A Conceptualized Proposal for Reforming China's Test-Driven Secondary Education: Integrating Academic and Vocational Education towards a Vocationalism

by

Xin Jin

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Dedication

To my mother Xiufen Zhu, and my father Defu Jin,

For your unconditional and unending love and support on my journey of growth,

As well as for allowing me a great freedom to explore my own life;

AND

To my aunt Xiukun Zhu,

For your devotion in educating me that results in my achievement today.

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Abstract

Under China's contemporary climate of reforming education, this research tries to explore the necessities and means of introducing a vocationalism approach that integrates academic and vocational education in China's general secondary schools. Firstly studied is the background of education in China. Subsequently, a discussion is developed regarding the premise of students educated in the academically and vocationally integrated courses are better prepared for their future lives and careers. The aforementioned vocationalism approach is therefore suggested as an alternative path for educational reform, which China's general secondary schools may consider to incorporate, so that 1) academically disadvantaged students are at least helped with their post-graduate career choices and expected to successfully attain decent jobs; and 2) students with academic advantages are not only prepared for further education, but also for their career pursuits.

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Preface and Plan

Dear reader,

Contemporary education in China is practiced within a test-driven system. At least for the education I went through, teaching to the test was the prevalent pedagogy adopted by most of my teachers, and memorization was the most effective method for taking tests. According to the literature I have reviewed, what I experienced when I went to school remains a dominant phenomenon in today's Chinese classrooms. Students with high scores are considered academically well-prepared, carrying the hope of schools and families of going on to obtain higher education. Where a red carpet to a better paying, more comfortable profession is laid out for them, there is a barrier-laden stairway for those who are academically disadvantaged.

As I understand that I have limited knowledge regarding the issues of vocationalism and academic and vocational integration, a review of the literature is necessary for attaining fundamental comprehensions in order to plan for any further research. In addition to literature review, the qualitative methods of conceptualization and narrative inquiry are used for conducting my research. In chapter one, I will discuss in specific detail the topic of methodology, revealing why I choose these methods and how they are applied in my research.

Narratives of my personal experiences are also included in this thesis. Through my experiential perspective, I intend to present to you the context that relates to my research. According to Sandra Harding (1993), the subjects of knowledge "are embodied and visible," and "the fact that subjects of knowledge are embodied and socially located

has the consequence that they are not fundamentally different from objects of knowledge", "such as nature as an object of knowledge" (p. 63-64). Based on Harding's clarification, I understand that admitting personal experience and knowledge is not less objective; moreover, it is inseparable from the research and its theorization. In chapter two and some sections of chapter four and six, stories of my formal and informal educational experiences are told and my own understanding of teaching are expressed, which indicates the present status of who I am and how I think.

Chapters three and four are devoted to the discussion of formal education in China: its historical influences, both the domestic and the foreign; its current development; and its problems. My focus is on problems of China's secondary education so as to provide you with a background understanding for my research, through which I hope to present to you a big picture with regard to how my research results can be brought into play in terms of reforming secondary education. Chapter five studies the vocational education and vocationalism. The historical paths of their development are analyzed, and their theoretical and practical examples are demonstrated. Through unfolding the chapter, the dynamics behind approaches of integrating the academic and the vocational are investigated. In particular, the relationship between developing vocationalism and integrating the academic and vocational education is illustrated. In chapter six, the focus is on the academic and vocational integration in terms of its necessity, trend, and forms. At the end of the chapter, I will discuss my proposal for academic and vocational integration in China's secondary schools, which includes how my research results can be utilized and what the precautions are with regard to my proposal for Chinese secondary school reforms.

Having outlined the framework of this thesis, I now would like to invite you, my reader, to go with me into my research.

Chapter One Methodology

This thesis studies formal education in China, investigates useful pedagogical and systematic approaches which might facilitate an integration of the academic and the vocational as a means of developing vocationalism, and conceptualizes alternatives for reforming China's test-driven secondary general education. Based on the assumption that the postsecondary working and educational opportunities of the students who fail to be enrolled by universities are less promising than those of college-bound students, the thesis aims to reveal how academic education can be modified to address the issue. If these students can be educated with knowledge and skills that are not only academic-oriented but also vocational-integrated, so that even if they are disadvantaged at academic learning, there is hope that they will at least be prepared for a vocation.

In my discussion, I will problematize secondary school education in contemporary China with an association to my personal experiences. As well, I intend to study the literature which concentrates on education and work-preparation integration, hence to identify the system of such integration and many forms of its application, and eventually will propose solutions to improve secondary education in China. I use the qualitative methods of combining a literature review with narrative inquiry as well as performing a conceptual analysis, so that a platform will be constructed for locating problems, presenting examples and proposing plans for Chinese secondary school reform.

As depicted by Denzin and Lincoln (as cited in Pinnegar & Daynes, 2007) in the book *Handbook of Qualitative Research*,

> qualitative researchers study things in their natural settings attempting to make sense of, or interpret, phenomena in terms of the meanings people bring to them.

> Qualitative research involves the studied use of and collection of a variety of empirical materials . . . that describe routine and problematic moments and meaning in individuals' lives. (p. 4)

Although for this research I do not perform the field research in its natural setting, the narratives of my stories as empirical data, experienced in their natural circumstances, are qualitative to start with. Qualitative research, as I see it, engages researchers in a series of experiential, investigative and interpretive activities, through which they seek to comprehend and theorize the researched aspects of human practice, the physical world, or social phenomena. By investigating my experiences and interpreting theoretical data, I aim to better understand how China's formal education can better prepare secondary students for their future working experiences and career pursuits, aside from promoting an academic advancement. Viewing education as a human practice through which society passes down and develops its valuable culture, such recognition gives rise to qualitative research as my choice of research methodology, which emphasizes the purpose of comprehension and the process of investigation and interpretation.

A literature review, as defined by Hart (1998) in his book *Doing a Literature Review*, is

> the selection of available documents (both published and unpublished) on the topic, which contain information, ideas, data and evidence written from a particular standpoint to fulfill certain aims or express certain views on the nature of the topic and how it is to be investigated, and the effective evaluation of these documents in relation to the research being proposed. (p. 13)

Jessen and Lacey (2006) say that "a literature review is a narrative account of information that is already currently available, accessible and published, which may be written from a number of different paradigms or perspectives, depending on the standpoint of the writer" (p. 140). Bruce's (1994) study of forty-one postgraduate research scholars regarding their conceptions of the literature review learns that it is considered variably as a list, a search, a survey, a vehicle for learning, a facilitator and a report. No matter what role the literature review is perceived to have, as I see it, a review of literature in general provides voluminous resources for the researcher to experience a textualized battleground of reasoning and debating, to grasp preliminary presentations and ideas, and to delve for deeper theoretical and philosophical concepts. Educational research bears the nature of intricacy; therefore, before performing any physical investigations, it is necessary to conduct a systematic and detailed review of literature to familiarize oneself with related educational theories and practice.

Lather (1999) suggests that a review of literature is done to attain a productive result rather than merely re-account the literature of the researched issue. According to Boote & Beile (2005), the literature review should aim at achieving an inclusive understanding of the existing literature on the subject as well as cultivating a new perspective derived from a holistic understanding. O'Leary (2004) also points out that working with literature is essential for creating and developing ideas during the research process. Coming from the same angle, these scholars remind researchers that a literature review is not limited to synthesizing information and making criticism; instead, a fresh standpoint is also expected to be established.

