large company related the following:

[We have a college]…each employee from the admin assistant up to the department head, they have to study five hours at college every year. So
this means…So for example last year I did 130 hours… and it’s paid.
Some are mandatory, you have to go to, I would say 60, 70 percent are in-house, the other ones are outsourced. … And so we have trainers who, is like, let’s say for… leading effective meetings, assertive communication courses, stuff like this, we do in-house. And I just was on a course yesterday which was a safety course which was taught by a safety construction association. So that’s what we take.

This particular company is very different from many other companies that I came across in my study. First of all, it is 100 percent employee owned. Further, it hires “for long-term positions, not short-term projects”. Moreover, it espouses “promotion from within” and its senior managers are known to be long-term employees, according to information from company’s website. What is clear is that training in this company, as a building block of the employment relations, also caters to these management principles. Among others, training is used as a systematic way to promote workers from within and to create space for workers to participate in the workplace in an increasingly expansive manner.

The above company is the only one that actually enforces training for all employees. For many companies, it is not uncommon to choose between recruiting from the market and training the existent employees (see also Brunello & Medio, 2001). Should employers fail to recruit or retain a stable workforce, they may choose to adjust their training schemes. In Edmonton, for example, where employers were faced with a labour shortage and high employee turnover at the time of my study, some employers increased their investment in training. Here is what happened in KeyAB2’s company.

You know, with the economy this good, we have lost several experienced engineers and staff. So we started up a program to, to formally assess the requirements for every department with regard to training, to assess each person in the department for what they are going to need over the next, the
intermediate, I guess the future several years. We try to accommodate that.
That being said, we are talking about formal training and courses and
stuff, external courses. They are sending them to conferences somewhere
to gain particular skill set that we defined.

To retain its workers, the company started offering employees training opportunities, and
opening up the space for workers to develop themselves professionally. In other words,
the company was using training as a bonus benefit to the workers. What is problematic is
that underpinning this proactive managerial movement is still a neo-liberal mentality that
constructs training and learning as an individualized responsibility and that perpetuates
the “deficient learner” underlying many training schemes (e.g. Albo, 1998; McBride,
2000). There is little attention to the fact that knowledge and competence at a particular
place is collectively constructed (e.g. Boreham, 2004; Brown & Lauder, 2000), and that
effective learning, as far as work-related practices are concerned, has to be made a
collective endeavour.

While in the above case, training is used as a means to bind employees to
particular companies, in the case below, expanded training is used as a way to manage a
diversified workforce. KeyAB4, a training manager, related the following:

… for example we have a number of programmes going on right now to
do with newcomers to Canada. So we have, we call it… let’s call it
enhanced language training, which we provide three phases. … the first
one would be speech. The second one is… making presentations and team
communication and kind of understanding those types of issues in the
workplace. And the third one is actually culture in the workplace,
understanding Canadian culture and what we expect from… in our
workplace, … we provide this kind of training to help people to be
successful in working for us, and to be happy and productive, because it
can be very difficult for people who come here and don’t really understand what the expectation is. And I think it’s also hard if you’re a new staff member or even if you’re new to Canada, to speak up and ask somebody to clarify, right. So we provide this to give..., we don’t force people to go to this training, it’s voluntary. …We also have an advisory committee here of newcomers to Canada who provide us with advice on what the obstacles are that we can reduce, so that our newcomers to Canada, … So when those people come to work for us, we’re trying to reduce the obstacles so they feel comfortable right away, and they’re happy and they feel comfortable in asking questions and getting the answers that they need. And this committee works to identify in all the different areas the things that we can do to help that. And we’ve been working with them since July.

What is unique and laudable is that the company where KeyAB4 worked tried not only to train newcomers. They also tried to train the old-timers to be sensitive to cultural issues. She continued:

We have… we provide some other training to our leadership positions on performance management… change management, things like that. … This year we’re also working on inter-cultural communication training and the focus of that training will actually be the people who have worked in Canada for a long time, because the enhanced language training addresses culture from the perspective of the newcomer to Canada. We want to address culture from the perspective of the people who have been in Canada for a long time and don’t know what the issue may be or need to be able to sort out what the issue may be with different cultures. So it’s like an awareness-training. So that’s one we’re working on this year.
In the training scheme that KeyAB4 related, training is not only a way to improve immigrants’ language facility. It is also tinged with a sense of cultural anxieties; in this case, training is used to manage a diverse workforce.

**Membership-contingent administration of training decision**

While in the last section, I showed how training is generally used as a way to organize work and manage the workforce, in this section, I focus on how corporate sponsorship for high-end training or employees’ professional development is administered. I argue that while corporate training schemes are directly linked to the labour process, corporate sponsorship for high-end training is often administered on an individualized and case-by-case basis, which has to do with the kind of membership that workers can claim. By membership, I do not simply mean the status of newcomers versus old-timers as used in Lave and Wenger (1991). I also refer to their employment status, including their positions in the engineering hierarchy, and the type of employment such as contract versus permanent positions. Immigrants who are at the periphery of the engineering workforce, especially those working in the lower echelons of the profession or working on a contract basis, do not normally have easy access to support. That is, access to high-end training is based on and at the same time reproduces the employment status of different populations.

To start with, employers often have to strike a balance between training as a corporate obligation and training as an individual responsibility. KeyON03, a recruiter who worked with various engineering companies, reported the following:

Most companies would offer training that is product specific or role specific, because you would come in with the basic skills that they required. The company is not going to train you to become a professional
engineer, but they might train you on specific software. These days, companies don’t even want to pay… for certified project manager. In the old days, some companies would do and some won’t, because it is something that they feel that the candidate should come in with, or something that they should get on their own. That is something that they can use somewhere else too. It is like your own career advancement, right?

Professional development is essentially considered an individualized responsibility (Butler, 2001). Such a neo-liberal ideology that informs corporate training decisions puts employees at a position to receive training that directly serve the productive purposes rather than training that is conducive to their individual professional development, although the two kinds of training may as well overlap. For example, KeyON2 related that his company only invested in training relevant to the company’s business.

… if we’re doing projects on night vision equipment, we’ll go to a conference on night vision equipment. That’s the only training, and I mean that’s not even traditional training, but it does … fall in the professional development arena. So, you know, in terms of just doing, you know, management, you know, management level one, management level two, or project management, or something like that, it’s… you know, it’s really… a decision of the team leader on a case-by-case basis. And it’s highly tailored, it’s definitely not systematic.

Employers’ training investment is not solely based on whether a particular training program directly contributes to workplace productivity. It also depends on who the potential trainee is. Often, training sponsorship is available to the permanent and core workforce. KeyAB5, a principal of an international company, related that in her company, sponsorship for high-end training is routinely provided to employees.
We definitely have a lot of training, like… because we provide very specialized services, most people here have graduate degrees… minimum master’s or PhD. Most people here have master’s. But the few people who don’t, we hire them straight from undergrad… but in a few years, if we see that they have a future in the consulting industry, we give them an incentive to go back to grad school and take a master’s. So basically what we’ve been doing to people, like, we pay for them to go back to do their master’s. We pay their tuition fees and we give them small monthly allowance… well not that small… with a contract that they’ll come back and work for us for a minimum period of time. They do full-time studies, their master’s, and then they come back here, and we pay for that. So that’s formal, but also we pay for people to go away and take courses, like shorter courses, like a week, or three days, or a day, or whatever. There are a lot of professional courses that are like short-term courses. We pay for a lot of those courses for people to go out… but most of the training is in-house, because, you know, some of the training, they’re very specific to what we do as a company and to our clients and our business. So for these things we do a lot of in-house training.

Although KeyAB4’s company provided regular support for training, the management often handpicked the person who had “a future” to be trained. What has to be noted is that people who are “worthy” of companies’ investment are also people at the core of their workforce. Immigrant workers do not seem to enjoy the same training entitlement. For example, Ed#7 worked in the same company where KeyAB5 worked. Yet, he had no knowledge of the training programs offered at his company. He said, “No training, … but I know that they pay for people to take courses, but only for permanent staff. I am a contract, and I am not eligible.”

While many people associate contract employment with personal choices and professional privilege (Handy, 1994, 1995; Tremlay, Wils & Proulx 2002), my study
finds that contract employment puts the contract workers at the periphery of the 
engineering community, when it comes to training entitlement.

In fact, in my study, few of the immigrants were aware of any training policies 
and options in their companies. Some of the immigrant respondents expressed that they 
ever asked if their companies provided training. The only immigrant who identified and 
requested company financial support for his professional development was Ed#5, a 
project manager who worked on a permanent basis in a maintenance company. Clearly, 
immigrants who work in the lower echelons or on contract basis may not have the same 
entitlement to workplace sponsorship when it comes to professional development. This 
finding confirms that people who are not in the higher strata have to spend their own time 
and resources in order to develop themselves (Senge, Kleiner, Rober, Ross, & Smith, 
1994; Foley, 2001; Grace et al., 2004). That is, the space for immigrants to participate 
and develop themselves in the engineering profession is constrained by their 
marginalized membership in the employment hierarchy.

Codes and standards: organizers of engineering work

So far, I have shown that the legitimate learning space for Chinese immigrants is 
often limited in their new work communities. For one thing, immigrants do not have 
equal entitlement to workplace-sponsored high-end training as the mainstream 
engineering workforce. To try to establish themselves in engineering workplaces, my 
immigrant respondents resorted to expanding their knowledge in engineering codes, 
standards, protocols, theorems, theories, etc.. In this section, I look at the social 
significance of engineering codes and standards. I find that among other things, 
engineering codes and standards serve as a significant textual mediator or social
organizer of engineering work and the base for people to negotiate power and position in engineering workplaces. Such a property of codes and standards makes them an ideal learning object for immigrants seeking for establishment at work.

**Engineering codes and standards**

In my study, all immigrant interviewees made a point to learn disciplinary codes, workplace protocols, and other engineering work related regulations, standards, theorems and theories as a way to establish themselves in their workplace. My examination of issues around engineering codes and standards shows that they serve as a mediator of engineering work, which make them desirable learning objects.

Smith (1987), and Campbell and Gregor (2001) have pointed out that replicable texts coordinate courses of action in organizational and administrative processes. My study shows that codes and standards, as congealed artefacts (Wenger, 1998) for the practices and knowledge particular to a workplace and a discipline of practice, constitute a crucial link in the engineering work process. In particular, they coordinate the work of engineering practitioners across places.

Certainly, all designing work is creative work. Yet, this work is also conducted following the “traditional practices” and “traditional wisdom”, which are recorded in codes, standards, and established regulations and principles of practices. Engineers do not create things out of thin air. They create and design in dialogue with other engineers, by referring to, building on and sometimes extending the work of their predecessors.

As my interviewees pointed out, codes and standards are never comprehensive; instead, they are constantly updated. At times, engineering professionals have to consult related theories and practices and deduct from existent theories and theorems to deal with issues at hand. By asserting that codes and standards serve as a social organizer of
engineering work, I am emphasizing that these textual materials are necessarily enacted in, or entered into, courses of engineering practices. For example, To#1 related: “For our field, we have very detailed specifications and regulations. You need to be familiar with these specifications. You need to use them for your designing work. You need to reference such regulations for your design work.” Similarly, Ed#6 said:

You have to be familiar with Canadian codes. It does not mean that you have to know them by heart. As long as you understand the codes, it is good enough. You have to know that the design you come up with meets the standards. For your solution, can you use existent theories and codes to explain it? What you come up with may not be rational. In the final analysis, what we do is to follow our predecessors. We need to fit into the rules and regulations. However, there are also exceptions. Sometimes, certain things may not have detailed instructions. Then you have to see if what you do is rational. That is to say if everything you design is feasible in theory. And if it is practical in the sense if people could realize it in practice.

Clearly, established practices, congealed in disciplinary codes and workplace standards coordinate the ways in which engineering work is conducted, communicated and negotiated.

While it is important to learn Canadian codes and standards, to some immigrants, it is equally important to know codes and standards from other countries. For example, in response to my question on how he learned Canadian codes, Ed#7 did not agree that Canadian codes should be the sole focus of engineering workers. He said:

Not only Canadian codes, you have to learn whatever codes that you have to use depending on where your projects are. At one time, I had a project in China. I had to abide by the Chinese codes as well. Last week, there
was a certain thing that was not specified in Canadian code, I had to go and find some reference from the American codes. It is not so much about learning things by heart. It is about your ability to look up regulations and your facility in applying them. It is not difficult, but of course, you have to spend time and spare no energy.

In my interviews with immigrants, I probed further the differences between Canadian codes and Chinese codes, and how they learned different codes. In response, To#1 said: “Basically the same as the same theory applies to both. They use the same kind of principles. It is not difficult to pick up the Canadian codes.” To#2 explained some of the concrete differences between Canadian codes and Chinese codes and insisted that it was important to learn about such difference:

The codes for sure are different. The regulations and specifications vary from country to country. For example, for wind speed, in China, we use “per 10 minutes” as the unit. Here it uses “per hour”. Each country makes its own specification as per its own condition. But of course, you have to understand the changes in the parameters with which you operate.

Obviously, codes and standards are an expansive body of knowledge that is encoded or expressed differently at different places.

Many immigrants, without explicit directions from others, made a point learning codes and standards related to their respective fields. Such learning experiences point to the mediated property of engineering work. That is, established practice, recorded in disciplinary codes and workplace standards coordinate the ways in which engineering work is conducted, communicated and negotiated.
Subjectivized “objectivity”: codes and standards in the review process

It is commonly believed that codes and standards are objective rules and regulations. When I examine how codes and standards are invoked in the actual engineering work, I find that they are far from objective. Instead, they constitute nodes of negotiation and are infused with power. The latter point is best manifested in the design review process.

Design review is a process where one engineer’s design or calculation flow is checked by another engineer. Usually, reviewers raise questions, and the engineers whose work is being reviewed are expected to respond with references to established practices recorded in codes, standards, stipulations, and/or theories. From the perspective of managerial staff, the review process is always a way to ensure quality and “to protect [the company and engineers] from errors and mistakes” (KeyAB5). As such, the management would like to see that engineers participate in the reviewing process in a professional manner, i.e. that they bracket or suspend their feelings and emotions and engage in objective and project-oriented communication. Immigrants’ stories of their involvement in the review process, however, show that this seemingly objective professional work relationship is always charged with macho power struggles. For example, Tor#1 mentioned: “Once you refer to these regulations, people would not be able to raise criticism against your work”. Similarly, Ed#6 related his experiences this way:

Over there [in the third company where I worked], you need to write up computation workflows for people to check. That poses more challenge. When people start checking, they will pick out problems. Some people are very nice. But not everyone is. They will ask you different questions. … you’ve got to tell people where you get the solutions, why you did the
project the way you did it. If you read a lot in your discipline, you will have a broader knowledge. You can get rid of them easily.

Technological knowledge is often associated with objectivity. This assumed objectivity, however, is subjectivized as it is entered into the interactions of people. In the interviews, many immigrants regarded the review process as a power play. By becoming adept at codes and standards, they were also trying to assert power and get themselves established in their new workplaces. When immigrant respondents singled out engineering codes and standards as important learning materials, they not only entered themselves into a complex of engineering practices across workplaces. They also articulated themselves into a set of social relations where technological knowledge is exercised to assert macho power (Faulkner, 2000; Hacker, 1981; McIlwee & Robinson 1992). In other words, immigrants’ code- and standard-related learning opens up space for them to participate in their new work communities, which is imbued with power dynamics. Below are two episodes of Ed#7’s stories.

At one time, my lead and I were responsible for checking the work of a senior engineer. That engineer was too proud you know, as if he was the best engineer. So I came up with a list of detailed questions, some of which did not have to be considered by engineering practitioners. But I was within my right to ask those questions. The guy got very angry, and complained to the manager saying that we were cornering him. The manager then got me and my lead into his office. The manager refrained from laughing and told us not to be too harsh… at the end, I came up with a list of explanations, with specific reference to stipulations, and theories, and some proposition for minor justification, which did not change the whole design results. The work of the engineer was actually not bad, but he was too proud.
In the second case that Ed#7 related, one of his leads was trying to help a project manager who was forced out of his company. I asked Ed#7 how come he knew that his colleague was forced out of the company. He said:

…many things. For example, for events for project managers, they would “forget” to invite him. The engineers below him would not respect him. I do not have all the details, but all of us knew that he could not stay any longer [in the company]. In the farewell party, my lead told the project manager that if he has problem with engineers in [his new company], he could send their design to him. He said “I will mark it all red” [raise many questions].

Although it was a joke, it shows that criticizing other people’s work can be a “professional” way for engineering professionals to demonstrate power.

What is clear is that immigrants’ participation in their new work communities enabled through their expanded technological knowledge is highly competitive. It could be a way for engineering practitioners to assert power at work, or a way for them to exercise resistance. Yet, however hard they learned engineering practices and however good they were at their work, their space for participating in their new community was still limited. In most cases, the best that they could manage to achieve at work was to become a licensed and senior engineer; Ed#7 was the only one who was promoted to become a team leader right at the time of his interview. Some of them tried so hard in this macho game to promote themselves that they felt that they had lost their balance of life.