With regard to the literature review used for my thesis, in the second part, I will start with the analyses of educational issues in China, from its historical influences to its contemporary developments, to give you, my reader, a sense of why I am interested in this research and why I think the research is necessary. Then in part three, I will investigate the literature related to issues of collaborations between formal education and vocational preparation. This includes a study of vocational education, the phenomenon of vocationalism, and more specifically a vocationalism approach of integrating vocational and academic education, which eventually leads to my discussion of proposals for vocational and academic integration in China's secondary schools. I am also aware that ways of improving secondary education in China is by no means limited to my proposal; therefore, my review of literature is also expected to establish an opportunity for continuing the dialogue of introducing non-traditional and down-to-earth approaches into China's educational system.

In addition to the literature review, narrative inquiry is also used for my research. As indicated by Patton (2002), narrative inquiry's foundational questions are

> What does this narrative story reveal about the person and the world from which it came? How can this narrative be interpreted so that it provides an understanding of and illuminates the life and culture that created it? (p. 115)

The notion of narrative inquiry in Connelly and Clandinin's (as cited in Clandinin, Pushor, & Orr, 2007) understanding is that

> narrative is the phenomenon studied in inquiry. Narrative inquiry, the study of experience as story, then, is first and foremost a way of thinking about experience. Narrative inquiry as a methodology entails a view of the phenomenon. To use

> narrative inquiry methodology is to adopt a particular narrative view of experience as phenomena under study. (p. 22)

This reveals that storied experiences establish the connection between the forms of narrative and inquiry. Through the telling of stories, narrative inquiry is used to make sense of the examples which the researchers are interested in. In addition, "in narrative inquiry, it is important to always try to understand people, places and events as in process, as always in transition" (Clandinin et al., 2007, p. 23). With the notion of narrative inquiry, the narrative form not only provides the content of a certain research topic, but also functions as a research method (Clandinin & Connelly, 1990; 1996).

The study of experience is a focus of narrative inquiry, as Clandinin and Rosiek (2007) indicate: "narrative inquiry is an approach to the study of human lives conceived as a way of honoring lived experience as a source of important knowledge and understanding" (p. 42). As a matter of fact, more and more educational studies have applied narrative inquiry for a better understanding of experiences (Clandinin & Connelly, 1990; Conle, 2001). In Clandinin and Connelly's (2000) view, "experience is what we study, and we study it narratively because narrative thinking is a key form of experience and a key way of writing and thinking about it" (p. 18). They further indicate that the study of education is the study of experience, therefore, "educational experiences should be studied narratively" (1990; 1996; 2000, p. 19).

Theoretically, Dewey's conceptualization of experience has guided Clandinin and Connelly's (2000) forming of narrative inquiry methodology. It is constructed by the "three dimensional narrative inquiry space," whose notions consist of "situation," "continuity," and "interaction" (p. 50). In Dewey's (1938) book *Experience and*

Education, the three notions find their origin in his theory of experience. The notions of "situation," "continuity," and "interaction," as significant constituents of the "three dimensional narrative inquiry space," are associated with a narrative structure of place, time, and person. Additionally, there is "Dewey's reconstruction of experience" which is also applied to narrative inquiry as "the retelling and reliving of stories," for the purpose of contributing to personal and social growth (Clandinin & Connelly, 2000, p. 85). Such an experiential concentration on comprehending the quality of education establishes narrative's position within qualitative research (Clandinin & Connelly, 1990).

That my narratives of educational stories fit the framework of the "three dimensional narrative inquiry space" is also considered according to three notions. First of all, "situation" suggests "the place of experience" (Clandinin & Connelly, 2000, p. 50), and according to Dewey (1938) it refers to "the surroundings," providing circumstantial settings for the experience (p. 40).

My narratives are unfolded by recalling memories and feelings of my educational experiences. These narratives find their places in China's formal education, which invite readers to an environment with which they may or may not be familiar. Nonetheless, it helps to uncover the problems as I see them, and raises the questions for further research. Second, "continuity" of experience presents the duration of "past, present, and future" (Clandinin & Connelly, 2000, p. 50), which in Dewey's (1938) term is "the experience continuum," denoting that the current experience encompasses the influences from the previous experiences, and also adjusts the quality of the following experience (p. 35). My stories are clues from which I find the research interest. The experiences of the past are also affecting how I am doing my research and where I put my concentration. As I see it,

the experience is contagious. Telling of the stories may well affect readers' ways of seeing and doing things in the future. Lastly, the notion of "interaction," demonstrates "personal and social relationships" (Clandinin & Connelly, 2000, p. 50), which leads to the objective and internal aspects of experience, the interplay of which structures one's experience (Dewey, 1938, p. 42). In my narrative, "interaction" is revealed through my reflection of experiences, which prepares empirical evidence for the conceptualization of educational practice.

Several means such as interview, field note, letter writing, and even autobiographical and biographical writings can be used to perform narrative inquiry (Clandinin & Connelly, 1990; Conle, 2000; Conle, 2001). My choice of narrative inquiry is as a supplementary method to clarify ideas summarized from a review of the literature, as well as to enliven theoretical concepts. Noy (2003) suggests that "in some cases, writing about and through oneself, is scholarly illuminating" (p. 2), which, as I see it, justifies my approach of narrative inquiry in this thesis. I narrate based on memories of my own experiences, the form of which is one means of autobiographical writing. With the narrative of personal experiences, however, the issue of subjectivity becomes a concern. For one thing, in order to achieve a valid and credible research finding, it is suggested that the researchers should be aware of their "positioning" (Carpenter, 1999, p. 1), and should "acknowledge" (Carpenter, 1999, p. 10), "balance" (O'Leary, 2004, p. 43) and "manage" (Morrow, 2005, p. 254) their subjectivity. On the other hand, finding a way to give credit to the constructively employed personal story in academic and scientific discussion is advocated (Nikitina, 2003). Aguirre (2005) also argues that the character of the personal narrative is a valuable method for understanding everyday life.

As for my research, based on a review of literature, illustrations of my personal experiences, namely personal narrative, will be used to enrich the research data and help to enliven theoretical concepts. For instance, when analyzing China's educational system, my personal narrative will be used to bring in a more vivid picture, especially from a student perspective, of how education is carried out. Denzin (as cited in James, 2002) indicates that "stories are shaped by and reflect the perspective of the teller, which in turn is shaped and structured within a wider social, political and economic framework" (p. 172). Although I cannot make generalizations about the Chinese educational situation based on my own personal experiences, those experiences were nonetheless influenced by cultural heritage and educational politics in China. In this case, subjectivity is expected to be minimized because personal narratives are simply used to exemplify theoretical generalizations which are made in the literature.

In addition, I will use personal narrative as conduits to locate educational approaches that are helpful for students' school-to-work transition versus those that are not. It is not to suggest that certain educational approaches viewed from perspectives of my personal experiences are, in a general sense, useful ones. Rather, it is to bring a "resonance" (Cone, as cited in Conle, 2001, p. 53) to you, my reader, and to create an opportunity for exploring imaginative experience, in that through reading and retelling stories, meaning is constantly developed according to the changed situation (Conle, 2000). Narrative inquiry has its value within the individual perceptions of the reader, as well as in the conditional interpretations found in the "re-storying" (Clandinin & Connelly, 1990, p. 11).

In conclusion, the methodological framework of this thesis is reviewing the literature to gather theoretical and practical content with respect to China's educational background, vocationalism development and the academic and vocational integration. In the meantime, through inquiring my experiences' narrative I put forward research questions and to make connections with studies of theories and practice. As a result, I am able to analyze concepts so as to address the issue of improving secondary education in China.

Chapter Two My Narrative – Experiences of Educational Thoughts

There are two recent changes in my life my parents love to talk about a lot – to their friends, colleagues, and even neighbors. I would also like to share them with you, for the fact that they are the turning points in my life – my educational life in particular. They inspired me to become what I am, and they result in what I am interested in researching.

The first of the changes was a sudden increase of my learning enthusiasm in sophomore year at West China Normal University. Such a change impressed my parents because I used to lack motivation to study in secondary school, and I would only make efforts in studying when my parents or other older family members pushed. However, after studying in university, I was able to concentrate on learning what I was interested in. Since then, I have had a clear vision of becoming an English teacher and that was the target I strove for.

Every semester, I set various goals for myself. One such goal was to pass the nationally designed English level tests. I chose this particular goal, so that I could have a clearer understanding of my improvements based on performance on the tests. It was sad but true that examinations were the only means I could rely upon to evaluate myself, because rarely would the professors or instructors communicate with students regarding their progress. However, the bright side was that my motivation for learning was no longer directed at passing certain exams in order to please my parents and teachers; instead, my motivation was for driving myself to the next level of learning something. My mother commented that I had an addiction for taking exams, which was true, but I

was only enthusiastic for taking those related to English language usage. Just as I mentioned earlier, that was my way of assessing my learning accomplishments.

In secondary school, after taking exams, I used to forget what I had previously learned. However, while in university, I was able to comprehend those things I learned so it became meaningful and less likely to be forgotten. I was also inspired by being involved in a competitive environment with my roommates.

My parents would say that attending university was when I finally "woke up" and took responsibilities for myself, especially as far as my education was concerned. In Chinese culture, if adults comment on children waking up – *zhangxingle* in the Chinese language – it means that they become psychologically mature and sensible, and they are willing to make efforts in improving their own lives. I think, however, that it was not a matter of me experiencing *zhangxingle* so much as the fact that I got some education that not only made sense, but also motivated me.

Change two would be my final decision on studying abroad. My mother had always persuaded me to study abroad so that I would really be able to improve my English while experiencing a different culture. Moreover, a degree from a foreign country would be beneficial for my career development in China. I always believed, on the other hand, that for those who have competency and confidence, opportunities of achieving a prosperous career will always exist, with or without foreign experiences. I assured my mother that I was very confident and I believed in my competency. I insisted on staying in China and trying to develop my career through personal efforts.

After graduating from university with a diploma certifying I successfully completed the highest level in the English major, I easily obtained a well-paid teaching

position in an adult training center and had the confidence I needed and was prepared to become a “good teacher.”

A “good teacher” is an ambiguous term, because different people have varied interpretations of what exactly makes a teacher “good.” My own understanding of the meaning of being a “good teacher” has changed from its original definition. The basic meaning has not changed so much; the scope has just been broadened. At one time, I believed that to be a “good teacher,” one would personalize his/her teaching methods in such a way as to grab the students’ attention and thereby enhance each student’s learning experience.

The caveat, I reminded myself, was that I should not teach in the same way that my secondary school English teacher did, because she made lists of the grammar details for her students to digest, and she overemphasized reading and writing skills while providing few opportunities for us to practice speaking and listening skills. I should manage to strategically combine all four skills of learning a language into each class, and make clear the important points to be grasped. Later on, through trial-and-error, I also realized that the diversity in ways of teaching together with logical design of content, tailored to the students’ learning abilities was indispensable if I wanted to keep students actively involved in their education.

I had a lot of teaching freedom while working at the adult training center, such as choosing my own topics and making flexible teaching plans. I could, therefore, develop a pedagogy based on my own understanding of being a “good teacher.” These choices seemed especially successful when teaching spoken English classes, or the fundamentals of English grammar. The duration for each class was only three months, but I never

taught the same lessons from the previously used teaching plans. I tried to design each new class by first considering the students' requirements against their learning abilities. At that point, my own theory of teaching could have been summarized in one word – flexibility.

My understanding was that it was not important to deliver all the contents of the textbook. Instead, my objective was to really help each student to comprehend the language they had learned and know how best to use it. This concept was inconsistent with the instructional methods I experienced in secondary school, where the teacher's focus was to help students go through every page of the textbook.

After several months of teaching, I found that by comparing Chinese culture with those of English speaking countries, I could draw students' attention and inspire their learning. I was very satisfied with my teaching and tasted a bit of success, because students who took my classes were pleased, and potential students who had heard about this wanted to be enrolled in them as well.

After the first six months of teaching when my foci were on spoken English and fundamental English grammar classes, I was assigned to teach the Public English Test System (PETS) preparation classes. PETS is a five level examination system that is designed to provide people who cannot go to university an opportunity of getting an English certificate, with which they could potentially either get assigned a more desirable task with their current employer, a salary increase at their current position, a promotion, or find a different career altogether, especially in joint venture companies that offer very high salaries.

People from any age group and all walks of life can apply to take the exam. Students who took the course had a high expectation of it helping them pass the examinations. PETS classes would last six months and the examinations were arranged twice a year. Ideally, once the students finish taking the six-month classes, they would take the next scheduled exam.

Several weeks after I started teaching PETS classes, I started to sense that there was a widening gap between my confidence and competency levels. With the stress of time constraints in teaching English, and helping as many students as possible to pass, I had no other choice but to adopt the way my English teacher used to prepare me for *gaokao*,[1] i.e. focusing on a student's ability to memorize grammar points, helping them to retain as many words as possible, as well as taking practice exams.

Students who took the PETS classes were mostly looking for a shortcut to passing the exams. In every class, some students would complain that they were so busy at work that once they got home, they were too tired to study. Or they would complain that there were many house chores to be taken care of so that they could not do as much studying as they planned. Truthfully, I felt they looked forward to making a big step forward at studying English only by taking that two-and-a-half-hour night class twice a week.

Because I really wanted to help them, I would walk them through very detailed grammar and English language usages, stressing some of the more important ones. I repeated them once and again, with the hope that such a repetition would help students to understand and remember. I shared with them my efficient ways of remembering English words and grammar. At the beginning of each class, I scheduled around twenty minutes

[1] *Gaokao* is pinyin form of the Mandarin word 高考, meaning the National University Entrance Examination. It is also translated as the National College Entrance Examination, which is part of the educational system that was reinitiated after the Cultural Revolution since 1977 (Hulbert, 2007).

for spoken English practice; however, due to the time constraints, that was the most time I could afford to teach 30 students. I always heard students tell me that I taught earnestly and took care of all that was required by the exam. Sometimes they understood and sometimes they did not, but they just could not remember. I could not say that I was satisfied with my teaching. I certainly 'poured' a lot of information onto the students, with the hope that my students could at least pick up some new ideas from a large flow of information so that they would acquire knowledge. Disappointingly, they didn't seem to make any progress.