Here is the personal struggle of To#4 who started as a drafter but managed to become an engineering specialist through demonstrating his technological expertise in front of the bosses:
I feel like agitated. … Now, I can… see the end of my future [in my profession]. As I told you, part of my pressure comes from work. The seeable future adds another layer to my pressure. I feel like agitated again. When I was agitated before, I could calm myself down. But now, it is hard. Now I came up with four characters towards which I am going to make extra efforts to calm myself down. These four words are ZHI [知] YANG [养] SI [思] JING [静]. ZHI comes from Confucianism … [and] means foundation of knowledge. For me it means reading everyday. YANG means cultivation. Cultivate your mentality, and build your body [mentally, and physically], Health is what is most valuable to you. I want to achieve the aim of JING. I want to do something in the future. Now that I feel agitated, I need to calm down. So I need to cultivate my mentality and build my body. That character also comes from DA XUE (a classic Confucian reading). Strengthen my heart and my health. SI [means] that I need to reflect on and examine my behaviours three times a day.

Observably, To#4’s frustration in part came from the fact that he had reached the ceiling of his career. What is interesting is that to break away from the competitive macho power play in which he engaged himself, he resorted to traditional philosophic wisdoms in China. He was not the only one who sought relief from traditional knowledge and practices from China. When To#5 was bumped out of some projects by the veteran drafters, he started practicing Chinese calligraphy to help his anger to subside. When Ed#3 was repeatedly laid off before he moved to Alberta, he recited classic Chinese literature to persuade himself that all was but a test of his mind and character. Resorting to their cultural knowledge and wisdom was a way through which they made personal spaces when they reached their limits of their participatory space in their new work communities.
Safety training and the workers safety compensation programs

So far, I have shown that the work-related learning of immigrants are differentially configured at different places. The scanty and individualized approach of corporate funding for professional development does not provide much room for immigrants to develop themselves in their fields. As a way to expand their participatory space in their new communities, immigrants put great energy consolidating their technical knowledge through studying codes, standards, and other related engineering knowledge. In my study, I also find that another way to extend training entitlement to more workers is through the intervention of the state, which is manifested most clearly in the case of safety training.

According to many of my research respondents, safety training is for all employees regardless of their employment status or seniority at work. This equitable space is, however, not provided out of the good will of any particular employer. Rather it is regulated by the state through the Workers’ Compensation Program.

Ed#5 worked as a project manager in both China and Canada. Part of his job in both countries was to provide safety training. According to him, one crucial difference between his work in China and his work in Canada is the attention employers pay to the issue of safety.

In terms of skills, the amount of attention paid to the issue of safety is different [in China versus in Canada]. Not only that [people’s consciousness about safety is different], safety standards are different. In China, people can bypass the issue, but here, you follow the rules.

I argue that consciousness around safety is not innate to any particular group. Rather, it is socially produced (Wertsch, 2000). In the case of Canada, public policy on
work injury makes safety a necessary item on employers’ agenda. By law, companies in
Canada need to register their businesses with their provincial workers’ compensation
board, and pay workers’ compensation insurance premium. Workers’ Compensation
Programs, enforced by the state, constitute an intervention mechanism making safety a
collective obligation among industries; and through these programs, safety training is
extended to many employees. The Workers’ Compensation Program is based on the
fundamental principles articulated more than 85 years ago by Sir William Meredith, then
Chief Justice of Ontario (WCB-Alberta, 2008a):

- workers receive compensation benefits at no cost for work-
  related injuries;
- employers bear the direct cost of compensation and in return
  receive protection from lawsuits arising from injuries;
- negligence and fault for the cause of injury are not
  considerations; and
- a system administered by a neutral agency having exclusive
  jurisdiction over all matters arising out of the enabling

Workers’ Compensation programs provide a safety net for both employers and
employees. Workers are protected financially in case of work-related injury; employers
are protected against lawsuits, on the condition that they register with the provincial
board that administers insurance issues related to work injury. Workers’ compensation
insurance operates in a way that builds cost arising from workplace incidences into the
capitalization process by distributing it among industries. Below are the principles that
Workers Compensation Board (WCB) in Alberta follows to set employer’s premium
rates.

- To attain a sufficient statistical base, industries are consolidated
  into broader categories referred to as rate groups. Rate groups
are formed on the basis of similar business characteristics and loss patterns of similar work activity.

- Employer premium rates are set based on the claims experience of each rate group. Rates are set for the next year, based on historical data and trends. Your rate is the cost of coverage per $100 of insurable earnings.
- The rate setting process promotes fairness and accountability and ensures that today's employers pay the full cost of today's claims, securing future benefits for injured workers. (WCB-Alberta, 2008a).

Similar procedures are followed in Ontario. Employers are required to shoulder the cost of workplace injuries. The calculation of the premium of each business is based on the historical claim information of the industry to which the business belongs.

While enforcing workers’ safety premium, Workers’ Compensation programs also provide incentives for companies to take active measures to reduce incidence of injury. For instance, it encourages people to sign up to be a partner in injury reduction program (PIR). It says:

PIR is a voluntary program that can help reduce your premiums by up to 20 percent while creating a safer workplace. A Certificate of Recognition (COR) is essential to WCB’s PIR program and a key component of Alberta Employment, Immigration and Industry's Partnerships program. A COR is issued to employers who have successfully implemented a basic workplace health and safety management system (WCB-Alberta, 2008a).

The certificate of recognition (COR) is a document issued jointly by a certifying partner and Alberta Employment, Immigration and Industry, Workplace Partnerships (AEII, 2007). A COR recognizes that an employer’s health and safety management system has been evaluated by a certified auditor and meet the partnerships standard. A basic health and safety management system usually include elements such as company policy and management commitment, worker qualification, orientation and training, and
hazard identification (WCB-Alberta, 2008b). Safety training, as part of the health and safety management system, as such becomes financially compulsory for employers.

**Summary**

In this chapter, I started by examining immigrants’ work-related training opportunities and learning experiences. I showed that immigrant respondents had differential entitlement to different kinds of training. While they had easy access to safety training, rarely did they receive corporate sponsorship for professional development. Many of them focused on learning codes and standards as a way to establish themselves in their new work communities.

To understand the complex picture of training and learning, I mapped the organization of training opportunities and learning incentives in Canadian engineering workplaces. Through this map, I have shown how immigrants working at the periphery of the engineering profession are marginalized in corporate training agenda. To start with, like many other researchers in the field of workplace learning, I find that training opportunities are unevenly distributed across companies and populations (Senge et al., 1994; Dougherty, 2003). Further, in many companies, training is deployed strategically to support the organization of work and management of the workers. In addition, I show that the membership-contingent and individualized ways that financial sponsorship for high-end training is administered essentially privilege the permanent and core workforce. Workers at the lower echelons and those working on contract basis do not have the same entitlement to training as others especially when it comes to training for their professional development. Immigrant engineering professionals at the periphery of the profession have to rely on their own learning initiative and, if necessary, financial resources to
develop themselves professionally. For instance, my respondents were quick in identifying engineering codes and standards, or the textual organizers of engineering work, as desirable learning objects. It is only with the intervention of the state, such as when it comes to safety training, that training opportunities are distributed on a more equalized manner.
Chapter Six:

Individualistic Communicative “Culture” as an Ideological Practice

The biggest thing is the language skills. [The Chinese engineers] have the knowledge; they have the intellect, but… it’s hard to understand them, and it’s really… really, sometimes it’s brutal. (KeyAB3)

To work well with [your colleagues in Canada], it is important to recognize cultural differences. …You have to keep an open mind [and be open to changes] … (To#5)

One important aspect of immigrants’ workplace participation has to do with communication. To many of my research respondents, immigrants, particularly those from China, are faced with huge communication problems. The converging perception is that immigrants should improve their English facility and manage cultural shifts so as to fit into a workplace “culture” that celebrates individual values while devaluing close interpersonal relationship among colleagues.

I argue that framing communication as an English and cultural issue “deflects attention away from organizational issues, deep structural conditions, or contestation of power” (Upadhya, 2008, p. 112). To start with, the individualistic communication culture, as related and valued by my respondents, renders invisible the gender, race and class relations that help attribute differential values to different ways of communication. Further, it eclipses the organizational relations that perpetuate the legitimacy of certain ways of communication to the devaluation of others.

This chapter comprises four sections. In the first section, I introduce the individualistic communication culture and present how immigrant respondents altered their practices to fit into such a culture. In the second and third sections, I unravel ways in
which this seemingly rational communication culture is ideologically produced and reproduced for the engineering workplaces. In the second section, I examine the individualistic culture as it is discursively constructed to privilege the dominant white male power. In the third section, I look closely at how this culture is materially woven into, and reinforced by, the project-based organization of the engineering profession as well as the employer-centred managerial practices at some workplaces. In the last section, I summarize the research findings and point out ways in which immigrants break away from the individualistic practice and bring about changes in their immediate “communities of practices” (Wenger, 1998) in small yet significant ways.

**Fitting into an Individualistic Communication “Culture”**

Many of my research respondents believed that lack of English communication skills and culturally different behaviours held the Chinese back from fully participating in the engineering profession in Canada. All my key informants, except for KeyON1, a small employer, could not emphasize enough the importance of communication for immigrants practicing or wishing to practice in the engineering field. The question becomes how immigrants, with varying English and cultural knowledge, manage to communicate at work.

In this section, I examine how my immigrant respondents altered their interactional and communicative practices in Canada. I show that it did not take long for the immigrants to be socialized with an individualistic communication “culture” that accentuates individual value and productivity. In the meantime, many of them learned to accept a depersonalized professional relationship at work and stopped attempting to build close interpersonal relationships with colleagues. My study also shows that while English
language played a role in how the immigrants communicated at work. It was through navigating the power relations in their respective workplaces that they tried to establish themselves in the engineering profession.

**Learning the individualistic communication culture**

When it comes to communication, my research respondents pointed out two issues with many Chinese engineers. The first is that their English level was not satisfactory. A few key informants reported that some of their Chinese colleagues did not speak English well. Two commended some of their Chinese colleagues for their English while criticizing some others. Among my immigrant interviewees, only two indicated that they had no problem with English at all. Two deplored their poor English. Many emphasized that they had serviceable English at work, but expressed that their English was not enough for them to freely communicate with their colleagues over non-work related issues.

The second issue, which is closely related to the first one, is the issue of culture. According to many respondents, immigrants need to make a cultural shift in order to work well in Canada. For example, KeyOn9, a project manager said:

The other thing is too that I often find that… in the cultural differences between North America and China is that you are humble. You are not allowed to be smug like people in Canada or North America do. It is about saving face. Correct me if I am wrong. You never want to put a colleague in a position where they are embarrassed. In a way, you never learn how to sell yourself and say what you do well, because maybe by saying that, and promoting yourself, [you are concerned that] you might be putting people down.
Core to the legitimate communicative practices related by KeyOn9 is to prompt people’s market value.

While key informants tried to construct proper communicative practices, through spelling out how the cultural dispositions of immigrants, or cultural differences prevented immigrants from integrating into Canadian workplaces, immigrants came to a similar construction through comparing their experiences prior to and after immigration. To#5 for example described the cultural differences between China and Canada this way:

My experience [working in Canada] is that if you want to move up and get your hands on more responsibilities, as an immigrant, you need to zi wo biao xian (自我表现) [volunteer or promote yourself, and demonstrate or showcase your value]. [Employers] would not automatically trust you. You could be a big name in China. Here you are nothing but an immigrant. [Your employers] do not know you. You have to make it possible for them to know what you can do. Zi wo biao xian. That is absolutely a taboo in China. In China, people would consider you zi wo peng zhang (自我膨胀) [conceited]. You need to be all humble in front of all your people [in China], be they your higher-ups or subordinates. Here, without zi wo biao xian, you never expect people to even spot you.

KeyOn9 and To#5 are two of the respondents who used terms such as “[self]-marketing”, “[self]-assertiveness”, “self-foregrounding”, “self-volunteering”, and “self-showcasing” to describe how people are expected to communicate at Canadian workplaces. According to them, such practices are inherently individualistic, which is a cultural expectation in Canadian engineering workplaces.

There are different channels through which the immigrants got socialized with the individualistic communication culture in Canada. One major channel is through interacting with their employers and colleagues. For example, some of the respondents
saw the imperative for them to show “what they’ve got” at the very beginning of their job tenures. For example, here is the first week of To#2 in her first engineering job:

… the first day, [the boss] gave me a pile of materials to read. That was nine binders, two-inch thick each, nine of them altogether. It is the materials of one project. He gave me nine folders and told me to finish reading in a week. I then started reading, and finished in a week. After that, I was asked to explain to him what the binders were about… given that I did not have time to go in-depth, I could only explain to him what those models do. Anyway… he was satisfied with me.

It is unknown if To#2’s immigrant status had anything to do with her employers’ decision to test her knowledge at the beginning of her jobs. What is clear is that employers’ interest in employees’ productivity made it necessary for her to demonstrate their values early on in their employment.

In some other times, immigrants also reported that they had to prove their competency to their colleagues. Here is the story of Ed#6:

When I started working there [as a drafter], the company had a senior specialist whose job was mainly drafting. What was weird was that in such a small company, people would challenge your drafting work. I went to ask him a question, a question related to a project. However, he was not happy with me. He threw me several hard questions. And then he himself could not solve all those problems. I politely told him how to solve those problems. Later on, when I joined some big companies [two of the companies he worked for were international companies], such things happened a lot. To get people like that to respect you, you need to be up to the challenge.
Again it is unknown if Ed#6’s immigrant status had anything to do with the kind of challenges his colleagues posed to him. Yet it is clear that a sense of competition has been built into the ways in which workers interact with one another.

Some immigrants learned that they needed to communicate their value in “the hard way”. Ed#7 related the following incident before he was fired from his first job in Calgary.

I actually sensed that there was something brewing in the air before they let me go. The first day at work, they gave me some drafting work. One of the principals – there were two principals there, would walk by me quite a number of times a day. The chief designer also checked on my work. To get my first job done well, I decided to take my time. But to them, I was too slow. You know they fired me within two weeks. They did not give me a chance to show what I could do for them. They did not give me a chance to explain either. It was a huge setback for me! But it was a big lesson as well…. [For my next job], I took work home and I did much of the work at home. I would not report the time or ask for extra payment. At work, I could show that I was producing. I stopped doing that only after I picked up my speed drafting…..

The most important lesson he learned was that if he could not show his productivity right away, he would be out of the game.

**Communicating individual value**

Newly gained perception and valuation work to change people’s ways of presentation and communication. Once socialized with the value of the individualistic communication culture, some of the immigrants altered the ways they interacted with their colleagues. For example, when To#4 started off in the engineering profession, he
was working as a drafter. As a drafter, he initially volunteered to discuss various projects with his designer, which was not particularly welcomed by the designer. He said:

> When you are doing a project, you need to get involved. It does not matter what position I have. As long as I am involved, I would commit myself to [the project]. … I am trained in this profession. I feel the urge to talk when I spot problems. I told [the designer] that there was something wrong [with a project]. I could tell that there were problems with the way that he marked\(^5\). Well, what I told him was actually what engineers should consider and as a designer, he did not have to consider them at all. Anyway, he said that it was beyond my concern.

When To#4 tried to contribute to a project, not only was his opinion was dismissed, but he was also dismissed as an engineering professional. It was frustrating for To#4 not to be able to communicate his knowledge beyond the scope of his responsibility as a draftsperson. He soon learned that sharing what he knew with his colleagues was not the way to go. He told me that even if the designer accepted his opinion, he would not be able to take any credit. Thus, he changed his communication strategy:

> …The engineer put the air conditioner there, but I know that it is not feasible at all. Yes, I know that there are inherent problems. In such cases, I would not discuss it with the engineer. I would go and discuss it with the boss. If I talked with the engineer, I would be teaching him how to do the job. When I talked with the boss, I was showing the boss first of all, that I am much more capable than that engineer. If the engineer made the right change, he would take the credit. When I talked with the boss, I wanted the boss to see that first the engineer made a big mistake, and second, I am the person doing the right thing. Gradually, I gained total trust from the boss.

\(^5\) Marking is for a practitioner to make changes manually on a sketch of design.
Instead of solely committing to his projects, To#4 started to see the necessity to communicate his ideas and values to the right person, even if it would bring negative impact on his colleagues.

It is not a new finding that immigrants change their practices in order to fit into the host market. For example, Catalyst, an organization that works to advance women in businesses, recently conducted 19 focus groups with immigrant women professionals, managers, and executives in Canada (Giscombe, 2008). The study finds that people from East and South Asian backgrounds believe that they have to cast off their culture, lose their accent, and take on the local mannerism in order to succeed in Canadian workplaces. With the perception that it is important to foreground individual value at work, some of the Chinese immigrants undertook calculated moves to demonstrate their professional competence. Their new ways of communication have to do with language. Yet, they are more about navigating the power relations at work. For example, Ed#7 related that when he had questions or problems at work, he would take care not to let those questions undermine his professional image.