By comparing some students' compositions written in the beginning of the class and those written six months later, there still existed the same kinds of grammatical mistakes, which prevented them from getting higher marks. Sometimes because of their confusion after learning so many details in grammar, other new problems emerged. I guessed they might be more confused with English study than before they took the class. I guess, after the six-month study, they got even more confused with English grammar. Before they took the class, they knew some things about English language usage; some proper and others improper. After they took the class, they learned more about English usage; however, the new information became mixed up with the old, only to create a new level of confusion.

Having taught PETS classes for almost a year, what I saw was that only a few students in each class made improvement; most of them were left behind. Ironically, my knowledge in English grammar improved greatly. Yet, I started to feel frustrated with my limitations in teaching methods, and expected some change. I wanted to be able to step outside of the shadow of my own English teacher's pedagogy, and to develop a variety of

teaching methods. I was desperately looking for effective teaching methods, which could enrich the students' learning. Although I had confidence and I had faith in my abilities, I still began to feel unfulfilled at work. Instead of settling for the disappointment, I remembered my other options.

So one day, at least two years after my mother had given up on persuading me to study abroad, I asked her, "Mom, will you still support my studying abroad?" She was very surprised, yet supportive. Her answer was, "Yes." The idea of studying abroad resurfaced, and with my parents' support, it became reality, which revealed opportunities for more interesting and exciting experiences of being educated. To present one of them, please follow me to Scene One.

Scene One: September 7, 2005, 4:30 pm, Mount Saint Vincent University Classroom, Canada.

Sixteen students were in the classroom. Some were Chinese, some were Japanese, one was from Morocco, and the rest were Canadians. I was sitting in this classroom, feeling excited but mostly nervous. This was my first graduate class in a foreign country, with classmates not only from different countries, but from different age groups and knowledge backgrounds. The instructor came in. After introducing herself, she handed out a piece of paper with questions such as "Find three classmates who have been to Toronto" or "Find three classmates who are teaching in secondary school." I had no idea what I was supposed to do, because even if she explained the activity, I couldn't follow her speed of speaking. I felt at a loss, but still excited. Luckily there were Chinese in the classroom,

after talking to them, I knew that this was an activity for classmates to get to know each other. "This is fun," I thought.

After the activity, the instructor handed out the course outline, which clearly stated the schedule of the class throughout the semester, types of assignments, grading method, requirements for taking the class, etc. Everything was so different from classes in China. There were no textbooks. We sat in a circle and everybody could see each other's face but not their back. We had a weird assignment and I didn't have a clue of what I needed to do. Once the class started, students talked more than the instructor did. Centering on the topics, we discussed in groups, and each group was supposed to share with the rest of class what they had discussed. We played more games, and we discussed more. I felt like I had gone back to primary school in China where the classroom atmosphere was lively and students were active.

This First class at Mount Saint Vincent University made me recall my first undergraduate class. Now please go with me to that scene.

Scene Two: September 2, 1999, 8:30 am, West China Normal University classroom, China

When the bell rang for the first time, it notified students and teachers that it was time for class to start. Thirty two students were in my first university class – Comprehensive English. Everyone was chatting with somebody else while waiting for the teacher to show up. Most conversations were about where they were from and what their experience

of gaokao was like. Shortly before the bell rang the second time, the teacher came in.

I felt very excited because I was finally in the university taking higher education courses – a very serious moment for me. I was looking forward to experiencing a "revolutionary" way of being educated and a fresh difference from the rigid rote learning of secondary school. I had always imagined that studying in university would be more open with more freedom than it was in secondary school (at least, that was what the adults told me). As a matter of fact, there was no big difference with how classes were taught – the emphasis was on rote learning with the first and foremost aim of passing the exam – now that I think back on it, none of those adults had studied in a university.

As soon as the teacher stood in the center of the platform, students all stood up. "Good morning, teacher," we greeted in unison, and then sat down. "This isn't very different from secondary school," I said to myself. After the greeting, the teacher, Miss Xiang, started to introduce herself – her name, where she graduated, her experience in teaching this course, and her interest in research. Following her self-introduction was her explanation of the requirements for us – no absence from class, no off-topic conversation in the classroom, etc. Then she started her lecture on chapter one. The textbook was the focus of the class, so in each section Miss Xiang pointed out the importance in language use and had us practice speaking and writing with them.

The illustration of the two scenes[2] is to reveal briefly how my experiences differ as regards classroom learning in China versus in Canada, which presents me a platform where I realize a lot of useful information can be generated and learned through comparison.

My time during secondary school education was a period that I named the "dark age." I resisted learning because my teachers' instruction methods were not appealing and the learning process appeared to be tedious. Additionally, the content was so difficult to understand that learning by rote was the best way out in order to perform well in the exams. As a result, I saw no other purpose in education except passing *gaokao*, which was a mission enforced by my parents, relatives and teachers. Maybe not disappointing them was the purpose of my education.

While university teachers' pedagogies were not so different from those in secondary school – lecturing on textbooks was the approach adopted by most instructors and professors, and the end of term exams were decisive to the overall evaluation – I did, however, notice that the classes were arranged differently from those in secondary school. Instead of having the students sitting in the classroom from morning to afternoon, Monday through Saturday (as it was in secondary school), university courses were not scheduled every day throughout the week. Sometimes there would only be one class in a day. It was a difference I appreciated because such an arrangement allowed for more free time for students to do their own studying.

[2] As my thesis supervisor Michelle pointed out, the comparison of the two scenes, the one in the graduate classroom and the other in the undergraduate classroom, were likely to be different anyway. I agree with this point of view. Nevertheless, from my standpoint, these two scenes are the comparable personal experiences that I went through, from which my wonders emerged and questions arose. Despite the fact that the two experiences are based on different levels, this comparison is a starting point for seeking answers. Therefore, the two scenes provide me with personal significance in conducting this research.

I experienced change while at university from being a student of low motivation to an inspired one who appreciated the process of learning. At work, I experienced change through struggle to become a teacher whose instruction would meet each individual student's needs so that, instead of solely memorizing what was taught, they could also make use of what they learned. My own struggle and change inspired me to focus on attempts to improve secondary school education. I want to find ways to bring light to some unknown student's "dark age."

My own experience was "dark" because I could not envision where my life was headed through my secondary school education. Other than satisfying my family, I could not comprehend why else it mattered whether I passed or did not pass *gaokao*. This "dark" feeling became more real to me when I tried to memorize what was important for the exam but soon forgot once the exam was over.

Then there were unanswered questions lingering in my mind. Where else would memorizing the textbook be useful other than in taking exams? Where would I end up after secondary school if I failed *gaokao*? If one decided to become an electrician, why make geography or politics the mandatory courses instead of offering more hands-on opportunities? Situations like this, I couldn't comprehend.

Even though I couldn't answer said questions years ago, from my later experiences of struggles and changes, and through looking for solutions, I have a better understanding of secondary school education and have answers to my previous questions. Secondary school education is one of the important phases for personal development. However, by acknowledging this does not mean I have started to appreciate how secondary school educators perform their job. With recognition of the importance of

secondary school education, perhaps secondary school experiences will be more meaningful if individual students could be helped to find some relevant meaning in their education that matters to themselves. If so, even if they find themselves failing certain exams, they will know that there will still be other opportunities to explore and advance.

You may feel confused after I have shared so many of my experiences. You may wonder why sharing such experiences are important here. You may even be curious about the educational system in contemporary China. You may also ask what point I am trying to make. To answer simply, I am making a linkage to my experiences in order to portray for you my understandings of what education should be like.

> Dewey writes in his book *Democracy and Education* (1916/1997),
>
> to "learn from experience" is to make a backward and forward connection between what we do to things and what we enjoy or suffer from things in consequence. . . . An experience, a very humble experience, is capable of generating and carrying any amount of theory (or intellectual content) . . . (p. 140 & 144)

Although the experience referred to by Dewey is not specified as educational experience, it nonetheless fits into the category. The "backward and forward connection" of my educational experiences builds up a linkage of China's secondary school, university, adult educational institution and Canadian university. These experiences offer comparisons from which I can draw valuable messages to modify and justify my theory of education. Through reviewing and connecting pieces of experiences, it feels like I am compiling a personal encyclopedia where definitions, theories, standards, or positive/negative examples can be looked up.

An appreciation of the historical influences on current educational policies and practices is indispensable in China's context. In order for you, my reader, to have a better understanding of contemporary Chinese education, included in the following chapter is a presentation of its historical background.

Chapter Three Chinese Education: A Background Discussion

1. Historical influences on contemporary China's education

The shape and development of contemporary China's education is largely influenced by its domestic historical culture, such as the teaching of Confucius, the civil service exam system, and the shaping and spreading of Maoism; and by doctrines introduced from foreign countries, such as the introduction of Deweyism from the United States in the 1920s and the spreading of Marxism from Germany later on. Within the current educational system, many traces of those influences can still be seen, among which some appear to be positive, others not. Educators also make positive linkages among these factors in order to facilitate Chinese educational development. For example, many features of Confucian thought on education are considered to be compatible with and complemented by Marxism (Louie, 1984). Deweyism on education also has many comparable features to Maoism, especially in terms of the relationship between learning and doing (Su, 1995). A brief study of these historical influences will assist in targeting some current educational development problems plaguing today's China.

Confucius and His Teaching

The terms "traditional" and "Confucian" as they apply to scholarly debates on Chinese society and culture are often referred to in a similar way (Ko, 2001). The reason behind this mutual exchange between the two terms is because Confucianism was the mainstream thought of ancient Chinese civilization, and since Chinese culture holds tradition in high regard, it still has pervasive influences on Chinese people's concepts,

behavior, beliefs, and ways of thinking to this day (Lu & Chi, 2007; Mooney, 2007). Perhaps it is no real surprise, then, that the ubiquitous paradigm of Confucius ideology plays an important role in contemporary Chinese education as well. Reagan (2005) makes note of this fact when he argues,

> Although Chinese civilization evolved, developed, and changed throughout its history, it nevertheless retained a core set of features that characterize it as a single cultural tradition. . . . To a considerable extent, one could argue that traditional Chinese educational thought in large part is Confucian educational thought. (p. 135 & 138)

He also points out the recognition that Confucianism's central role in developing Chinese culture has not been alone in influencing Chinese educational thought and practice (Reagan, 2005). Revealed by Zhou (1988) is a similar view, but he further points out that recognizing the basic elements represented by Confucianism can help comprehend the cultural tradition of Chinese contemporary reform. Despite the understanding that Confucian thought is the major component of Chinese traditional culture, Taoism and Buddhism are recognized as this culture's important elements as well (Tang & Zuo, 1996).

There are several characteristics in Chinese education – whether at school or within family education – that still reveal Confucian influences. Many Confucian sayings, for example, associated with teaching are often quoted by educated Chinese, and are also used as an educator's guide. There are even some people, who, having little or no experience in education, can recite these quotes, even though they may not know the

exact meanings. The following examples are some of those employed quite often in discussing educational matters.

The Master said: “My teaching is addressed to all indifferently” (Confucius, 400 B. C. /1997, p. 79) (子曰: “有教无类”). This is a saying often heard among teachers, during teacher training or at a staff meeting, as it is a doctrine that one has to be familiar with before practicing teaching, and that one has to endeavor to perform while teaching. Nevertheless, in today’s Chinese classroom where a teacher has at least 50 students, those students who can manage to attain higher scores receive more attention than the others. This saying becomes a doctrine which is more often said than done.

The Master said: “To study without thinking is futile. To think without studying is dangerous” (Confucius, 400 B. C. /1997, p. 8) (子曰: “学而不思则罔，思而不学则殆”). This is a Confucian saying taught in junior secondary school. After I learned several Confucian sayings, I would constantly hear my grandfather encourage his grandchildren to learn diligently and think actively by repeating this saying and some others.

From my own experience, this is recognized as the first characteristic of Confucianism’s influence on Chinese education – Confucian sayings are used on a regular basis either by educators or by laypeople. As a result, they are considered principles of virtue that educated people look up to. The second Confucian characteristic is a distinction inherent in the patriarchal family order. This relationship defines that the young are to obey the old and show their filial piety. Indeed, filial piety is the utmost virtue in Chinese society (Hu, 1997; Wu & Singh, 2004). Moreover, with respect to elders, the fostering of a sense of politeness is of the highest importance in the proper upbringing of children (Reagan, 2005).

Many of today's school children in China will make diligent efforts to study, primarily as a means of obeying their parents command for filial piety. It carries over into their school settings, where showing respect for their teachers is but an extended demonstration of filial piety principles. By embracing the longstanding influential motto of "*yiri weshi, zhongshen wefu,*" children are educated to respect their teachers in the same ways they respect their parents. The literal translation of this saying is one day being a teacher, all his or her life being a father. It parallels student's respect to the teacher with the respect to the parent, and is considered a virtue. In the classroom, a teacher's authority is not to be questioned. Listening to and following the teacher's instructions are not only proper, but wholly expected. As a result, information exchanges in most classrooms flow in one direction – from the teacher to the student. A student's feedback and opinions are rarely solicited and any questions formed by the students are discussed after class.

The third characteristic, according to Confucius, diligence in learning and building of a strong will, are two important foundational aspects in one's personality and accomplishments (Tang & Zuo, 1996). Not only is studying diligently an important display of filial piety, but the achievements from studying are considered the parents' best reward. It is also believed that effort rather than ability is the key to achievement (Hulbert, 2007). Consequently, it is not unusual to see teachers and parents urge children to learn, and give them many assignments to keep them focused on the pursuit of knowledge. Here, Davin's (1991) account presents a vivid picture:

> Most parents seem to believe that children need to complete a lot of homework if they are to do well enough at school to succeed in life. They therefore accept the

> fact that children as young as seven or eight will do two or three hours of work a night. . . . If they [teachers] refuse to give homework, the parents complain that the teachers are lazy. (p. 56)

Despite Confucianism's influence on many aspects of Chinese culture, its influence on Chinese education is particularly profound. The educational edicts established through the interpretation of Confucianism regarding the relationships between the individual, knowledge, and authority, continue to retain tremendous institutional and ideological influence on Chinese education (Carnoy & Samoff, 1990). Furthermore, in terms of the educational content and how children should be educated, the family's perspectives on education are by and large directed by an appreciation of Confucian thoughts, among which, one deep-seated conception is the importance of supporting their children's climb up the career ladder through schooling and the passing of exams which will have crucial outcomes for the future. This conception is not only influenced by Confucianism, but also by the civil service examination system with its more than one thousand years of influence in Chinese history, which will be discussed in the next section.