I make a point of asking questions. But you bet I do not ask any questions. Neither do I raise my questions with anyone. … If I do need some help with my work, say I do not understand a certain function of a program, I ask [a friend outside my workplace], or my colleagues who I trust would not use it to put me down. There is a senior engineer who I worked with before…. He is a senior person and he sort of likes teaching others – I respect him a lot. He likes it when you ask him questions. Basically he loves educating others. I would ask him for help.

Ed#7 was careful in selecting a “right” person to ask for the right information. A similar case was related by Ed#3 who was unhappy with one of his colleagues because that
colleague would “ask him all kinds of questions in private but would pretend to be busy at work when the boss happened to pass by”. He subsequently stopped helping his colleague “with any technical questions”.

It is clear that while language is crucial for communication, how the immigrants changed their communicative practices speaks more of the power relations at work than about English proficiency per se. In fact, my study shows that some immigrants were able to show their value at work despite their less than satisfactory colloquial English. In the case of Ed#7, who was made a team leader at the time of my interview, he constantly complained about his bad English and heavy accent. He said that given his English, he did not think he had an advantage debating orally with his team members. Yet, he managed to establish himself at work through asking high-quality questions. He said:

Actually, for engineers, you do not need complicated oral communication. For immigrants, people get to know you through your work. For example, at one time, we were discussing fatigue design in a meeting. All the locals were talking, but all in a tangent way – none of them knew how to do it. I did not say much in the meeting. I learned fatigue design in school, but never tried to explain it in English. I knew that it would take me too long to explain to them in the meeting. So I did not say anything. I came back to my cubicle and came up with the design. I then sent it to all the people in the group. You could tell without any doubt that they knew my weight [how important he is] right away.

Ed#7 may not speak English well. Yet, he managed to communicate self-value and establish himself at work.
Adjusting to segregated interactive practices in Canadian workplaces

At the same time when immigrant respondents learned the significance to showcase their market value, they also noted the futility to connect with their colleagues at a personal level. Almost all immigrants mentioned that when they started their new jobs, they wished to make friends or expand personal network through work. Yet, they scaled down their ambition pretty soon. The experience of To#1 was a typical case.

Also initially I went to lunch with my colleagues together. But later I stopped doing that. When I did that, I was trying to establish good relationship with my colleagues. Later I only went with those people with whom I could have common topics. I stopped caring.

All immigrant respondents expressed that it was hard to make friends at work. If they did make some friends, it was usually with fellow Chinese or other immigrants, particularly those from other third world countries. Rarely were immigrants able to mingle with local white engineering professionals.

To some immigrants, there is an invisible line between the Chinese and Canadian engineers which is hard to cross. When Ed#7 came back to Edmonton from a vacation in Vancouver, he had a very interesting encounter.

On my flight back to Edmonton, I recognized that the guy sitting right next to me was an electronic engineer from [my company]. I greeted him and asked him if he was from there. He said yes. I told him that I was a structural engineer from the same company. He said “okay”. And that was the end of our conversation. He did not care to talk to me. I, of course, am not a person who could not tell that there was no interest. I did not have to bother him. I was hoping for a two or three-hour chat. But I was equally happy to have a few hours’ sleep on the flight.
If it can be speculated that the local engineer above was a shy person, not ready to talk to a stranger, not to say to a guy who spoke English with a strange accent, it is hard to imagine an excuse for the white project manager related in Ed#3’s story. My interview notes record:

…The project engineer/manager [who is white], never noted [Ed#3], and treated immigrants in the office like invisible. One time, he came back from a vacation with a basket of big peaches. He gave out one peach per person to only those white people in the office and a Filipino who was the office manager. Ed#3 actually thinks that the project engineer was too cheap – one peach per person cannot count as a gift in the Chinese culture. Nevertheless, the scenario stayed with him. He was just not comfortable with being left out of the picture (Interview notes, August 24, 2007).

In this story, although the particular project manager and Ed#3 never worked on the same project, they worked on the same floor and the manager himself also worked with other immigrant employees on a daily basis. Ed#3 as such felt insulted when immigrants were left out of the gift game.

To some immigrants, such as To#6, segregation of workers along racial lines was only natural due to the cultural and material differences between immigrants and the local Canadians. He said:

During coffee break and lunchtime, people divide themselves into two groups on their own. Locals would chat among themselves and immigrants would chat among themselves too. That is because the locals speak very fast. As well, we have different topics. They would talk about hockey, whereas among us immigrants, we would talk about where we should go to make more money, how we should go about buying a house, how we should educate our children. We would talk about how things
were back in our home countries and what kinds of problems we have ever had in Canada.

With such an understanding, To#6 was content with a work-oriented relationship with “local born” colleagues. His social life was mostly with other fellow Chinese outside of work. That is, like many other immigrant respondents, his work life and social life were two distinct domains.

To#5 had a different view about racial segregation in Canadian workplaces. According to him, when the Chinese actually make non-Chinese friends, their friends often belong to other marginalized groups because they share a common experience – the experience of being marginalized.

As far as I know, not only for me, but also for my other Chinese friends, we tend to socialize within the Chinese community. If we do make a friend outside of the Chinese community, it is with people who are marginalized. You tend to identify with each other more.

To#5 had an Italian Canadian friend from the second company where he worked. That is one of the few white Canadians, actually the only one that I would call a friend. He is crippled, and has some other physical problems. He joked with me at work, and took me to bars in little Italy. He knows where to park for free. ..He also told me how he was abused at school because of his physical conditions. He invited me and my family to his home, and his parents, who do not speak any English, were more than happy to see our family as he has no other friends, except that he has many cousins here.

There is no definite answer to the segregated interaction patterns among workers in Canadian workplaces. Lack of common topics or different ways of speaking and communication may have contributed to such a phenomenon. Racial discrimination may
have added to the segregation at work. What is clear is that my immigrant respondents quickly adapted themselves to the depersonalized professional relationship at work.

In this section, I introduced the individualistic communication culture as constructed by my interviewees and how my immigrant respondents altered their ways of interactions at work to fit into such a culture. I, however, find the individualistic communication culture to be ideological in nature. To start with, it renders invisible the power relations assigning differential values to different ways of communication. Further it leaves out the organization of engineering work and workplaces that help legitimize certain kinds of communication practices rather than others. The next two sections deal with these two issues respectively.

**Power relations underlying the individualistic communication culture**

While my respondents constructed English communication as a language and cultural issue, I contend that this seemingly rational construction is an ideological practice. Among others, it is discursively constructed to preserve the power of the dominant white male group. In this section, I examine the gender, race and class relations that inform the individualistic communication culture.

**The racial and class dimensions of the individualistic communication culture**

Many studies have shown that the English language, and indeed different ways of speaking or using English are an important signifier and stratifier of social groups (e.g. Amin, 2000; Amin and Kubota, 2004; Goldberg & Corson, 2001; Mirchandani et al., forthcoming; Phillipson, 1992; Sibayan & Gonzalez, 1996; Slade, 2008a). The individualistic communication culture, as constructed by my respondents, I argue, is
essentially an ideological construct that obscures gender, race and class relations as social axis of differentiation.

One systematic social understanding of language and communication is proposed by Bourdieu (1977; 1991). Bourdieu does not see communication solely as an innate ability pertaining to individuals. Rather, he points out that individual communicative competence is defined in relation to what he calls “legitimate language” or legitimate discourse (1991). According to him, there are different languages, dialects and ways of speaking. Yet only one of them is historically unified and consolidated as a legitimate and valuable discourse particular to a field, a market or a game—Bourdieu uses the term discourse as a “euphemism” inspired by the concern to “speak well”, to “speak properly”, and to produce the products that respond to the demands of a certain “market” (Bourdieu, 1991, p. 78).

In light of Bourdieu’s social theory of language, the individualistic communication culture can be regarded as a legitimate discourse that my research respondents identified. Yet, such a discourse cannot be taken as a given in the Canadian society. Rather it is a social product. Among others, it is informed by and reinforces the abstract exchange relations in the capitalist market, where employment relationship is based on workers’ productivity and marketability as defined by employers. Within such a social relation, employers’ interests for maximum surplus value occupy a dominant position. At the centre of such a relationship, workers are not appreciated as embodied beings, but for their exchange value, or their productivity, as well as their ability to present their productivity in the capitalist market.
Not only is the individualistic communication culture classed. It is also deeply racialized. To understand the latter point, again Bourdieu’s social theory of language is particularly informative. According to Bourdieu, the legitimate discourse gains market value as the linguistic community sharing it gains dominance in the larger society. The value of other languages is measured against the legitimate one (Bourdieu, 1991). My study provides direct evidence to such an argument. When my respondents described the individualistic communication culture as the culture to which immigrants should adapt, other kinds of communicative practices were discounted. For example, while the immigrant respondents were all sensitized to the value of the individualistic communication culture, they all found that building collegiality and close interpersonal relationship at work futile endeavours.

The racialized property of the individualistic communication culture is also demonstrated in the power it has to change people’s practices. In this regard, Bourdieu says:

One’s initial relation to the language market and the discovery of the value accorded to one’s linguistic productions, along with the discovery of the value accorded to one’s body, are doubtless one of the mediations which shape the practical representation of one’s social person, the self-image which govern the behaviours of sociability (“timidity”, “poise”, “self-assurance”, etc.) and, more generally, one’s whole manner of conducting oneself in the social world (Bourdieu, 1977, p. 660).

Whether people embrace or resist the domination of a particular language or legitimate discourse, they are all conscious of the hierarchical values attached to different languages (Bourdieu, 1977). It is this social consensus that accords value to the dominant discourse. In turn, the dominant discourse serves to shape our communicative practices. In particular,
our desire to become acceptable in a particular environment subjects us to the regulation of a particular language market. In my study, whether my immigrant respondents tried to change their communicative practices, they all recognized the legitimacy of the individualistic communication culture in their respective workplaces.

In my last quotation from Bourdieu, it is also clear that the legitimacy of certain communicative behaviours has to do with the social power attributed to the body of the speakers. That is, the value of certain communicative practices depends on what Bourdieu calls symbolic power relations between speakers or the power accrued to people based on honour, prestige and recognition (Bourdieu, 1977). Our social, economic and political positions bear on the value of our communicative practices in a particular market. As Bourdieu puts it, a language or a way of communication “is worth what those who speak it are worth” (p. 652). Clearly, the hierarchical value accorded to different language is built on and, in the meantime, reproduces the existing social hierarchy.

In my study, some respondents made explicit connection between how people communicate and people’s ethnic appearance. For example, here is how KeyAB3 understood to be the problem with the Asian community.

And so I had advantage, through my… yeah, because I was from [Europe], and I was like, taller than most of the Asian people, so… it’s… it’s probably the appearance. …it might be intimidating for Asians. … but it’s a… the assertiveness, it’s probably… you probably could…probably expect more leadership from a European than from an Asian. And that’s probably most on the first glance. It shouldn’t be right, but it’s probably an easier sell, right, because if you get an Asian guy who you have to… who has the knowledge and everything, but you have to teach him the leadership skills to be assertive and to talk to a group and to direct work. It
would… it probably gets easier done from a non-Asian, and it’s probably also easier received from the other end.

What KeyAB3 related is a stereotypical view where people’s manner of interaction is directly associated with physical appearances and ethnicity. Yet, it ideologically informs the ways in which some people understand and value communicative practices.

The differential valuation of the communicative practices among different groups is in part manifested in the stratification of engineering workers along racial lines. KeyOn4, a first generation Chinese who was a project manager, related the following:

… from what I see, the ones that are most promotable are white Anglo Saxon, then we have white, but coming from east Europe…. And then Indian. The Indians are very smart, and very diligent people and they communicate a lot better. But we, the Chinese, seem to rise but to a certain level. The outstanding ones moving up are really outstanding. But to reach a satisfactory level—I think most of the Chinese are in the middle level… A lot of Chinese, myself included, we tend to lack the knowledge to be successful in the corporation. You have to have the ambitions to be leaders. You have to know the politics; you need to be able to play the game; you need to be rough, aggressive. If you need to be unfair to others, if that is going to make you move up, then that is what you do. … But communication is the first barrier. There are a lot of Indian people that made it; there are a lot of Egyptians that made it.

While a large number of Chinese and more broadly Asians practice in the sciences and engineering field, they are disproportionately under-represented in the managerial echelon in the North American context (see, Wong & Wong, 2006; Varma, 2002). Some researchers see a correlation between language proficiency and immigrants’ employment status (e.g., Boyd 1990, 1999). Some others have made exactly the same
argument as KeyOn4 that language and cultural differences explain the under-representativeness of Asians in the management positions (see Lewis & Kim, 1997). There are also studies that point otherwise. For example, in the US, the Federal Glass Ceiling Commission (1995) finds that those foreign-born whites with poor language skills and foreign accents do not face blocked mobility in the same way as Asians. Varma also argues that racial stereotypes, “lack of mentoring, biased rating and testing systems, little access to network, counterproductive behaviour by colleagues, and a working climate leading to isolation” (2002, p. 357) all contribute to the lack of advancement of immigrants or people of Asian origins in the engineering field.

I add that communication – be it linguistic or non-linguistic – is never a one-way practice. Studies (Angus Reid Group, 1991; Kalin & Berry, 1994) on the interaction patterns of people from different racial backgrounds in Canada highlight some interesting power dynamics that we need to bear in mind when looking at the issue of communication. In these studies, Canadians do show different comfort levels interacting with people of different ethnic backgrounds. The dominant group shows more comfort interacting with the Europeans than with immigrants from other origins; in fact, their comfort levels interacting with different groups correlate with the prestige rankings of various ethno-religious groups, which put the Europeans on the top (Angus Reid Group, 1991; Kalin & Berry, 1994). As Satzewich (1998) poignantly points out, it is the interaction patterns tinged with racism that has led to virtual exclusion for the socially marginalized communities.
**Gender in legitimate communication practices**

In my study, I also find that the seemingly rational emphasis on self-marketing is also premised on and at the same time reproduces a masculine workplace relationship. Engineering workplaces are noted for macho ways of interactions (Hacker, 1981; McIlwee & Robinson, 1992). Hacker (1981), for one, uncovers a set of values shared by students and faculty members in an engineering institute in the US. According to her, the “culture of engineering” in the US emphasizes technology over personal relationship, formal abstract knowledge (particularly math) over humanistic knowledge, and ultimately male over female traits. At the root of the engineering culture, according to Hacker, is a mind/body dualism that prioritizes rationality (often associated with men) over emotion (often associated with women). Similar to Hacker, McIlwee and Robinson (1992) argue that the engineering culture is an ideology that stresses technology, organization power, and most importantly, forms of presentation closely tied to the male gender role. The major critique of the engineering culture is that endorsement of macho ways of interaction undermines women engineers’ professional identity (e.g. Faulkner, 2006; Hacker, 1981; McIlwee & Robinson, 1992).

To the existent literature on masculinity in engineering workplaces, it is necessary to add that the emphasis on self-marketing is also deeply associated with a masculine image of engineering practices. Many of my respondents could not emphasize enough what some call “professional” manners of presentations and communications. For example, Ed#3 used the term “professional relationship” a few times to justify that he did not need to communicate a lot at work (although in the interview, he was very talkative). Communication in professional relationship does not exactly entail less interaction. It is more about workplace interaction that prioritizes individual market value, which is
associated with rational men, rather than emotional feelings, linked to women’s ways of socialization. The same sentiment is born out the most in my interview with KeyAB5, a principal of an international company.

...one difficulty that I find with Asian people, in general, they don’t have to be Chinese, right, is there’s a difference in culture. I think Asian people are a bit more gentle. So they are more gentle with other people, but they take things a bit more gently, too. And that is a beautiful thing in some ways but in some ways makes it more difficult for them in our kind of environment here, because, like we do consulting work, we design, right. ... So to protect ourselves from errors and mistakes and things like this, we have a review process, for example. So one engineer designs, and somebody else, usually more senior, reviews and says oh, why did you do this, this may not… like, it’s hard questioning, with the objective of being helpful, the objective of improving quality. But sometimes for Asian people this is hard to take because it’s not much in their culture to be questioned, to be said oh, this is wrong, or this is not good. So… and I think maybe in other cultures it’s easier to say no or to say I don’t like this, or to say this is right… and there is more open communication that way, like… you can question, you can criticize and the person will hear as, oh they’re just criticizing to make my work better, and this is good, then okay let’s change this, let’s change that. In Asian cultures, this is very difficult. People see as they are being criticized. … And that’s very unhelpful in this kind of environment here.

According to KeyAB5, the nature of engineering demands the workers to openly communicate over work. Being gentle and taking things gently makes it hard for Asian immigrants to communicate in the same manner as the local engineers do. While KeyAB5’s argument is that open communication enables efficiency at work, it is also clear that such communication practices prioritize depersonalized professional
relationship over personal feelings and relations. In other words, people need to isolate
the working self from the embodied self (Acker, 1990; 1992) in order to survive
Canadian work environments.