The Civil Service Examination System

> Throughout the course of China's feudal history, notions such as "to be a scholar is to be at the top of society; all other careers are inferior," "the ten-year toil of a scholar boils down to the moment his name is found on the honor roll of the imperial examination" and "book learning eventually lands a scholar in a golden house with beautiful wives" have been deeply ingrained in the minds of generation after generation of people (Li, 2004, p. 336).

In Imperial China, the government official selection was only from the examinees who achieved the best results from a series of civil service examinations. These

successful examinees could not only benefit themselves financially, but also move to the higher class and get fame and power. Moreover, they could also extend this benefit and glory to their families, and even later generations (Fouts & Chan, 1995; Hoi & Lan, 2006; Hu, 1984). For a better understanding of the civil service examination system, one must first recognize that the system was infused with many elements from Confucianism. For example, Confucian cannons defined the curriculum, *The Analects* was the sacred book for study, and women were excluded from these exams (Carnoy & Samoff, 1990). Until its abolition in 1905, the civil service examination system dominated traditional Chinese education (Wu & Singh, 2004). The system of selecting government officials through examinations built a connection between scholarship and the imperial government service. A close tie was built among Confucian learning, imperial power, and hierarchical selection, which made up the frame of ancient Chinese intellectual life (Pepper, 1996; Reagan, 2005).

Because the management of the civil service examinations focused on preparation for the imperial examinations, both the teachers' pedagogies and the students' learning approaches were restricted. Ancient schools functioned in accordance with the schedules and contents of the civil service examinations. These schools were geared towards training students to memorize the knowledge related to the classics, and towards honing their skills at mastering the rigid formatting requirements of the examinations (Feng, 1989; Pepper, 1991; Zhou, 1988). During the imperial exams, candidates were asked to write "eight-legged essays," which was a literal composition with a strict format and the limited number of words required. The examination was called "eight-legged essay" because it contains eight sections, and the whole essay should be composed around one

given topic. The writing of each section had to meet its own rules in terms of style, such as rhyming, and the number of words (Hoi & Lan, 2006; Hu, 1984). The examinees' calligraphy and composition were thus tested (Zeng, 1988). While teachers were bound to concentrate instructions simply on the examination contents, a student's continued improvement in recitation and memorization was the key to achievement. Due to the rigid format required in the exams, the student's repetition in writing practices was necessary. Practicing such a system generated growing pressure on the parents' expectations of their children's success and promotion. But it was considered a necessary process if the families were to be glorified and were to move up to the higher classes.

Educators believe that the civil service examination system still has an impact on education in the classroom of today's China, in that the predominant pedagogy is still a preparation for exams, and students are still learning by rote. There are criticisms of the system that rewards good memory and encourages learning impractical materials (Carnoy & Samoff, 1990). Nevertheless, behind the classroom door, few changes have happened.

Foreign Educational Influence – An Example of Deweyism

It was not until after the civil service examination system was abolished that China started to reform the educational system by incorporating foreign models. Scholars have differences of opinions on when foreign models began influencing China's modern educational system. According to Kipnis (2002), three phases are distinguished. The early twentieth century saw the influence from Japan; in the 1920s, there was a heavy reliance on the American model led by John Dewey; and in the 1950s was the Soviet influence. According to Lu and Chi (2007), the establishment of educational philosophy in China in

the twentieth century started with the introduction of John Dewey's educational philosophy, followed by the spreading of Marxism.

No matter how the influences are categorized, China's modern education has more or less copied Western models (Wang & Ke, 2003). During China's republican period, Dewey's influence on education was prominent (Gardner, 1979). Therefore, in this section of the research paper, an example of the Western influence will be explored, namely, the introduction of Deweyism from the United States. In the next section, the influence of Marxism will be discussed, as well as the development of the Chinese version of Marxism, namely Maoism, which had enormous impact on China's educational practices from the 1950s until the 1970s. This choice of foreign influences is based on an understanding that features presented in the theory of Deweyism are not only comparable to those in Maoism, but also because the ideology of Marxism inspired the very shaping of Maoism, and is still affecting contemporary Chinese education until this day (Su, 1995; Tsang, 2000; Zhou, 1988).

By the early 1920s, students returning from Columbia University's Teachers College in the United States were the most outstanding in helping to reconstruct China's education system. Not only did they bring back Dewey's educational ideas, but Dewey himself was also invited to China to teach and give lectures (Feng, 1989; Pepper, 1991). The magazine *New Education* was used to spread Dewey's ideas, and his books were translated, published, and widely distributed (Zeng, 1988). Many of Dewey's educational ideas were integrated into what became Experimentalism Education – a distinctive Chinese arrangement of educational ideas – and it had a great impact in China until the late 1940s (Lu & Chi, 2007). During the Deweyan-influenced period, China's school

system was established in accordance with the US pattern, which is six years in elementary school, six years in secondary school, four to six years in university, and the creation of vocational schools. The school curricula also stressed an emphasis on the students' learning experiences, and a credit system was adopted to evaluate the students' learning achievements (Feng, 1989; Zeng, 1988).

Other than the imitation of foreign systems, Dewey's students also developed educational theories that were compatible with educational conditions in China, which were helpful for educational development. For example, after returning from the United States, Tao Xingzhi,[3] one of China's greatest educators, implemented many educational experiments and reforms. In line with Dewey's theory of education, he suggested an educational method that blended teaching with learning, instead of the traditional method which mainly stressed teaching (Yao, 2002). Despite Dewey's and his students' contribution to China's education in the first half of the century, for primarily political reasons, criticism began to spread in the 1950s. As indicated by Zeng (1988), criticism of Dewey "mainly aimed at his class origin, his political intention, and his philosophical basis of subjective idealistic experimentalism" (p. 89). His pedagogical theories, however, were barely mentioned. Dewey's educational theories had once been made an ideology, but were considered an enemy after the establishment of the People's Republic of China, in that the theories of Dewey's were generated and developed in a capitalist background, one that was opposite to China's own political background (Louie, 1984). Mao Zedong,

[3] Tao Xingzhi (1891-1946) was "an educational radical", an active reformer who greatly contributed to China's development of education. He has been made a national hero by the Chinese Communist Party (Yao, 2002, p. 251). An introduction of Tao's life and an elaboration of his contribution were included in secondary school textbooks, from which I first learned about him.

the Communist Party leader, condemned Deweyan influences as “imperialist spiritual aggression” (Su, 1995, p. 311).

Since the 1980s, however, Dewey’s educational ideas were reassessed all around China. At that time, even if educators admitted the worthiness of Dewey’s student-centered education, they were not willing to substitute it for the popular teacher-centered curriculum. Behind the classroom door, teachers still gave their lectures on textbooks and the students took notes. A reluctance of experimenting with student-centered education was because teachers were concerned with a decrease in their authority in the classroom (Zeng, 1988). Additionally, they were worried that student-centered education and more activities would hamper the students’ systematic learning of academic knowledge. Nevertheless, compared with Deweyism, Maoism held a similar educational view, in that they both stressed the importance of experience in learning, and the connections between school and society (Xu, as cited in Su, 1995).