The kind of professional relations that centre around production and that demand
no emotional investment or interference may not be welcoming for women who wish for
a friendly and non-competitive work environment. To#2, for one, was particularly critical
of the macho competition she identified at one of her workplaces.

We have a man from [another country]. He really knows how to talk. …
he always goes to the boss, and presents his idea on all kinds of projects
no matter what projects they might be - I am not going to comment on
whether he understands the projects at all. But he presents himself as a
knower, as an expert. The boss likes him very much. … sometimes that
guy comes to me to discuss [project design]. What I find is that for most of
the time I have to explain to him how to conduct the projects. Later on, I
found that he was presenting my ideas to the boss as his. But to the boss,
he of course is the expert and I am the mute and stupid one.

To#2 understood the significance of sharing ideas with the boss. Yet, she expressed that
she would not bring herself down to ugly competition at work, and that it was not her
belief that workplace interactions should be based solely on gaining the trust of the
employers.

While a macho and competitive workplace was not particularly appealing to
To#2, a workplace that was not macho enough turned away Ed#7. Ed#7 once worked in
the drafting department in a maintenance company. It happened that all other people in
his department were women. Ed#7 complained that he did not feel like fitting in.
It was two months. I stayed there for two months only, longer than I thought that I was able to. It is a maintenance department [of a company]. Everyone else in that office was woman. They kept on talking about their kids, families, boyfriends, etc. with each other. There was no way that I could fit in. So I moved on.

Ed#7 left the company in part because he could not stand women’s talk and did not belong to this circle of women. This particular case is an instance of how the interviewee’s own bias prevented him from fitting into his workplace. However, it is also an instance that shows the hierarchical value attributed to different work ambiences and interactive relations. A workplace that is not macho enough is not considered a worthy place to be for immigrant engineers aspiring for professional mobility in Canada.

The two cases above should not leave the impression that Chinese women are not good at engaging in depersonalized professional relationship. In fact, women may as well operate in the engineering profession in a masculine way (Ranson, 2005). Ed#2, a female civil engineering specialist related that at one time, one of her male Chinese drafters complained about how their project engineer was condescending and discriminatory when instructing the team. In response, she told him that he should treat his job as a job, and not to bother with emotional feelings and attitudes. Clearly, both men and women do have emotional investment when they interact with their colleagues. Yet, according to many of my research respondents, it is important to keep personal feelings in check, and stay away from small talk or women’s topics in order to keep a professional façade. That is, the seemingly objective emphasis of self-marketing in the so called individualistic communication culture obscures the gender relations privileging ways of interactions that are masculine in nature.
In this section, I show that when people use language and culture difference to establish the legitimacy of the individualistic communication culture, they also help mask the gender, race and class relations that actively assign hierarchical values to different interaction and communication practices. I further argue that the individualistic communication culture is not only discursively constructed. It is materially interwoven into the organization of the engineering work and workplaces. In the next section, I focus on the material processes and practices that inform and reinforce the legitimacy of individualistic communicative practice in engineering workplaces.

*The material relations underlying the individualistic communication culture*

The individualistic communication culture is not only an ideological discourse devoid of power relations. It also leaves out the material relations that participate in producing and reproducing the legitimacy of individualistic practices. In this section, I argue that the project-based organization of engineering work, and the employer-centred managerial practices in some engineering companies help shape what counts as valuable communication, which in turn refashion immigrants’ communicative practices.

*Communication and the project-based organization of engineering work*

Both engineering work and the engineering workforce in Canada are project-based. The term “project-based” has been used in a number of career questionnaire surveys, such as the ones conducted by Tremlay, Wils and Proulx (2002), Allen and Katz (1988) and McKinnon (1987). In these surveys, project-based career path is considered a privileged option for engineering professionals. When I name the project-based organization of engineering work and workforce, I mean that companies base their HR recruitment decisions largely on the number and scale of projects they acquire. Such
hiring practices necessitate a contingent workforce that can be amassed and disbanded at the beck and call of engineering projects. KeyOn9, a project manager, made this point very clear:

…Like I said, you put a bunch of people together, new, contract, .... You put them on the project. The day you start that job is the day you are working yourself out of a job. And that is the way it is. And you hope that there is another job… that your business development people are getting another job, or everybody will be out of job.

The project-based organization makes it important for workers to communicate their desirability and availability in order to secure positions in new projects. KeyOn9 continued:

…if this project gets shut down tomorrow, it is up to [my structural manager] to find me a new position. That is very, it is typical. … Basically I would let him know “listen, I’ve just done this nickel project, I really would like to do gold. Or in my career review, ‘I’ve done this now, I would really like to ...”. So I would have to let him know. If he is listening, if this project runs down, he would be…. if someone says to him “we need a project engineer for gold,” then he would say “how about [Susan], she is coming off that project.” He is sort of my agent. It is very strange how it works. And so it is very much about relationship. It is very much about relationship. And if I do a good job here, and [the manager] hears that from people, then he knows that I am going to be easy to sell. Maybe some of the people on this project, when they move on, they say “[Susan], you’ve got to come with us.” Do you know what I mean? So it is very much relationship oriented. For some people working on this project, you say “never again.”

On the one hand, project-based engineering work compels people to communicate their desirability and availability in order to get a space in new projects. On
the other hand, it makes it hard to build cohesion or collegiality among engineering practitioners. Many of my immigrant respondents commented that it was simply hard to maintain relationship with their colleagues because people constantly moved between projects and companies. For example, Ed#2 related: “Unlike China where a company is like a family, the turnover rate of the employees is very high [in Canada]. As people are always on the move, it is hard to build relationship.”

The project-based organization of engineering in Canada is in stark contrast to the organization of engineering and its workforce in China. In China, according to my immigrant interviewees, engineering jobs were mostly guaranteed for life, especially for those working in state-owned companies. In addition, almost all of the interviewees had staff dormitory or family housing provided by their companies for free or for nominal fees. Their dormitories and houses were usually adjacent to their workplaces. That is, their personal lives were built around their work relations, and vice versa. The life-time job security, as well as the arrangement of their living space, also create bonds for workers. For example, To#4 compared his experiences in China versus his experiences in Canada this way:

… Here [in Canada], personal relationship is simple. It is unlike in China where we worked and lived together. The living area is right next to the office building [in China]. Everyone knows everyone. Here, people connect and communicate only at work and you do not have to deal with everyone. What we need is only to finish the project and that is that. After you get off work, you say bye to everyone and go home.

I am not suggesting that interpersonal relations in all Chinese workplaces are close knit. Nor am I arguing that close relations are superior to the individualized and depersonalized relationship reported by my interviewees in Canada. In fact, some
Chinese complained that close relations in China could be suffocating. My analysis is intended to display different organization of engineering work and how it shapes people’s communicative practice at work. The project-based organization of engineering in Canada discourages close relations among the workers and contributes to contingency of the workforce.

What has to be pointed out is that the project-based organization of engineering work not only contributes to the formation of a contingent workforce, but, together with racialized relations among the workers, it also exacerbates alienation, competition and segregation among the workers. According to immigrant respondents, it is not uncommon to see that engineering workers compete with each other over workload, which is particularly tense among immigrant workers. For example, Ed#6 related that it was “pathetic” that some of his immigrant colleagues always liked working overtime. Ed#7 also told me that immigrants would normally feel unsafe when they had no work to do. To#5’s story illustrates the confluence of project-based work organization and race relations the best. To start with, he related that his workplace was deeply segregated.

[The third company] is dominated by white people – but not necessarily by local people. Some of the white people are immigrants from East Europe. …… The European immigrants speak to the white locals there only, and one of the European women drafters never cared to talk to me. Her cubicle was next to mine. But she never bothered to talk to me. She treated me as empty air. She, however, was very friendly with the higher-ups and the white people. Hugging and kissing. Too friendly.

For To#5, isolation was only one small problem embedded in a big one. As he continued his story, it becomes clear that workload was one crucial reason dividing up the workers.
[The company] is very much segregated. The manager for drafters is a Chinese, a Hongkong-nese. But the real manager is an old white retiree who was rehired. Even engineers had to listen to the white man. When I joined the place, there was not much to do. Other people were all more or less involved in some projects, and had projects to charge hours. I only got bits and pieces from the Chinese manager. I had only one chance to get my hands on some bigger drafting work. That was when the veterans were away on vacation. When they came back, I had little to do again. The manager …then was on leave and I …got to work on smaller projects only.

There might be many reasons why To#5 did not get himself established at this particular place. What is known for sure was that he was fired from this particular place because he had few projects to charge hours and his record showed that he was overcharging one particular project. To#5 decided that rather than being an exploited “underdog” in Canada, he should go back to China to “exploit others”.

**Employer-centred managerial practices**

While the project-based organization of engineering makes it imperative for people to demonstrate their productivity at work, I also found that employer-centred managerial practices in some workplaces directly limit the social space for immigrants to communicate at work. In the first company where To#2 worked, her employers’ interests and whims turned her from an active speaker to a mute player. Here is her story:

When I joined the place, … I conducted structural analysis. At one time, one company complained against its designing company about [a particular structure that the latter designed for it]. The designing party came to consult with our company, wishing of course that our company would say good things about [the structure]. … They came to us for an expert opinion. The boss conducted his analysis and gave it to me. He told
me not to be constrained by what he wrote there. … so I conducted my own analysis. I found that the structure was not well designed, you know from the structural perspective. When I was asked to give my opinion, I told the boss what was on my mind. I was sort of proud of myself as well, like showing off what I know. … actually what I said was right. However the boss threw a big fit. Actually my job was to say that the [structure] was well designed, because the designing company paid us. I should have said what the boss said.

As many people related in the study, engineers do have different approaches to the same project. The account of To#2 certainly shows that she and her boss analyzed the same structure differently. What is most discouraging in this case is not the different ways of doing the same job, but the dismissive and disrespectful way in which To#2 was treated. Worse still, in the company where she worked, she was one of the many who were yelled at everyday by the same employer. She said:

[The boss] made people uncomfortable each and every day. Whenever we had a meeting, he would tell us what we should do. He would tell us that we should PERFORM. If we do not PERFORM, we would have to go because there were just too many immigrants out there waiting for jobs. When he said things like that, who would have the heart to stay on, unless you could not find anywhere else to go to. … when I worked on software, the same thing happened. He gave us a deadline. He said that if we could not produce by then, each of us had to tender our resignation letter. (Capitalized words were originally in English in the interview).

To#2’s story pinpoints how information on labour supply is filtered to workplace environments and affects the power dynamics between employers and employees. Faced with an oppressive work environment, To#2 had to change her way of communicating at work.
Later, when the boss came for my opinion, I would play mute. Say if he says that one plus one equals three, I, of course, could not follow him to say the same thing. However, if I tell him that one plus one equals two, he would throw a fit. So I decided to be quiet.

It is clear that in a workplace where individuals are not respected and are often threatened with job loss, there is little motivation for open communication. Given To#2’s negative experiences at work, no one can blame her for making the following conclusion about communication at Canadian workplaces:

It is my experience - from attending a post-graduate program in Canada, and from working with two companies, that you cannot ask questions. In China [where I worked in a big research institute], people consulted with each other. You could ask anyone any questions. In China we believe that it is not shameful to ask questions even with people below you. But here, hell, no! When I started [working in the Canadian companies], everything was new. It would have saved me a lot of time if someone gave me a hint [for my problems]. But no, that does not work here. … With both bosses, they would get all angry when I asked them questions. They would criticize you for asking questions, and they would not give you any answers.

Of course, when it comes to managerial practices, companies differ from one another. Most of the interviewees, particularly those who worked in larger companies, reported little interaction with their bosses. Instead, they mainly interacted with project managers or their team leaders. Ed#3 reported on a very interesting incident that he had with his team leader. My interview notes record:

His team leader was younger than he was. According to Ed#3, the team leader was not as experienced as some engineers in the company, but was very condescending. He questioned the team leader a few times. Later, the team leader built a slight hierarchy to the structure of the team. The team
leader assigned work directly to 10 people, and subjected him, and him only, to the “leadership” of another Chinese who was one of the 10 people under the lead’s direct management. In a way, he was marginalized in the team. Yet, Ed#3 believed that his position was still safe, as his mechanical manager knew that he was an experienced engineer. He added that even if he were fired, he would be okay as it would not take long for him to find another job. However, he would not bend his ways of working and play along with his team leader simply because he was the lead (Interview notes, August 24, 2007).

What is clear is that immigrants often organize their communicative practices in relation to existing managerial practices. Some chose to alter their practices in order to survive and some decided not to. In either case, the practices and interests of employers and/or their managerial representatives define and shape space of communication at particular places.

**Legitimate communicative practices and beyond**

In this chapter, I presented a legitimate communication culture in engineering workplaces which values individual productivity and market value, and discourages close interpersonal relations among the workers. While not all immigrants tried to fit into such a culture, they all recognize the legitimacy of individualistic practices. I then argue that such a culture is an ideological construction. I show that when people participate in such a discourse, they tend to invoke the notion of language and cultural differences and avert from issues of power. I then demonstrate that framing communication as a language and cultural issue obscure the gender, race, and class relations that shape people’s differential valuation of different communicative practices. I further show that the individualistic communication culture is not only a discursive construction. It also operates in close connection with the organization of the engineering profession. In particular, the project-based organization of engineering work and the employer-centred managerial practices in
some workplaces contribute to the perpetuation of the individualistic communicative practices in engineering workplaces.

While many immigrant respondents related that they had to fit into the individualistic communicative practices, some of them also managed to change their immediate interaction and communication environments in small yet significant ways. In particular, I find that despite the alienation and racial segregation in many workplaces reported by immigrants; some of them did manage to build collegiality across racial differences. In the case of To#2, while she was silenced by her boss, she changed her work strategy to make life easier for other workers, mostly immigrant workers, who were yelled at each and every day by her boss:

I mainly wrote flowchart for [the computer programmers]. They transposed the flowchart to computer program. I then tested the results to see if everything run okay. [The boss] told me to let him know all the mistakes that I picked out from the computer programs. Initially, I did that. Later, I found that whenever I told him any mistakes, he would threw a fit in front of everyone. … Later I thought to myself that it was not necessary at all. When I found problems by a particular person, I would talk with that person directly. Once the problems were solved, things would be okay. Why did I have to talk with the boss?

When To#2 played the role as a problem reporter, she was not exactly liked by her colleagues. The atmosphere in her office was nothing but tense. When she changed her approach to report problems, she reduced the tension that existed among her co-workers. Similarly, To#6 related that one of his bosses could be very harsh. As a result, his team came up with a more collaborative team strategy.

Say if you make a mistake or miss a point, you would appreciate it if your colleagues do not tell on you right away. [In our team], if we made
mistakes, we would just get them corrected, and that was that. There was no point letting the boss know. Sometimes, [the boss] was really angry too, criticizing us for “protecting each other”. But then, it was a totally different story [with the other department]. If someone made a mistake, some particular persons would take joy in telling on him/her.

In the case of To#2 and To#6, they and their colleagues came up with an implicit code of practice to ameliorate the abusive treatment that they received at work. In the case of Ed#7, making friends across ethnic differences was simply a way of life. Indeed, with the network that he built, he also created a buffer zone for himself.

All the people in my team were immigrants, including the team leader [who is from east Europe]. The team leader was a tough person for the locals to deal with. He was very straightforward and he had a lot of experiences. However, [our team members] all liked him, because he stood his ground firm. Yes, he was very aggressive, but he knew his field well. Once you work with him for a while, you know that deep down, he is a very nice person. We not only worked happily together, we also went out for drinks. Because our lead was strong, our team became firmly established in the company. At one time, the structural manager was trying to get rid of the contract people on the team, because many projects were suspended, our team leader stood up and said no to the structural manager. He said that all the contract people were actually doing the most crucial work. That is how I avoided a layoff.

The kind of changes that the immigrants brought about in their respective communities of practices might be small. However, they were significant in creating or maintaining a reasonable collegial relation at and beyond work. Clearly, while the individualistic communicative practices are constantly produced and perpetuated, these practices are also being reconfigured on the margin.
Chapter Seven:
Loading Immigrants with Learning: Engineering Licensure Practices in Canada

If my immigrant respondents changed their communication practices to fit into their respective work communities, acquiring Canadian credentials and licences was a measure for them to try to get established in the engineering profession in Canada. While learning in the former cases meant making personal adjustment and perception change, their credential- and licence-related learning was solely an intensive, expensive, and time-consuming process. In this chapter, I look at my immigrant respondents’ experiences trying to acquire Canadian certificates and investigate the social processes and practices that make credential and licence related learning a necessity for immigrants. I find that among other things, immigrants’ learning is mediated through an ideology that valorizes Canadian credentials. To problematize this ideological discourse, I look back to the historical struggles leading to professional regulation in Canada and examine the contemporary practices licensing foreign-trained engineers in both Ontario and Alberta. Among others, I show the converging, yet ad hoc social procedures and practices used by the licensure bodies to naturalize and objectify the superiority of Canadian credentials.

This chapter is divided into four parts. In the first part, I introduce immigrants’ experiences trying to get Canadian credentials and licences. In the second part, I introduce the history leading to the licensure of the engineering profession, which pinpoints the social, economic and political dimensions of licensure practices. In the third part, I explicate how the licensure process is administered today, and point out the institutional fissures that subject immigrants to differential learning loads at different places and times. In the last part, I summarize this chapter and point out that the
drawback of the engineering licensure practices lies exactly in how they devalue other educational and credential systems.

**Immigrants learning for Canadian credentials and licences**

In order to establish themselves in the engineering profession in Canada, many immigrant respondents took on extra learning loads to get Canadian credentials, certificates, and licences. Among the 14 interviewees, five (Ed#1, Ed#3, Ed#6, Ed#7, and To#2) attended post-graduate programs in Canada. Two (Ed#5 and To#3) attended occupation-specific training in a community centre and a private school respectively. All immigrants, except for To#3, a cosmetic lab technician, applied for professional engineer licence (P.Eng.) in their respective provinces. At the time of the interviews, they were at different stages of application. To#1 and Ed#1 obtained their licences after writing the Professional Practice Exam (PPE), an exam that both local and international applicants have to write. Ed#3 was asked to write the PPE and was in the process obtaining references from his colleagues in Canada. To#5 applied for P. Eng but decided not to pursue it. To#2, Ed#6, and Ed#7 were in the process of writing confirmatory exams, assigned by their provincial regulatory bodies to confirm their academic backgrounds. The remaining immigrants had recently submitted their application and were still waiting for their academic assessment results. In this part, I focus on immigrant respondents’ experiences writing licence related exams, such as the confirmatory exams and studying for Canadian degrees and credentials.

To start with, going for Canadian credentials and licences could mean extra financial investment. Among those who wrote or were in the process of writing licence-related exams, To#1 spent two hundred dollars to attend a PPE training program at the
Ontario Society for Professional Engineers. All others chose to study for exams on their own. The big difference between self-study and attending training programs is that those relying on self-study have to study harder because they are not exposed to the most efficient ways and means to deal with the exams. To#2, for example, had a hard time when preparing for her confirmatory exams until she was led to some resources by a friend who attended a relevant training program. She said:

[Initially], I went to the library and borrowed a stack of books recommended by PEO [Professional Engineers Ontario]. [Luckily] [my husband and I] have someone who just finished writing Municipal Engineering. He gave me the name of a book – he registered for a course and the instructor gave his class the title of the book. I then borrowed that book from the library too … I found out that many of the exam questions [from the past exams] were directly taken from that book. When [PEO] recommends books and materials to you, it does not recommend these kinds of books [which speak directly to the exams]. That book was easy to read, and was all relevant to the exam. But the book that was recommended … was nothing but mind boggling. I was furious! … For me I needed the book only to cope with the exam. … … actually if you take that course, the exam is not difficult at all. … I suspect that they did it on purpose. … as well, I bought their exam questions from previous years from PEO. But later, people told me that those questions are actually available on-line for free in Vancouver, BC. How come they asked us to pay?

What is clear from To#2’s complaint is that a training market has been created to assist immigrants to deal with licensure-relevant exams, particularly with confirmatory exams. The training programs offer information that is most relevant to these exams. To#2, who
did not pay for the necessary information and knowledge, had to spend more time studying in order to pass.

To avoid writing confirmatory exams, some immigrants chose to do a post-graduate program. Ed#1 decided to go for a master’s program because first she could not locate a professional job. Second, she did not want to write confirmatory exams when applying for P. Eng.. Ed#7 on the other hand, decided to take up multiple challenges at the same time. At the time of the interview, he was writing his confirmatory exams and trying to finish a post-graduate program while working full-time. Below is part of my conversation with him.

I: I still have two more [P. Eng. confirmatory] exams to go. It is kind of stupid taking courses [on a post-graduate program], and writing the [confirmatory] exams at the same time. If I get the degree first, I do not have to write those exams.
S: Isn’t stressful though?
I: …The thing is, I need at least two years to write my confirmatory exams. To do a Master program part-time, at least, I need four years. I could not let one wait for the other.

According to my immigrant respondents, once they receive certain training and education in Canada, they do not have to write confirmatory exams. Nevertheless, writing exams and attending schools take time. For adult immigrants, time is a biggest treasure that they could not afford to spare should they wish to further their careers in Canada.

I proceeded to ask Ed#7 how he prepared for his exams, assuming that his post-graduate courses might have helped him with the exams.

S: how did you study for the exams? Did you take relevant courses?
I: Actually, [the school] does not provide all courses all the time. Given that I am working, I have my time constraint as well. …
S: How do you study for your exam then?
I: I bought the materials [or study kit] suggested by APEGGA (The Association of Professional Engineers, Geologists, and Geophysicists of Alberta), and I just read them on my own. There are also test materials [from the past] – we Chinese are very good at exams, having been through many examinations over the years. You can figure out what the examiners expect you to know.

S: what if you have problems?
I: Normally, at our stage, you have learned enough and you should be able to solve problems on your own. You should be able to consult resources and or some useful resources say on the Internet. … but actually, for [my exam in] engineering economics, I took an equivalent course as suggested [by APEGGA]. …

Similar to To#2’s story, Ed#7’s experiences also point to a training market that goes hand-in-hand with the licensure process. While writing various licensure related exams, immigrants also become a major clientele for this training market.

Like Ed#7, Ed#6 was also juggling between work and study in order to get a Canadian degree, which could be overwhelming at times.

I was kind of busy a while ago when I was taking a course [at a university as part of my post-graduate program]. I went to work around 6:30 and 7:00 am and got off work at about 5:00 pm. Sometimes, I could work up to 7:30 pm because we were asked to work 50 hours a week for a project that we just finished. … at that time, I also had homework [from the course]. After getting off work, I would do homework. I would have to stay up until 1 or 2 am the next day. For quite a few times, I stayed up the whole night.

It is clear that going for licensure and re-training in Canada is a time-consuming and labour intensive process. In the case of Ed#7, “[his] hair turned grey” from writing
exams, attending post-graduate program, and working full time. What has to be pointed out is that the burden of studying for exams is not only born by the engineering professionals. It is shared by immigrant families. For example, Ed#6 and Ed#7 told me that their familial support was extremely useful for them to go through various exams and courses. Ed#6 did not have to do anything at home as his wife was a full-time housewife; Ed#7 and his wife were having a hard time managing the household given their busy schedules and the need to take care of two children until his parents from China came to Canada to help them out. In the case of To#2, her family members had to plan their lives around her study schedules.

Although some of the immigrants complained about having to write exams and doing coursework, they tended to take it for granted that studying for Canadian degrees and licences was a crucial means for immigrants to get anywhere within the engineering profession in Canada. For example, Ed#7 explicitly expressed that education in Canada was more valuable than what they acquired in China.

[I am attending the post-graduate program] because a Chinese degree does not work here… right now [with the booming economy], we have no problem locating a job [without a Canadian degree]. But a degree from North America will be of crucial importance when the economy slows down. It is recognized in both the US and in Canada, you can look for jobs in many places.

Many studies have pointed out that one barrier facing immigrants is the dismissal of their credentials (see, Guo & Anderson, 2006; Reitz, 2001; Shan, 2009b). My study shows that there is also a tendency among immigrants to consent to the “superior” value of Canadian credentials and licences, which shapes immigrants’ learning endeavours in Canada (see Shan, 2009b).
I argue that immigrants’ participation in the valorization of Canadian education is ideological in nature. In particular, it occludes the social processes and procedures that naturalize the superiority of Canadian education. In the rest of this chapter, I explicate the social processes that produce and reproduce the central position of Canadian credentials. I first discuss how Canadian credentials ascend to its legitimate status to safeguard the labour market interests of engineers trained in Canada. In the section after, I examine the administrative procedures of current licensure practices to unravel ways, often arbitrary and inconsistent, in which licensure bodies evaluate immigrants’ education backgrounds, which in turn help affect the learning loads for immigrants.

**The rise of professional engineering regulation**

Engineers were a group that grew out of a class of artisans, craftsmen, mechanics and military men; in Canada, an “engineer” was once considered the same as a tradesman. It meant anything from a locomotive driver to a plumber. The social status of engineers was stigmatized by the British aristocratic attitude to manual labour (Millard, 1988). It was through decades of struggle that engineers in Canada achieved professional status, and the monopolistic power over access to the profession, through establishing engineering as a regulated profession (Millard, 1988; Girard & Bauder, 2007a, 2007b).

Traditionally, engineers in Canada advanced their careers through building individual reputations for technical achievement. Prior to 1887, there was no professional society in Canada; Canadian engineers sometimes belonged to British or American societies, which tried but failed to establish branch offices in Canada (Millard, 1988). After 1887, two major Canadian engineering societies emerged: the Canadian Mining Institute (CMI) and the Canadian Society of Civil Engineers (CSCE). Whereas CMI
represented the business interests of the mining industry, CSCE served as a learned and educational society for knowledge exchange among engineers. It is the members of CSCE who started advocating for professional closure. CMI, however, resisted the idea of professional regulation because it needed to protect the business interests of the mining industry (Millard, 1988).

Given that many disciplines branched out of the engineering field, in 1918, CSCE changed its name to the Engineering Institute of Canada (EIC) to include mechanical and electrical engineers (Girard & Bauder, 2007a). After WWI, EIC started advocating for a licensing bill in all provinces across Canada (Professional Organizations Committee, 1978). By the mid-1920s most provincial legislatures, including the legislature in Alberta, passed this proposed licensing bill (Millard, 1988). In Ontario, the Professional Engineers Act was passed in 1922, creating the Association of Professional Engineers of Ontario (APEO, now known as PEO). When this act was initially passed, everyone could still practise engineering as long as they didn’t call themselves “professional engineers.” Professional engineers only claimed exclusive right to engineering practices in Ontario in 1937, when an amendment to the act eventually closed the profession (Hamilton, 2002).

Engineers’ struggle to gain professional status and licensure rights took place when Canada was transitioning from a developing to a developed country. According to Girard and Bauder’s analysis (2007a) of the professional periodicals during the period leading to the establishment of the engineering profession, there were at least three reasons driving engineers’ movement towards professional regulation. One of the reasons was to secure public safety and public interests (Millard, 1988; Girard & Bauder, 2007a).
The second reason was related to geography. Many engineers argued that Canadian geography is different from that of other countries and as such engineers without work experiences in Canada are supposedly not capable of working in the Canadian environment (Millard, 1988).

There is a third reason that was directly related to the interests of all engineering practitioners trained in Canada. Until the beginning of the 20th century, Canadian engineers enjoyed little social prestige or job security. For example, engineers working for the government were mostly classified as outside services and had little right or tenure security. In the corporate sector, some companies preferred paying non-engineers to do engineer jobs for cost saving purposes. While some employers were willing to pay engineers good salaries, they preferred engineers from other countries, particularly those from the US and Britain (Millard, 1988). Engineers in Canada were more vulnerable than the workmen they supervised, as the latter were protected by trade unions. The negative employment situation of engineers was the primary reason why many engineers decided to go for professionalization or professional closure, since professional organization was considered a middle-class counterpart to trade unions and business cartels (Millard, 1988).

This brief review of the history leading to the regulation and certification of the engineering profession in Canada shows that the regulatory status of engineers was the result of an economic, social and political struggle for Canadian engineers. Through this struggle, Canadian engineers created licensure bodies to restrict entry and access to the profession and limit competition in the labour market (Murphy, 1988).
Centering Canadian credentials and education: the licensure procedures and practices in the engineering profession

Now that we know the history behind professional regulation of the engineering profession in Canada, it is important to understand how the licensure practices work today to preserve the social status and economic privilege of Canadian engineers, which is a topic that has interested a number of researchers and scholars. For one, Slade (2008b, 2003) conducted an institutional ethnographic analysis of the licensure practices in Ontario to map ways in which licensure administration works to the detriment of immigrant engineers. Girard and Bauder (2007b), based on their case study of the regulatory system in Ontario, show that regulatory bodies serve to reproduce cultural norms specific to the engineering profession in Canada. In this part, I extend the literature through examining how Engineers Canada works to promote Canadian credentials and standards and how PEO in Ontario and APEGGA in Alberta administer licensure issues as far as immigrants are concerned. In particular, I explicate the converging and yet at times arbitrary ways in which licensure matters are administered to centralize Canadian education and practices. To start with, I look at how Engineers Canada has been working in the international arena to promote the value of Canadian education and credential standards. I then scrutinize the current licensure procedures and practices in Alberta and Ontario and point to the ad hoc ways in which immigrants are assigned with different learning loads. Last, I look at the changing practices in the licensure practices in both places. I show that while changes are made to facilitate immigrants’ licensure application process, they also reinforce the central value of Canadian credentials and licences.


Centering Canadian credentials in the international arena

For a long time, Engineers Canada has been promoting the values of Canadian credentials in the international arena. The two central means through which Engineers Canada manages to through the development of Mutual Recognition Agreement (MRA) with power countries and areas, and to develop the foreign degree list for higher institutions from around the world. Both the MRA and the list are textual materials that may position and indeed enter immigrants from different parts of the world to the licensure procedures in Canada in different ways.

Engineers Canada, formerly known as the Canadian Council of Professional Engineers (CCPE), is the national organization of the 12 provincial and territorial associations that regulate the profession of engineering in Canada. In 1965, the then CCPE established the Canadian Accreditation Board, now known as the Canadian Engineering Accreditation Board (CEAB), to accredit Canadian undergraduate engineering programs. One other responsibility of CEAB is to ascertain the equivalency of accreditation systems in other countries and to monitor the activities of those bodies with which Engineers Canada has signed Mutual Recognition Agreement (MRA) (Engineers Canada, 2008). With regard to the latter mission, Engineers Canada states the following:

Engineers Canada, through its International committee, strives to achieve recognition by the international community of Canadian standards of excellence in engineering education and practice. Where appropriate, Engineers Canada will enter into agreements with other organizations concerning mutual recognition of accreditation systems or professional engineering qualifications. The Canadian Engineering Accreditation Board assists in this mission by ascertaining the equivalency and acceptability of accreditation systems in other countries and by evaluating, upon request, foreign engineering education programs using Accreditation Board policies and procedures (Engineer Canada, 2008).
Through the CEAB’s activities, Engineers Canada has negotiated mutual agreement with a number of countries and areas, and the Canadian criteria and procedures for accrediting undergraduate engineering programs are increasingly recognized around the world. These countries and areas are Australia, Ireland, New Zealand, United Kingdom, USA, and most recently South Africa, Hong Kong, France and Japan. Immigrants from these places are likely to have their academic backgrounds recognized in Canada.

By leading the trend to assess the comparability of international engineering accreditation practices with Canadian standards, Engineers Canada has made Canadian engineering criteria the standard against which other accreditation practices are measured. By establishing MRA with other states and places, Canada has helped establish the credibility of Canadian engineering educational programs in the international arena. The central position of the engineering credential system is further reinforced with the influx of immigrants from different parts of the world, who have to be assessed against the Canadian criteria should they wish to practice as an engineer in Canada. As I will show in the next section, when it comes to immigrants’ academic assessments, MRA is easily turned into an objective criterion to determine the academic strength of individual immigrants from different parts of the world.

In addition to MRA, CEAB also actively develops a foreign degree list. According to James Smith, a past chair of CEAB, the creation of the list reduces the time for academic assessment (Smith, 2007). People whose institutions are on the foreign degree list may not have to take as many confirmatory exams as those whose institutions
are not. Out of curiosity, I sent Engineers Canada a request for the criteria that they use to evaluate foreign institutions. At this request, the following list was sent to me via email:

Criteria 1 and 2 apply to the country and must both be satisfied. The institution must meet a minimum of four of the remaining criteria 3 through 9.

1: In countries where more than one designation is used for engineering degrees, only those designations which are considered to be professional level qualifications within that country shall be included.
2: The educational system shall be equivalent to no less than 16 years of schooling of which at least 3 years are at university level.
3: At least two different engineering programs are offered.
4: The institution has been offering degree programs at the university for 20 years.
5: Overall institution student: teaching staff ratio is not more than 30:1.
6: The institution library has at least 100,000 volumes.
7: The institution is a member of the International Association of Universities or the Association of Commonwealth Universities.
8: The institution has higher engineering degree programs.
9: There is evidence of scholarly research activity in engineering. (see also Neil & Wong, 2008)

Criteria 3 to 9 are mostly about the infrastructure of the institutions, which are quantitative and measurable references. These criteria clearly point toward a quantitative tendency in evaluating the quality of programs in other countries. If we take a look at the International Association of Universities (IAU, 2007), there is a list of universities in China that are recognized in the international arena. Yet, international recognition does not mean that the university is recognized in Canada. To be added to the foreign degree list, individual institutions need to approach Engineers Canada and make requests. A staff from Engineers Canada shared with me the following:

To be added to the list, institutions that wish to be recognized... send the required necessary information in the list of criteria and at (CEQB) meetings, we then study and decide if they will be added to the list or not. (Email communication, October 15, 2007).
If for various reasons, institutions do not see the benefit of approaching Engineers Canada, those institutions may be out of the list. The pitfall for immigrants is that their institutional affiliation is made relevant when they go through the licensure process.