As indicated by Feng, based on the study done after the Cultural Revolution, advocates of Dewey’s educational ideas suggest that in order to have a correct understanding, politics should not be the only standard for judgment (1989). If a criticism is to be made about whether or not certain aspects of Deweyism were useful for China’s education, an analysis should be made on whether the theory itself is useful in certain practical conditions. It would be insufficient if this analysis relied on the political background from which the theory was developed, as a biased decision would then be made.

Marxism, Maoism, and the 1966-1976 Cultural Revolution

> With the nationwide victory of the Chinese Communist Party … the educational system was recognized along Marxist lines and the educational philosophies of Mao Tse-tung and Soviet Pedagogues provided the basis for the new orthodoxy (Sheridan, as cited in Gardner, 1979).

As early as the introduction of Marxism, the advocates in China sought to promote education that included the underprivileged majority and met the needs of workers and peasants (Lu & Chi, 2007). With China's exploration of modernization in education in the early twentieth century, the Confucian schools were subverted and the feudal educational system was overthrown. Nevertheless, the Confucian features remained unchanged, and were unacceptable to Mao and some other Communists (Fouts & Chan, 1995).

China's post-1949 socialism construction was featured by what the Chinese named the "two-line struggle" – one line being "redness" and the other "expertise." The radicals represented by Mao favored the cultivation of love for communist idealism, which was also called "redness." They opposed stratification and elitism, and believed the education system to be a vehicle for promoting social equality (Tsang, 2000, p. 4). Learning from peasants and laborers was promoted in the educational system and education in rural areas spread rapidly (Andreas, 2004; Li, 1996). Secondary school graduates were assigned with jobs directly, and their opportunity for promotion to higher education was decided at the workplace (Unger, 1984). Represented by Liu Shaoqi and Deng Xiaoping, however, were the moderates in support of fostering "expertise" in skills and knowledge. They preferred stratification within education, so that they proposed the

establishment of key schools[4] as well as the competitive examination system, through which educational selection was done and elites were prepared for social construction (Tsang, 2000, p. 4).

Directed by Mao's educational theories, the radicals had strong influence from 1966 to 1976 – a decade known as the Chinese Cultural Revolution – when many an intellectual was sent to rural areas to do physical work, because Mao believed that physical work held power for social reform (Tang & Zuo, 1996). Many young people were sent to the countryside or the mountainous areas for education to experience the peasants' life style and to help with rural development (Sheringham, 1984). Fouts and Chan (1995) list several changes made in education during this period. Manual work was combined with academic learning. The curriculum was modified with increased political content and a deeper focus on work. Teachers, in an attempt to change pedagogy in schools, were sent to the countryside for re-education, and the university entrance examination practice was put to an end (p. 527).

These educational practices, with their focus on physical work, brought a positive short-term outcome in that they expanded scientific knowledge and modern attitudes in rural areas. The work-study education was considered a role-switching for students so as to help them establish a respect both for manual labor and for peasants. Ideally,

> if students go on to become specialists in intellectual activities, this manual labor experience should lay the foundation for a lifelong pattern for regular periods of manual work with ordinary workers and peasants. And if after graduation they

[4] In China's educational milieu, when "重点学校", referring to "prestigious schools", is translated into English, it is prevalent to use the adjective "key" instead of "prestigious."

become peasants and workers, they should be psychologically prepared by student labor experiences (Shirk, 1977).

In the long run, however, more harm was revealed through this reform of education. The education system was disrupted and the students' motivation was hampered (Andreas, 2004). Pepper (1991) points out that the Cultural Revolution policies brought down academic standards. In a similar vein, Tsang (2000) comments "the education of a generation of Chinese was lost" because of the Cultural Revolution (p. 9). Furthermore, the repercussions of the Cultural Revolution also extend to today's parenting attitudes. To make up for what they lost in the Cultural Revolution, parents tend to push their children to learn as much as they can (Wu & Singh, 2004).[5]

With respect to various foreign influences and domestic struggles for change, as revealed in this chapter, China's educational reform experienced ups-and-downs during the twentieth century. After the Cultural Revolution, the concentration of educational reform has been changed from an emphasis on quantity and political aspects to the quality of education and economic construction (Louie, 1984). The system was no longer focused on mass education to significantly achieve equality and to promote rural education. Learning from farmers and from laboring was not enough. Instead, it was recognized that development of education is important for social advancement. Therefore, an educational system that re-emphasized stratification was promoted, and education was to be improved to train professionals and experts for societal construction.

[5] My own experience can best speak for this point. When I was first taught English language in secondary school, my mother encouraged me to study it diligently. She told me that being able to speak fluent English was her dream, but she couldn't realize it because of the interruption of the Cultural Revolution. She wished that I could help her to realize her unfulfilled dream by being able to speak fluent English.

The *gaokao* system was re-initiated in 1977, and the plan for building and restructuring key schools was passed in 1978. From the time of China's "opening-up" to the outside world, more education reforms have been underway. Since the 1990s, among the most prominent of these is the exploration of quality education. As former Chinese vice Premier Li Lanqing (2004) explained, this is "a reform of the content and methodology of teaching, the evaluation of teaching and study results, as well as the methods of developing and selecting able professionals" (p. 300). China's development of the *gaokao* system and its latest reform known as quality education will be discussed in chapter three. However, the issue of educational inequality will be addressed subsequently in this chapter, in order to present the problem of China's education from the perspective of social development.

2. *Gaokao* and educational inequality

Pepper (1996) indicates that equality is the most complicated issue concerning educational development. Further, "a warning" pointed out by Holsinger (2005) is "that when education is unequally distributed in a society, economic growth almost never occurs and human talent is wasted" (p. 300). China's regional inequality has increased since its economic reform, a market-oriented reform which in intended to equalize resources across regions (Yang, 2002). Nevertheless, development discrepancies between eastern and western provinces, between rural and urban regions have increased. China's development of the *gaokao* system has aggravated educational inequality, which, to the contrary, hinders educational development across the country.

Because of factors pertaining to priorities in government policies, historical influences, geographical discrepancy, and regional development diversity, inequality in Chinese education has presented multifaceted characteristics. For instance, there are inequalities with regard to rural/urban location and gender differentiation; there are inequalities resulting from ethnicity and social class variations; and there are educational inequalities between western and eastern provinces, and between key or non-key schools (Hannum & Wang, 2006; Lin & Zhang, 2006; Zhang & Shi, 2006).

According to Chinese tradition, in order to have a "thriving family," the best way out was by moving into a higher class after the son had being selected to become an imperial official. As a result, parents who are concerned with building a "thriving family" put higher expectations on their son's contribution rather than their daughter's. Most particularly, once married, daughters tend to leave their parents' home to live with the husband's family, while sons remain. Thus, in terms of return on investment, spending time and money on educating daughters is considered by many people, especially those from countryside, as less rewarding than focusing those resources on a son. Moreover, this antiquated Confucian concept of "*nanzun nübei*" (male honorable, female inferior), prevails as one of the most influential factors in a family's decision to support a girl's education in rural areas of contemporary China. Rural girls are especially disadvantaged in both opportunities of enrollment and graduation, because after primary school or junior high, they are usually asked to do house chores and to support their brothers' education (Connelly & Zheng, 2003; Hooper, 1991).