In this section, it becomes clear that the value of Canadian education has been largely elevated in the international arena through the work of Engineers Canada. It has to be born in mind institutional communications and arrangement around MRA and the foreign degree list directly bear on how immigrants are positioned vis-à-vis licensure practices in Canada. In the next section, I look closely at how the licensure practices are conducted in Canada, where MRA and the foreign degree list are enacted to shape immigrants’ learning loads.

**The engineering licensure procedure and burden of proof**

In Canada, no one can practise as a professional engineer and authorize engineering designs without a licence issued by provincial regulatory bodies (Engineers Canada, 2008). An examination of the licensure procedures by both PEO and APEGGA however shows a number of subjective and ad hoc ways in which immigrants’ licensure applications may be processed in Ontario versus in Alberta. In other words, the same immigrants may have to take up different learning loads to get their licence in different provinces.

**General requirements**

To be licensed in Canada, there are four general steps to follow, as stated in the website of Engineers Canada:

**STEP 1.** Obtain and fill out an application form.
**STEP 2.** The association reviews your university background and may assign an exam program to ensure that academic requirements are met.
All foreign-trained P. Eng. applicants need to have their educational background evaluated by an academic committee. Depending on the evaluation results, immigrants may be asked to write a number of technical exams to confirm the depth and breadth of their academic knowledge. As to work experiences, immigrants need to have four-year work experience, with one year under the supervision of a licensed Canadian engineer — the irony is that without a licence, it is hard for immigrants to be accepted by employers, and without a job, it is impossible for them to get a licence (CAPE, 2006). Should immigrants meet both criteria, they will be asked to write a professional practice examination (PPE). Once they pass the exam, they will need to submit references from their colleagues and supervisors to testify to their qualifications in order to be registered as professional engineers.

In addition to these general requirements, there is also a requirement of language proficiency or communication skills. “Communication skills” are a criterion specified by APEGGA in Alberta. According to APEGGA (2008), immigrants either have to pass some language exams, such as TOEFL to demonstrate their English levels, or to write to APEGGA to state that they are competent in English and that they should be exempted from language exams. PEO does not specify communication skills as a criterion intended for immigrants only. Yet, in my interview with the PEO registrar officer, it is clear that PEO equally stresses the significance of communication. According to the registrar officer, the professional practice exam in Ontario is a way to assess people’s
communication skills as the exam requires extensive writing through which all applicants will demonstrate their English written skills.

Licensure bodies in Ontario and in Alberta follow a common framework, which is straightforward. A central license requirement is that immigrants’ academic backgrounds should be up to the Canadian standards. While it is only rational that such a requirement is in place, an examination of how people’s academic backgrounds are assessed shows some controversial issues.

*Academic assessment – burden of proof*

Among all the licensure requirements, the one that concerned my immigrant respondents the most at the time of my study was academic assessment. As mentioned earlier, one common means that regulatory bodies use to assess immigrants’ academic backgrounds is to assign confirmatory exams. The purpose of these exams is for the regulatory bodies to make sure that the undergraduate education that immigrants received in their home countries are commensurate with the educational levels in Canada. For example, here is how APEGGA justifies the use of confirmatory exams.

As part of APEGGA’s core responsibility to protect the public, APEGGA has the responsibility and obligation to ensure that all individuals have the required skills and education to practice engineering in Alberta before they are licensed. Because it is not possible to send visiting teams to every engineering university in the world to determine whether those programs meet the standards that have been set for Canadian accreditation, APEGGA initially assigns confirmatory examinations. They are called confirmatory examinations because if you pass those examinations you are confirming to APEGGA that the quality and level of your academic training is at the level required to practice engineering in Alberta. Confirmatory examinations are technical examinations in your specific discipline (APEGGA, 2008)

Confirmatory exams are considered a way to make up for the administrative impossibility to evaluate every engineering training program in the world. Yet, it should be noted that
the assumption behind the administration of confirmatory exams is that foreign training by definition is either inferior or at best equivalent to engineering education in Canada (Slade, 2008b). It is this very assumption that leaves the burden of proof on the shoulders of individual immigrants.

While APEGGA and PEO have the same components in their licensure process, differences exist between how these two bodies assess the academic backgrounds of immigrants and assign confirmatory exams. For APEGGA, if the applicants’ institutions are on the foreign degree list, they will be initially assigned three confirmatory exams, plus engineering economics if they have not taken that course. If they are not on the list, they will be asked to write five confirmatory exams plus engineering economics (APEGGA, 2008). Notably, the foreign degree list serves as an important document that organizes the work of the academic assessment board (c. f. Smith, 1987; 2005) and decides the number of confirmatory exams that immigrants have to write in order to prove their academic backgrounds.

There are a few conditions based on which confirmatory exams might be waived in Alberta. First of all, if the applicant comes from a country or area that has signed MRA with Engineers Canada, it is likely that they will be exempted from technical exams and possibly engineering economics as well. In addition, while confirmatory exams are about undergraduate education, a post-graduate degree acceptable to APEGGA may also lead to exemption. APEGGA says that it may waive people’s confirmatory exams if

- You have a Masters or PhD degree from an accredited Canadian engineering university or from a mutual recognition agreement listed university; and
- The Masters or PhD degree is in the same or very closely related discipline to your undergraduate degree; and
• The Masters or PhD degree contains sufficient engineering design and analysis content acceptable to the APEGGA Board of Examiners. (APEGGA, 2008)

APEGGA may also waive confirmatory exams if the applicants “have at least 10 years of acceptable, high-level engineering or geoscience experience showing increasing technical competency and increasing levels of responsibility” and if they “provide APEGGA with references with first-hand knowledge of [their] work experience covering this ten or more year period.” In the case that the applicants are assigned eight confirmatory exams, they will need to “provide evidence of 20 years of acceptable, high-level engineering or geoscience experience for APEGGA to waive all eight confirmatory examinations.”

In Ontario, PEO follows similar procedures as APEGGA to evaluate immigrants’ academic backgrounds. An academic committee first evaluates immigrants’ profile and then decides whether and how many confirmatory exams should be assigned. However, there are a few interesting differences in how PEO and APEGGA carry out their assessment work. To start with, while the foreign degree list is an important document that APEGGA references, PEO does not use it as much; PEO assess immigrants’ academic backgrounds more on a case-by-case basis or in an individualized way (Slade, 2003). Further, the number and kind of exams assigned in Ontario can be different from Alberta. While in Alberta a CEP comprises three exams (plus a possible one on engineering economics), a CEP program in Ontario comprises four exams, including three professional (technical) examinations and one complementary studies examination (PEO, 2008).

As in Alberta, immigrants in Ontario may also have their confirmatory exams waived if they come from an MRA country or have a post-graduate degree in Canada or
in an MRA country. Unlike Alberta, immigrant applicants in Ontario may get a face-to-face interview opportunity to get their CEP waived. PEO says:

Applicants who have been assigned a CEP, but who also have at least five years of engineering work experience following their graduation, will usually also have the level of their experiential knowledge in their discipline-specific engineering fundamentals assessed by PEO’s Experience Requirements Committee (ERC). This assessment may require that the applicant attend an interview. As a result of its assessment, the ERC interview panel may recommend that the applicant’s assigned CEP be waived (PEO, 2008).

In Alberta, immigrants with five years of experiences do not have the same opportunities. Yet, as mentioned earlier, those with ten years of experience have an opportunity to produce evidence to try to persuade the regulatory body to waive their confirmatory exams.

What has to be mentioned is that once a CEP is assigned, the number of exam is fixed. For example, in the case of Ontario, unless immigrants take two exams at the same exam period and pass both at 65 (out of 100) and above, they have to write all the exams assigned to them. Such quantitative focus may serve to obscure the particular circumstances of immigrant applicants. For example, To#2 complained about the rigid way in which her CEP was assigned.

I was asked to write three [technical] confirmatory exams, two compulsory and one selective. One of the compulsory exams is Geotechnical Materials and Analysis. I have chosen many courses, for my post-graduate program, in geotechnical material and analysis. I have also done lots of research in that area. … so I wrote to them. After a while, I got an email from PEO. I was exempted from Geotechnical Materials and Analysis. But then, they assigned me to write another exam. What the heck! If I knew that, I would have remained quiet.
The similarities and differences between APEGGA and PEO’s administrative processes are most useful in helping us understand the licensure practices in Canada. First of all, both APEGGA and PEO make Canadian credentials the standards immigrants from other countries have to meet. Second, licensure practices place the burden of proof solely on the shoulders of immigrants. Third, the different ways in which APEGGA and PEO carry out their academic assessment work is ad hoc. As a result, the same immigrant may be assigned a different number of exams and as such takes up differential learning loads at different provinces.

**Changes and the unchanged**

In recent years, there have been changes to the licensure practices in Canada. For example, in Alberta, KeyAB8 recounted that APEGGA has made a few changes below:

Our board of examiners this year approved quite a few changes to try to speed up the [academic assessment] process. … now because of the number of applications we are getting, we have to modify our process for the growth that we are seeing. Our growth here in Alberta, the number of applications has doubled from the middle of 2004 to now. We were running about 3000 applications a year and now we are running 6000 a year. …We have been increasing the number of staff and we have been increasing the number of people on the board of examiners as well to cope with that. And we are changing our process internally to try to speed up the turnaround … We used to send out the files to the academic and experience examiners once a month. We are doing it weekly now. …We’ve removed the real tough deadlines we felt inappropriate. …And one of the other thing that we used to do which we are no long doing was when somebody fail examinations, we would assign additional examinations. And we said maybe we shouldn’t be doing that any more. So they agreed to eliminate those penalty exams. Now certainly
you still got to pass, ultimately you’ve got to pass the ones that you failed. But certainly you are not going to be caught up in this penalty situation. …That got approved in June [2007]. And not only does it apply to applications since then, but also it applies to those still in process. …I mean we saw what CCPE did. We were involved in that From Consideration to Integration process. And we’ve gone sort of beyond the recommendations that they had there in their report and instituted something of ourselves. We also have a mentoring program, and one of the parts of the mentoring program is specifically for foreign-trained people. We try to match them up with people who have gone through the process and can kind of help them through it.

Observably, APEGGA has been proactive in initiating changes. Indeed, some of the changes are drastic and pretty new, such as the one concerning penalty exams.

In Ontario, there are changes to the licensure practices as well. KeyOn6, a registrar officer, brought my attention to the following:

Well, in the last few years, our organization…. our board did have a task force, and one of the significant changes they made was reducing the requirements to attend that confirmatory exam interview with our Experience Requirements Committee. It was reduced from ten years to five years. And that afforded a lot more of our applications the opportunity to have an oral interview, to have their academics and experience assessed instead of having to write exams. So I know that has made a significant difference.

In addition to the above changes, Bill 124, or the Fair Access to Regulated Professions Act, may also lead to some significant changes. KeyOn6 continued:

Right now we do have this legislation that you’re probably aware of… from the province…Bill 124. So we’re not sure what impact that will have… and our council did establish a licensing process task force almost
two, I guess two years ago now, to look at licensing issues. But that was more of a process rather than looking at, you know, dealing with specific type of applicants that we have, or anything of that nature. And they’re still having meetings and I think they’ll be, you know, affected by Bill 124, but I would suspect that depending on what the province does with Bill 124.

Bill 124, or Fair Access to Regulated Professions Act, is a long over-due governmental action, which was in response to the under-utilization of immigrants’ human capital. The purpose of the Bill is to ensure registration practices are transparent, objective, impartial and fair. The Bill proposes establishing an Access Centre for internationally trained individuals to provide licensing, registration, and job market information to newcomers. It also recommends appointing a fairness commissioner to monitor regulator’s registration practices.

So far, there is no news as to how Bill 124 impacts the licensure practices in Canada. Yet, it has led to a mixed reaction from established engineering communities. Some complained that the bill serves to pressure PEO to lower its standards and endangers the public by admitting people who are not qualified and skilled enough (see Ireland, 2007). Some others are concerned that governmental monitoring of licensure practices is diverting criticism that should be directed at the government. Michael Masteomatteo, a member of PEO, made the following argument (2006):

PEO takes issue, however, with the view that credential recognition is at the root of some immigrants’ difficulty gaining a foothold in the Ontario economy. In an August letter to the Kitchener-Waterloo Record in response to its reporting of an address in Kitchener by Colle, PEO President Pat Quinn, P.Eng., said the reason some immigrants start off driving cabs is all about jobs, which is the government’s responsibility to fix if it is a problem. “It is political but simplistic to insinuate that regulatory bodies are all being unfair in their processes (the evidence is much to the contrary), and to imply that fixing what doesn’t need to be
fixed will solve an immigrant’s job problems,” he said. “At this time, the
jobs are in the hot markets of Alberta and British Columbia, but that
doesn’t stop many immigrants from coming to Ontario, a decision they are
entitled to make but which has implications. Under the circumstances,
immigrants should be told the reality when they complain that they cannot
easily get jobs in their chosen field. Many Ontarians find it unreasonable
that the 5000 graduates of the engineering schools at Ontario universities
have to compete with the 10,000 self-declared engineers annually attracted
to Ontario.”

The problem is that in this small paragraph, the writer is discussing two issues as if they
were one. There is no doubt that labour market demand has a bearing on the employment
outcome of immigrants. Nevertheless, it has to be realized that a labour market is not a
self-contained entity. Rather, it is socially constituted through the intervention of a
number of institutional and organizational forces (Geddie, 2002). In other words, the
licensure procedure is part and parcel of the organization of the engineering market that
shapes immigrants’ opportunities in Canada.

What needs to be pointed out is that while emphasizing the issues of
transparency and fairness, neither Bill 124, nor other changes in the administration of
licensure practices in Canada make it necessary for provincial and territorial partners to
appreciate how the foreign-trained could strengthen the practices in Canada. On the
contrary, these changes are made to facilitate immigrants’ licensure application process.
In essence, they serve to reinforce the centrality of Canadian standard and the legitimacy
of licensure practices based on Canadian standards.

**Summary**

To#5 once commented that immigrants need to work double hard in order to
enjoy half the benefits that their local counterparts do. This is best illustrated in the
hardship that many immigrants have to endure in order to get Canadian licences and be
recognized in the Canadian labour market. In this chapter, I introduce immigrants’
credential and licence related learning experiences. I show that the valuation of Canadian
credentials and licences is the driving force behind immigrants’ learning efforts. I then
explicate how this ideology came into being in the first place and how it gets reinforced
in today’s licensure practices in Canada. In this chapter, I argue that immigrants’
credential and licence related learning is a type of labour and investment that is intended
solely for immigrants. Further, immigrants’ learning load is decided by provincial
regulatory bodies such as APEGGA and PEO, which administer academic assessment to
preserve the superiority of Canadian credentials and licences.

The licensure administration process in Canada operates to organize immigrants’
learning endeavours in the host society, and determine the desirability of the labour force
based on people’s place of origin and education. In other words, it serves as a social
mechanism that perpetuates and naturalizes the social privilege of the locally trained.
Although recently, regulatory bodies, faced with public pressure, have taken on measures
to make the licensure process less hostile to the foreign-trained, the Canadian-centred
paradigm informing licensure practices remain alive and well. Regulatory bodies in
Canada have yet to go beyond the narrow confines of their national boundaries to
understand how education from other countries can complement Canadian training.
Chapter Eight: Conclusion and Implication of the Research Findings

My dissertation research examined immigrant engineers’ learning experiences in Canada as socially organized practices. Specifically, I began my study by examining how immigrants change their perspectives and practices, and make personal and professional investment in order to optimize their opportunities in the engineering profession in Canada. I then unravel the social discourses, and managerial and administrative practices that define desirable learning objects for immigrants. In this concluding chapter, I summarize my research findings and discuss the theoretical and empirical implications of the study.

Summary of my research findings

In my study, I attend to four kinds of learning practices my immigrant interviewees conducted: 1) learning to articulate the self to the capitalist labour market, 2) learning work-related knowledge and practices, 3) learning to assume legitimate communicative practices at work, and 4) learning to acquire Canadian certificates and credentials. Each learning experience directs me to a particular area of investigation.

Immigrants’ efforts to enter themselves into the exchange relations in Canada prompted me to see a complex of hiring practices. Through examining the work of various institutional actors in the hiring complex, I find that, first of all, people responsible for hiring work with a culturally-charged, and class-based notion of skill. In other words, the commonsense notion of skills privileges the habitus and valuation practices of the dominant group in Canada and serves the interests of employers to augment profits. Secondly, while this dominant notion of skills serves to organize how immigrants change their presentation and job search practices, it is the project-contingent
and network-dependent hiring practices, and employers’ need for productivity that shape
how immigrants fare in Canada.

In immigrants’ efforts to integrate into their respective new work communities, I see their learning efforts falling into two major areas: work-related learning and communication-related learning. In my examination of immigrants’ work-related training and learning experiences, I find that all my immigrant respondents had easy access to safety training, and yet rarely did they receive company sponsorship for high-end training or professional development. Amid this uneven training picture, immigrants took great initiative to expand their knowledge in engineering codes and standards. Such an uneven picture of training and learning points to a complex of social relations organizing immigrants’ learning opportunities sponsored through work. Among others, I find that training is often part and parcel of corporate managerial practices to organize work and manage the workforce, which put workers in a position to receive training the managerial staff consider relevant to the productive process. In this context, I further identify that corporate sponsorship for high-end training is administered on an individualistic and membership-dependent basis, which marginalizes workers, especially immigrant workers, at the lower echelon or working in contract and contingent positions. My study also points out two ways in which the learning space for immigrants is expanded. First, the textually organized property of engineering work makes engineering codes and standards a desirable learning object. Second, state intervention, as in the case of safety training, also helps extend training entitlement to all worker, regardless of their membership in the engineering community.
In terms of communicative practices, my study shows the efforts that my immigrant respondents made to fit into what they perceived to be the legitimate communication culture. At the centre of the legitimate communication culture is a tendency to value individual productivity and competence and to devalue collegial association and interpersonal connections. I argue that the converging perception around this culture works to obscure the gendered, racialized and class-based dynamics informing people’s communication practices. I also find that the project-based organization of engineering work and employer-centred managerial practices in some workplaces also produce and reproduce the individualistic communicative practice as a social imperative.

Last but not least, my study shows the learning loads that immigrants undertake in order to gain Canadian credentials and licences. This kind of additional learning is informed by an ideological valorization of Canadian credentials and licences. This ideological discourse that privileges Canadian education, I argue, is in part produced and perpetuated through the licensing practices in Canada. Through an examination of the licensure practices in both Ontario and Alberta, I find that there is a degree of arbitrariness on the part of the licensure bodies to assess immigrants’ academic backgrounds and to administer confirmatory exams. The same immigrant may have to write a different number or kinds of exams to get his/her prior educational backgrounds recognized and accepted in Canada.

Theoretical contributions and limitation of my study

My research brings together the sociocultural approach of learning, a materialist learning paradigm, and institutional ethnography, a sociological investigative approach,
to study immigrants’ labour market learning as socially organized practices. Following the sociocultural approach of learning, I see learning as a material and relational phenomenon integral to our everyday practices. I also agree with this approach that the social affords the goals, means and space of learning, which shapes the development of individual perceptions, consciousness and hence practices. With the assistance of institutional ethnography, I go a step further and empirically investigate how these material conditions of learning are socially organized.

In this study, I look at a continuum of immigrants’ experiences and group these experiences as they are connected to different areas of social practices extending beyond immigrants’ immediate experiences. In other words, my intention is not to categorize and typologize immigrants’ learning experiences, but to identify areas of investigation to unravel the social processes and explicate the extended courses of action that generate the learning imperatives, motives, goals and means of learning for immigrants. The value of such an investigation lies in that it exposes the procedures that naturalize the marginalization of immigrant labour and pinpoints the power dynamics that produce social inequality along lines of gender, race and class.

I need to point out that learning is of dual potentials; it works both for and against the capitalist mode of accumulation (Alder, 2004; Rikowski, 1999, 2004; Maitra and Shan, 2007). In my study, I mainly focused on how immigrants fit into the engineering market without addressing how their learning experiences lead to changes in the host labour market. When immigrant respondents told their stories, I was most interested in their successful strategies, or strategies that they deemed to be useful in getting their feet in the door or in advancing themselves in the engineering profession. This kind of
learning is invariably linked to an exchange value orientation (see also Sawchuk, 2006), rather than about use value that help immigrants to construct a “reasonable environment of human interrelation” (Sawchuk, 2006, p. 77). While occasionally, immigrants would also tell stories of how they constructed new lives in Canada, these stories were not the major storyline that emerged from my study. In other words, by focusing on immigrants’ learning experiences in the host labour market, I may have sidelined immigrants’ endeavours to establish new connections and create new space in the host society.

The above drawback does not take away from the overall value of my research. In fact, it brings up a question of significance. That is, why the so called successful learning in Canada is for immigrants to align themselves with the values and normative practices in the Canadian context. Marxist critical theorists shed much light on this question. In Cross the great divide: Worker risk and opportunity in the new economy (2002), Vicki Smith focuses on a question similar to mine: “[w]hy don't workers, in the face of unsettling and sometimes transparently detrimental circumstances, collectively band together to campaign against or sabotage their employers' agendas when such agendas don't appear to advance workers' interests or goals?” (p. 8). Gramsci (1988), an original Marxist thinker, reflects on how individual people willingly consent to the control of the dominant class. His notion of “hegemony” provides the conceptual means for people to understand how domination and subordinate consciousness are produced. Raymond Williams (1977) further points out how hegemony is translated into everyday practical consciousness:

The concept of hegemony... sees the relations of domination and subordination, in their forms as practical consciousness, as in effect a saturation of the whole process of living—not only of political and economic activity, nor only of manifest social activity, but of the whole
substance of lived identities and relationships, to such a depth that the pressures and limits of what can ultimately be seen as a specific economic, political, and cultural system seem to most of us as the pressures and limits of simple experience and common sense (p. 109-110).

While these theorists provide the conceptual guidance for people to understand social production of subordination and domination, my study explicates specific ways in which immigrant engineers learn to confirm to and indeed perform the habitus and assume ways of practices valued in Canada. Further, while emphasizing the pervasive economic relations in shaping how and what immigrants learn, my study points to the formidable power of the dominant ideologies and neo-liberal discourses that occlude social relations such as gender, race and class. In particular, it pinpoints some “key ideological building blocks” that “circulate within and from the sites of administration and management” (DeVault, 2008: p.24) of the engineering profession in Canada. These ideological building blocks, such as the discourses around skills, communication and credentials, organize and reorganize people’s consciousness and enter people into the how people are ruled (DeVault, 2008) in the capitalist Canada. Further, not only does my study uncover the ideological discourses shaping immigrants’ labour market practices. It also unravels the at times contradictory ways in which these ideological blocks are formed and performed at different managerial and administrative sites of the engineering profession. These findings, I hope, will enable us to re-imagine how a new world order can be created.

**Empirical contribution of my study**

My study has a number of empirical and policy implications. To start with, the study pushes the boundaries of a number of commonsensical discourses such as that between skills and jobs, language and communication, and that about Canadian
credentials. It provides an alternative understanding of the dominant construction of these discourses by explicating empirically how they are enacted. It brings attention to the ways in which people of the ruling strata utilize the dominant discourses to accomplish exclusion and to preserve the existent social order and power hierarchy. This knowledge makes it necessary for people working within the managerial and ruling regime to re-examine their ways of work, especially when it comes to working with immigrants.

For example, HR professionals may want to examine their ways of evaluating potential job applicants. In this regard, KeyOn3, a recruiter and an owner of a recruiting company, related the following:

> So for me, it is easy, not just Chinese, but any new immigrant because I meet so many of them from so many places. So when I read their [résumé], I can see whether, what’s behind their vocabulary. But if you only go by … oh, you are not saying the words that I want to hear, then … then it is very hard to find good people….yes, both can improve. But I think it is probably easier for the recruiters because we see so many people.

There are many ways in which recruiters can help equalize the playing field for immigrants. For instance, they may try to understand ways in which immigrants communicate. To redress the current devaluation of foreign qualifications and credentials, they may also want to start learning to understand credentials from other places.

Similarly, my research findings should prompt employers and various stakeholders to rethink ways of approaching immigrant labour. So far, immigrant training in the settlement sector has focused on Canadianizing immigrants and bridging them to the Canadian labour market. Less attention is paid to how immigrants’ different values and practices could be a valuable addition to the existent engineering workforce. I suggest that practical methods be explored to breech the habitual tendency to construct
differences as deficiency (see also Guo, 2007), and to start appreciating differences as potential benefits that can be used to strengthen practices in the engineering profession in Canada.

In my interviews and document collection process, I found a lot of negative comments made by both local and immigrant engineering professionals directed at their colleagues of different racial backgrounds. For example, here is a complaint letter from Don Ireland, P.Eng. from Brampton to PEO that was published in *Engineering Dimension* October 2007. A good portion of his letter, entitled “a disturbing trend” is worth of quoting. It offers some insights into the kind of anxiety that Bill 124 as well as the incoming of foreign-trained engineers raises among some locally-trained engineering practitioners.

…I am very concerned that PEO is bowing to government pressure to license foreign trained engineers who do not have the skills or knowledge that is appropriate. We are structural consultants and I have interviewed and had many international engineering graduates in our office over the past few years. Only about 10 percent had the abilities and skills that I would expect from a Canadian engineering graduate. Let me briefly describe the last two.

1: This gentleman was an international engineering graduate with about 10 years’ experience in design and consulting and was granted EIT (engineer-in-training) status from PEO. He had only to complete one year of experience to get his license. He was in our office for one month. He had little or no knowledge of the Ontario Building Code (OBC) or CSA [Canadian Standards Association] material design codes. Further, we could see that his knowledge of the principles of structural analysis was very limited and he was unable to design the simplest of structures.

2: We only interviewed the second gentleman. He was an international engineering graduate and was granted his licence by PEO a year or so ago. He had been working for a surveying company and wanted to get into consulting. He apparently did most of his training in structural analysis and had about six years’ experience in his own country as a project engineer/manager with some limited design experience. He had no knowledge of the OBC or CSA material design codes. He apparently had
to take one or two courses as part of his licensing process and one was in structural analysis.

In my view, both gentlemen and, particularly the second, seem to indicate a disturbing lenient trend to licensing at PEO. Both people have neither the knowledge nor skills to practise professional engineering in Ontario. Yet, one is close to being licensed and the other is licensed. …

The reality is that we must not forget the culture that these graduates are coming from. Sadly, in many countries of the world, the expected norm is lying, cheating and corruption. We can downplay and not mention it, but it is true. Therefore, one can expect that a percentage of the graduates may not have the training or ability that their educational status of or degree indicates. (Sept.-Oct, 2007, p. 9-10)

After cooling down, Ireland wrote again to Engineering Dimension to say that what he said in the last paragraph was “unkind, arrogant, inappropriate and based mostly on hearsay” (Nov.-Dec., 2007, p. 8). While Ireland was able to take back the last paragraph, he succeeded in presenting an inept image of immigrant engineers based on a few cases that he witnessed.

My study does not show how capable my immigrant interviewees are in terms of their engineering practices. Yet, it shows that it is not unusual for engineering practitioners to point fingers at each other. In my study, almost all immigrant interviewees made negative comments about at least one of their colleagues trained in Canada. For example, To#2 commented on one of the partners in her company this way:

As to [one of our partners], I am not going to make any comment about him — just a so-so person. He majored in chemical engineering and he does not have any idea about structural engineering. … In that company, except for the [partners], everyone else was immigrant.

To#4 was contemptuous of his engineer’s lack of experiences

…[the engineer] would say that we would install for example an air conditioner and how things should be laid out. I did not listen to him,
thinking to myself: “you go and sit there, I would do the work”. [I did not tell him] ‘you don’t know what you are doing’. No, I did not. I could tell you [about his mistake] but you are not in my field.

To#5 could not stand one of his engineers. He said: “[one engineer] got a Ph.D. from University of Toronto. And yet, he would spend weeks designing a girder….”. Ed#2 did not think highly of her senior engineer:

That [senior engineer] claims that he is a professor. I do not know if that is true or not. He claims himself to be a professor. He likes teaching people which is a good thing. At the beginning, he was giving me the most basic instructions, which was not necessary at all. But I did not think that it was a bad thing for my language. That is what I needed. As to the technical aspect of the work, he always gave me wrong instructions.

Ed#6 was reserved about the engineering capacity of one of his senior engineers:

But sometimes, you can also tell that the person, usually a senior engineer, who checks your computation work, does not really understand the work. Once, there was a [white] woman engineer who checked my work. She did not say anything and I started wondering what was going on with her. Eventually she gave my computation back to me, with a few peripheral questions. You know that she did not get my design.

Ed#7 joked about his senior engineer’s math ability:

[The senior engineer], well, is a good engineer. But he lacks experience. He was working in a maintenance company before, and he is sort of new for our kind of design work. But his mathematics is not that strong. When he manually calculates something, he would make mistakes that we Chinese would never make, you know, the most basic kind of mistakes. I taught him a lot.
By listing only a few of the negative comments that immigrant engineers made about their locally trained counterparts, I am not suggesting that immigrants are better engineers than the locally trained engineers. Yet, it is important to see that for many of the engineers, there is a tendency to judge the competence of a particular person based on what that person does not know or is not good at. People easily overlook the strength of their colleagues. It is also important to see that however immigrants perceive their locally trained colleagues, it will not stir a ripple and would not affect the general employment opportunities of locally trained engineers. In contrast, how engineers of the dominant group perceive immigrant engineering practitioners can be used easily as cases against immigrants as a whole. Further, when I juxtapose the negative comments people make about their peer engineering practitioners, I want to show that alienation is a persistent theme in my study. The above quotations are but a few illustration of the alienation in the engineering profession, which, in my view, needs to be overcome in order to build real engineering communities that foster collaboration and collegiality.

At the end of my study, I want to reiterate that my dissertation research is not a comparative study. Through focusing on Edmonton and Toronto at the same time, I try to capture and piece together the social relations that only become visible through examining people’s experiences and work in labour markets with varying labour demands. That is, if there is a difference that I try to capture, it is not the geographical difference but the different ways in which engineering communities are organized that construct immigrants’ opportunities and chances in Canada. At the time when I concluded my research, there have been great changes in the engineering market particularly in Edmonton. In contrast to the economic boom between 2004 and the first
few months of 2008, the recent months have witnessed massive layoff from engineering
companies in Alberta due to the contraction of worldwide economy. The merry picture
that my interviewees in Edmonton painted for me has faded. From my limited
communication with the people that I interviewed, I can see the old story being staged
where immigrants are the last to be hired and the first to be fired. Once again, the
desirability or vulnerability of immigrant labour is not so much subjected to how good
learners they are, but to employers’ labour need as well as the hierarchical values
attributed to the embodied being of the labourers.
Appendix One: Interview Guide with Chinese Immigrants

Interview areas
1: Educational and career background in China;
2: Reasons of immigration to Canada;
3: Career trajectory in Canada;
4: Experience working in the engineering profession in Canada;
5: Similarities and differences in the organization of the engineering profession in Canada and that in China;

Possible interview questions:

Areas One: Career background in China:
1. Can you please tell me your education and career backgrounds in China?
2. How did you look for jobs in China?
3. What jobs did you do and what positions did you take?
4. What responsibilities did you take in each of your job?
5. What training did you receive in China?
6. Can you please describe your work in a typical project?
7. What do you think are the most important things to know in order for you to be successful at work?
8. Have you been promoted in China?
9. How were you promoted? What led to your promotion?

Area Two: Immigration to Canada:
1. How did you come to the decision of immigration?
2. What did you expect to do in Canada at the time of immigration?
3. What kind of preparation did you make before you moved to Canada?
4. How did you know what to prepare before immigration?
5. Have your employment expectation changed since you came to Canada? How?

Area Three: Career Trajectory in Canada:
1. Can you please tell me your employment history in Canada?
2. How did you look for jobs in Canada? And how did you get to know how to look for jobs in these ways?
   1) What kind of problems or barriers have you encountered in your job search process?
   2) How did you deal with these problems and barriers?
   3) How have you learned to deal with the problems these ways?
   4) What kinds of resources have you used in your job search process? And how did you know of these resources?
3. What roles has your family played in your job search process?
4. What are the most important things that you have to know and/or to do in order to find work?
5. Can you comment on the skills and strategies that immigrants could use in order to find jobs?
6. Is language an issue for you in your job search process?
7. How did you resolve the language problem in your job search process?
8. Have you changed jobs in Canada? Why and how?

**Area Four: Experiences Working in the Engineering Profession**
1. What jobs have you done in the engineering field in Canada?
2. What responsibilities have you taken?
3. Who are your colleagues? How is your relationship with your colleagues?
4. Are there women working in your place? What positions do the women take?
5. How do you do your job?
   - Can you please describe a typical assignment of yours?
   - Where does your assignment come from?
   - What software have you used?
   - To whom do you report?
   - How do you report?
   - Is there a time sheet that you have to fill out?
   - How do you fill in the time sheet?

6. Can you please describe a typical workday of yours?
7. Have you received any training at work? If yes, can you please describe it?
8. What kind of problems or barriers have you encountered at work?
9. What strategies have you taken to deal with those problems?
10. Where do you go for help when you have problems at work? Can you please give an example?
11. Can you please comment on the skills and knowledge that you use at the workplace? And how did you learn these skills?
12. Has language been an issue for you at work? If yes, what kind of problems have you faced because of that? How have you resolved, or tried to resolve the language issue?
13. Is there a promotion system at work that you are aware of? If yes, can you please describe it?
14. Have you been promoted at work? If yes, can you please describe how you were promoted?
15. What would you consider as the most significant moments in your career trajectory in Canada? Can you please describe them?
16. What roles has your family played at your career transition points?

**Area Five: How is the engineering profession similar to or different from that in China?**

1. Speaking from your experience, how is the Canadian engineering profession different from that in China? Can you please give some examples?
2. What are the differences and similarities in the ways that people look for jobs in Canada versus in China?
3. What are the differences in terms of skills and knowledge that the engineering profession emphasizes in Canada versus in China?
4. Have you applied for professional engineers in Canada?
5. How do you go about your application for professional engineer?
6. What are the differences and similarities in the ways that credentials are assessed in Canada versus in China?

**Ending questions**
1. Are you fully using your expertise at your current job?
2. How can you make fuller use of your expertise?
3. What is your future plan?
4. What kind of social services would be useful to promote the employment status of immigrants with engineering backgrounds in Canada?
5. If you were to give suggestions for new immigrants with similar backgrounds, what would you say?
6. Do you have any suggestions or questions for my study?
7. Can I contact you again if I need clarification?
Appendix Two: Interview Guide with Key informants

Interview guide for employers, project managers and senior engineers

1: Can you briefly introduce yourself, and your company?
   1) The type of corporation (mechanical? Structural?) (Local? international?);
   2) The business of the company;
   3) The size of the corporation and the size of the local office;
   4) Number of engineers and technologists;

2: When an opening comes up, how do you go about recruiting?
   1) Channel of recruitment
   2) For positions such as technologists and engineers, what do you value in a
      potential job applicant?
   3) How do you evaluate job applicants’ suitability for positions such as
      engineers and technologists?
   4) If possible, can you please describe the workflow involved in hiring an
      engineer or technologist?

3: Can you please describe your training system if you have one? How do you decide
   whom to train and what to train for?

4: Can you please describe your promotion system if you have one? How does the
   company decide whom to promote?

5: If you have directly worked with immigrant engineers, can you please describe your
   experiences working with immigrant engineers and especially your experiences working
   with those from Mainland China?
   1) What are the strengths and weaknesses of Chinese engineers and technologists?
   2) Is communication an issue with the Chinese engineers? How is it a problem or not
      a problem?

6: For newcomers looking for a position as an engineer or technologist, what kind of
   advice would you give to them? (How would you suggest them to prepare themselves?)

7: Have you witnessed any change in the engineering profession in the recent years? Or
   have you witnessed any changes in your company? (in terms of business cycles, 
   technology used, and demographic composition of employees).

8: In terms of the sizes and number of engineering companies in Edmonton (Toronto),
   what information can you share with me?
**Interview guide with recruiters**

1. Can you please briefly introduce yourself and the place where you work?

2. Can you please describe the kind of work that you do?

   or

   Can you please walk me through your working process where a work order is fulfilled?
   
   1) How do you know when a job opening is coming up?
   2) How do you look for people to match the openings?
   3) How do you decide a potential applicant’s suitability for your opening?
   4) What criteria do you or the employers use while looking for engineers and technologists respectively?
   5) What is the biggest challenge of your work?
   6) What do you like the least about your job?

3. What skills do you think job applicants need in order to work as an engineer or a technologist in Canada?

4. To your knowledge, what are the biggest challenges for newcomers to find jobs in the engineering profession?

5. Are you aware of any kind of workplace training that is provided to engineers or technologists?

6. Are you aware of any kind of promotion practices in the companies that you are dealing with?

7. Engineering companies differ in sizes. Do you see differences in their hiring practices and promotion practices?

8. If I were a newcomer to Canada looking for positions such as engineers or technologists, what kind of advice would you give to me?

9. In terms of the sizes and number of engineering companies in Edmonton (Toronto), what information can you share with me?
Interview guide with immigrant employment services workers

1. Can you please introduce your program?
   The mission of the program
   The history of it
   The population it serves
   Description of the program.

2. Can you please describe your work on the program?

3. How would you describe your experience working with immigrants, and immigrant engineers in particular?

4. What skills do you think job applicants and immigrants need in order to work as an engineer or technologist in the engineering profession?

5. How do you help immigrants to gain those qualifications employers are looking for?

6. If I were a newcomer to Canada looking for positions such as engineers or technologists, what kind of advice would you give to me so that I can better position myself in the labour market?

7. What kind of information would you give me with regard to the organization of the engineering market in Toronto, or in Edmonton? (such as firm sizes, hiring practices, regulatory practices, etc).
Interview guide with workers from licensure bodies

1: Can you please introduce yourself and your organization?
   • What is the mission of the organization?
   • What is the history of the organization?
   • What kind of services do you provide to your members, or potential members?

2: Can you please walk me through the working procedure that an immigrant engineer needs to go through in application for a licence in Alberta/Ontario?
   • When a professional engineer’s application comes in, how do you assess the credentials and skills of international-trained engineering graduates?
   • Is there a check list that you use for credential assessment?
   • Can you please describe the list?
   Or
   • What kind of criteria do you use for credential assessment?
   • What do you find as the biggest challenge for immigrant engineers to get licensed?
   • What do you find as the biggest challenge for your organization to work with immigrant engineers’ applications?
     ▪ Do you have an idea of how many engineers trained outside of Canada apply for licensed engineers in Canada each year?
     ▪ What is the success rate?
     ▪ What happens to those who fail their application?
     ▪ What are the typical reasons that engineers trained outside of Canada fail their licence applications?
   • What kind of work do you do in the organization?
   • What do you find as the most challenging part of your work?

3: Do you see any changes in your immigrant applicants during the last 10 years? (in terms of demography, specialization and gender).

4: Given the changes of the immigrant cohort, have there been any changes in the licensure practices in Alberta/Ontario?

5: Engineering companies differ in sizes,
   1) Do you see any differences in the hiring practices in engineering companies?
   2) Do you see any differences in the training practices in the engineering companies?

6: What are the typical ways that engineers use to go up in the workplace hierarchy?

7: If I were a newcomer to Canada wishing to apply for P. Eng., what advice would you give to me?

8: If I were a newcomer to Canada looking for a position in the engineering field, what advice would you give to me?
Appendix Three: Information Letter for Chinese Immigrants

Date
Hongxia Shan
AECP OISE/UT, 252 Bloor Street West,
Toronto, Ontario, M5S 1V6
Tel: 416-926-3705
Email: hshan@oise.utoronto.ca

To: whom it may concern,

Re: Research participation

Dear Sir or Madam:

My name is Hongxia Shan, a Ph.D. student in the Adult Education and Community Development program at the Ontario Institute of Studies in Education of the University of Toronto. I am writing to invite you to participate in my doctoral research project. The primary focus of the project is to examine the experience of Chinese immigrants trying to enter the engineering field and develop themselves within the profession. The interview questions will focus on 1) your educational and career background in China; 2) your career trajectory in Canada, 3) your experience working in the engineering profession in Canada; and 4) the similar or different ways in which you work in Canada versus in China.

I am planning to interview 20 Chinese immigrants who have worked in the engineering profession in both China and Canada (10 in Toronto, 10 in Edmonton). I am hoping to talk to you around 2.5 hours (duration of each meeting is flexible). The interviews will be arranged at a time and place convenient for both of us. There is no financial compensation for your participation in this research. All research participants however will be able to receive a summary of the research findings.

Thank you for your time reading this letter. Your participation in the project is strictly voluntary and anonymous. You are free to stop the interview and withdraw from the study at any time. If you are interested in being part of this study or if you have any questions, please call Hongxia Shan at (416) 926-3705 (Toronto) 780-695-1666 (Edmonton). You can also email me at hshan@oise.utoronto.ca

Sincerely yours,

Hongxia Shan (Ph. D. Student)

Roxana Ng (Professor and Supervisor)
AECP OISE/UT, 252 Bloor Street West,
Toronto, Ontario, M5S 1V6
Tel: (416) 923-6641
E-mail: rng@oise.utoronto.ca

This study has been approved by the ethical review committee at university of Toronto.
尊敬的女士和先生，

我是多伦多大学安省教育学院博士研究生，研究方向为移民职业发展以及社会关系。我博士论文课题为“也谈‘技术’与自我发展：中国移民工程师就业在加拿大”。如果您是1998年或之后从中国大陆移民加拿大，并已在TORONTO或EDMONTON从事工程专业工作，我诚恳邀请您以参加访谈的形式支持这项研究。

上个世纪 90 年代，工程专业是来加男性技术移民的第一大专业，是女性技术移民的第五大专业。亚洲，特别是中国，是工程专业移民的最大来源。在2001年，希望在加拿大从事工程业的移民中有39%来自中国。众所周知，大多数工程专业的移民在寻找专业工作问题上存在困难。即使是进入专业领域的移民也有很多是工作在领域的边缘。主流社会认为，中国移民找工作或在工作领域发展有困难是因为他们缺乏全方位的技术和能力。比如说他们存在语言问题，缺乏对加拿大本地工作文化和工作标准的了解。然而很少有人从技术移民的视角去认识在加拿大从事工程业需要什么样的“技术”。很少有人关注已经从事专业工作的移民是如何通过自己的努力在自己的领域求得发展的。我的毕业论文研究意在给予移民朋友一个发表观点的机会，并从移民的角度审视以上被忽略的问题。

我访谈的主要问题为:1) 中国大陆移民是如何在加拿大寻求自我发展的，比如如何找工作并在专业工作中提高自己或获得提升的;2) 他们对加拿大工程业所谓技术的看法，比如在加拿大工程业与中国工程业工作有何不同。

您对本项目的参与将会增进加拿大社会，特别是雇主，对中国工程师的了解。您的经历和看法将为其他寻求专业工作的移民提供有益的帮助，也会为移民就业服务提供有益的参考。如果您感兴趣，我会在项目结束后将一份初步研究报告以邮件方式发送给您。

本研究对您的任何个人信息，比如姓名和工作单位都会严加保密。您的参与是完全基于自愿的基础上的。您可以在访谈过程中随时中断对项目的参与。访谈时间和地点以您的方便为基准。如果您对本项目感兴趣或有任何问题请联系我们：

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Appendix Four: Information Letter for Key Informants

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Re: Information Interview

Dear Sir or Madame,

My name is Hongxia Shan, a Ph.D. student in the Adult Education and Community Development program at the Ontario Institute of Studies in Education of the University of Toronto. I am writing to invite you to participate in my doctoral research project. The project examines how Chinese immigrants learn to fit into the engineering profession in Canada. As part of this study, I am interviewing around 16 employers, HR recruiters, immigrant services workers, and professional organization leaders to obtain background information on the knowledge, skills and qualifications that are valued in the engineering profession in Canada. The study is intended to strengthen the mutual understanding of employers and immigrant engineers.

The interview will be **around 30 minutes**. I will draw on your expertise on one or all of the following topics: 1) the skills and qualifications needed for positions such as engineers and technologists; 2) the hiring, training, promotion and accreditation practices in the engineering profession; 3) your experience working with engineers on accreditation issues, employment issues, and/or occupational development issues.

Your participation in the project is strictly voluntary and anonymous. Any identifiable information will be disguised in any writings out of the project. You are free to stop the interview and withdraw from the study at any time.

Thank you for your time reading this letter. If you are interested in participating in this study, you can email me at hshan@oise.utoronto.ca.

Sincerely yours,

Hongxia Shan (Ph. D. Student)

Roxana Ng (Professor and Supervisor)  
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*This study has been approved by the ethical review committee at university of Toronto.*
Appendix Five: Consent Form

DATE:

I, _____________, agree to participate in the study of "Learning as Socially Organized Practices: Chinese Immigrants Fitting into the Engineering Profession”. I understand that I am under no obligation to agree to participate. I further understand that I can decline answering any questions, and I can terminate the interview and withdraw from the study at any time during the data analysis process, which will be finished by December 2007.

I understand that my experiences, responses and comments given will be anonymous unless I specify that you can use my name in connection to specific facts and instances. I further understand that my name and workplace will be kept confidential in any of your writings and publications as pertaining to this research, unless I give you permission to do otherwise.

With my consent, this interview will be audio taped. I understand that only the researcher and members of the research committee will have access to the tapes and transcripts pertaining to this interview and that the hard copies of these materials will be kept in a locked cabinet in your research office, and the electronic copies will be secured with passwords in your computer. I understand that the tapes will be deleted within five years after the interviews, and that the transcripts will be destroyed after ten years in case of follow-up studies. I understand that the data may be used for presentation and/or publication purposes.

I understand that I will keep a copy of this form.

Signature of
Research participant: _______________ Date: ____________

☐ I would like to receive a summary of the research findings.

If the box is checked, please provide your email address:

_______________________________

Signature of
Witness: _________________________ Date:__________________
# Appendix Six: Demographic Information

<table>
<thead>
<tr>
<th>No:</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Address</td>
</tr>
<tr>
<td>2</td>
<td>Telephone Number</td>
</tr>
<tr>
<td>3</td>
<td>Email Address</td>
</tr>
<tr>
<td>4</td>
<td>Immigration status</td>
</tr>
<tr>
<td>5</td>
<td>Year of immigration</td>
</tr>
<tr>
<td>6</td>
<td>Citizenship status</td>
</tr>
<tr>
<td>7</td>
<td>City first landed</td>
</tr>
<tr>
<td>8</td>
<td>Country of immigration application</td>
</tr>
<tr>
<td>9</td>
<td>Educational Level</td>
</tr>
<tr>
<td>10</td>
<td>Age</td>
</tr>
<tr>
<td>11</td>
<td>Marital status</td>
</tr>
<tr>
<td>12</td>
<td>Your partner’s employment status</td>
</tr>
<tr>
<td>13</td>
<td>Children</td>
</tr>
<tr>
<td>14</td>
<td>Employment before</td>
</tr>
</tbody>
</table>

## Immigration status
- 4.1 Dependent immigrant ( )
- 4.2 Independent immigrant ( )

## Citizenship status
- 6.1 Canadian citizen ( )
- 6.2 Landed Immigrant ( )
- 6.3 Chinese citizen ( )
- 6.4 Others _____________________

## City first landed
- Toronto ( )
- Edmonton ( )
- Vancouver ( )
- Other (please specify) _____________________

## Educational Level
- 9.1 Bachelor ( ) Country _______ field of study ___________
- 9.2 Master ( ) Country _______ field of study ___________
- 9.3 Ph. D ( ) Country _______ field of study ___________
- 9.4 Others

**Example:**
- Teacher’s Certificate Country Canada Institute Windsor University
- Java Programmer certificate Country USA Institute IBM

## Age
- 25 and below ( )
- 26-30 ( )
- 31-35 ( )
- 36-40 ( )
- 41-45 ( )
- 46-50 ( )
- 50 and above ( )

## Marital status
- 12.1 Single ( )
- 12.2 Married ( )
- 12.3 Common-law ( )
- 12.4 Divorced ( )

## Your partner’s employment status
- 13.1.1 employed full-time ( )
- 13.1.2 part-time ( )
- 13.1.3 seasonally employed ( )
- 13.1.4 not employed ( )
- 13.1.5 not applicable ( )
- 13.2.1 : Occupation __________
- 13.2.2 : Position: __________

## Children
- 14.1 Number of Children __________
- 14.2.1 Age ________ 14.3.1 Female ( ) Male ( )
- 14.2.2 Age ________ 14.3.2 Female ( ) Male ( )
- 14.2.3 Age ________ 14.3.3 Female ( ) Male ( )
- 14.2.4 Age ________ 14.3.4 Female ( ) Male ( )
<table>
<thead>
<tr>
<th>15</th>
<th>Immigration</th>
<th>15.1 Position</th>
<th>15.2 Field</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>position manager</td>
<td>hospitality</td>
</tr>
</tbody>
</table>

| 16 | Current employment | 16.1.1 Position | 16.2.1 Field |
|    |                     | 16.1.2 Position | 16.2.2 Field |

| 17 | Income | Bracket | 17.1 Your income | 17.2 Household |
| 17.1 | $10,000 - $19,999 | ( ) | ( ) |
| 17.2 | $20,000 - $29,999 | ( ) | ( ) |
| 17.3 | $30,000 - $39,999 | ( ) | ( ) |
| 17.4 | $40,000 - $49,999 | ( ) | ( ) |
| 17.5 | $50,000 - $59,999 | ( ) | ( ) |
| 17.6 | $60,000 - $69,999 | ( ) | ( ) |
| 17.7 | $70,000 and above | ( ) | ( ) |

| 18 | Date of interview |
| 19 | Name of Interviewer(s) |
| 20 | Transcribed by |


Tsuda (Eds.), *Controlling immigration: A global perspective* (2nd Ed.) (pp. 79-133). Stanford CA: Stanford University Press.


Robertson, D. (1992). Corporate training syndrome: What we have is not enough and more would be too much. In A. Beckerman, J. Davis & N. Jackson (Eds.), *Training or what? labour perspectives on job training* (pp. 18-28). Toronto, Our Schools/Our Selves Education Foundation.