Rural areas are disadvantaged in education in terms of educational funds, school facilities, teacher proficiency, and graduation/dropout rates. Although compulsory

education has been implemented all around China, rural regional education varies greatly depending on the local government's financial capacity (Cleverly, as cited in Fouts & Chan, 1995; Winchester, 1988). A 2003 survey done on China's western rural areas showed that 37.8% of participating schools did not have desks and chairs, 32.5% couldn't afford to buy teaching supplies, and 22.3% had unsafe classrooms (Yang, 2005). Furthermore, the path to higher education for some rural students often ends at grade nine, due to the shortage of senior secondary schools in rural areas (Lin & Zhang, 2006; Ma, 2007). Instead of graduating to senior secondary schools, boys and girls, but mostly girls stay at home with their families to perform house chores and work in the fields.

With the development of urbanization and modernization, there is an income gap between rural and urban areas. More and more farmers, in an effort to move out of poverty, have migrated to work in the cities in order to make more money (Zhang & Song, 2003). Some of them take their children along with them, but others leave their children behind with grandparents or other relatives. As a result, the education of the children of migrant workers causes concern. For those children who do travel to the cities with their parents, their education is usually unstable due to the inefficiency in government policies, the unsteady working condition of their parents, and low incomes (Li, 2004). For example, research by Zhang and Tian (2006) in the Guangdong province shows that the local government has difficulties in funding all migrant children's education. In addition, even if the funds were available, the local government would still be concerned, because sufficient funding for the migrant children could affect the quality of education to the local children. Since, when the migrant workers see the advantages of bringing their children to the cities for a better educational condition, it would cause a

major increase in student numbers. As a result, the local students would have to share the limited resources with more peers, which would bring pressure on policy making and local education. As a matter of fact, Zhang and Tian points out that the city of Shenzhen, which has a large number of migrant children, is facing such a pressure (2006, p. 105). For other children whose parents are away from home during the school term, many teachers are worried about the prospect of their education (Zhu, 2006). Without parents being home, some of these children take over the burden of farming, some develop barriers in interpersonal relationships, some experience low motivation in learning, and some drop out of school. Most severely, some children also develop psychological and mental problems due to the lack of parental care. A report indicates that 57% of stay-at-home children suffer from psychological health problems (Hong, 2006).

Other than the three discussed inequality issues, namely, gender inequality, inequality of rural education and of education of the migrant workers' children, many others are impeding China's educational development as well. For example, educational development of ethnic minority regions lags behind, because many poor and remote rural and mountainous areas are where ethnic minorities reside. As indicated by Clothey (2005), China's 55 ethnic minorities consist of approximately 110 million people (although it is slightly less than 10% of China's population, it is almost four times the total population of Canada), scattered in pockets across two-thirds of China. In the cities, people with a lot of money can buy their children a seat in key schools, and people with power can secure their children a position through connections. However, children from families without those means are left to struggle for a better education. All these

problems need to be tackled before the education of the country as a whole can make improvements.

Measures have been taken, however, to solve some of the problems. Take rural education as an example. *Xiwang Gongcheng* (Project Hope) was set up in 1989 to collect funds and resources to help elementary education in some of the poor areas. By 1997, more than 150 million dollars had been raised through collecting donations from schools or businesses,[6] and 1.8 million students had been able to get back to the classroom (Liang, 2001). There are other non-formal education programs such as *Chunlei Jihua* (Project Spring Flower Bud) which helps to get rural out-of-school girls back into the classrooms by providing financial incentives.

While the Chinese government and society are showing efforts at solving the inequalities resulting from social-economic discrepancies, the inequalities caused by the design and presentation of the general school curricula should also be addressed. The general school's concerted mission of sending as many students to higher education as possible is commendable. The only route to higher education in China, however, is through the passing of *gaokao*, by which an intense study of textbooks dominates the pedagogy. Students who pass *gaokao* can explore more opportunities for their career development, yet those students who fail *gaokao* are disadvantaged and their career paths are narrow and limited. This is an issue of inequality because, if general school curricula and textbooks could be modified with the addition of some vocational related factors, those deprived students could experience an expansion of their career options. The last

[6] When I attended school, a collection of donations was carried out every year. At elementary school, we were required to donate books or clothes for children at country schools. Since secondary school, mostly money was collected for Project Hope, sometimes twice a year, but the amount was not set.

stated issue of inequality, which is caused by curriculum and pedagogy, will be the specific focus of chapter four.

Chapter Four Education in Contemporary China

1. T*ianya* education – stuffed-duck education: my experiences

In 1978, policy of family planning was written into China's constitution. In 1980, the Chinese government advocated that a married couple should give birth to only one child. As I was born in the winter of 1980, I am a member of China's only-child generation. While I was young, I never thought to ask my parents why I had no sisters or brothers, because each of my cousins and classmates were only children too. I was perfectly satisfied being an only child. I could get almost all the things I wanted and I felt as if I was the center of the entire world. When I grew older, I started to notice comments that, because of the only child policy, my generation had become spoiled.

The children of the only-child generation were also identified by the nickname x*iao huangdi* (little emperor), for, like a little emperor, each of us had become the center of our family units, and like x*iao huangdi*, our material lives were meticulously looked after. However, educating the legions of x*iao huangdis* became problematic. Although the problems associated with educating an only child may vary, in general, my generation carries the added burden of having to be outstanding at our school work, enduring our teachers' stress of having to produce as many gifted students as possible, and bearing our parents' utmost hope of being sent to university.

To remain on the academic track, students in China have to pass examinations that are important to graduation and mostly importantly examinations that are decisive to promotion, such as *zhongkao*[7] or *gaokao*. To attend university, students have to score higher than the benchmark test score for enrollment. *Gaokao* is known as a wand that

[7] This is the senior high school entrance examination.

directs policies, practices, and competitions of elementary and secondary schools (Xiao, 2003). In any case, the principle is to promote schools' fame through sending more and more students to higher educational institutions, and the approach is to increase students' test scores in *gaokao* required subjects. Since it is so important to take examinations, students are prepared for it throughout their elementary and secondary schools. As a result, instead of relating academic learning with practical experience and experimenting, general education in China, by and large, has developed into one that exclusively highlights taking examinations, textbook knowledge infusion, and its memorization, which demonstrates a restricted system for learning.

When I started elementary education, I thought "finally I will go to school, so that I can learn to read those funny squares[8] in books. How exciting"! Going to school was, however, more than learning those squares. There were many subjects taught at school like, Chinese literature, mathematics, English language,[9] nature, manual labor, fine arts, music, etc. Every subject had its corresponding decisive examination that I needed to learn to tackle in order to be promoted or to graduate. This was the same situation faced by my classmates, schoolmates, and other peer students all around the country. As teachers and schools were also evaluated by students' scores in those decisive examinations, a prevalent pedagogy was adopted, which was called "*tianya*" education (Gao, 2002, p. 57), meaning stuffed-duck education.

Every day in the classroom, teachers taught us some new information from the textbooks, and they also assigned us homework. We were not allowed to do homework at school. According to my Chinese literature teacher, homework was to keep us busy after

[8] What I called funny squares were Chinese characters.
[9] When I went to school, English language was not taught until grade seven. Recently, especially in developed cities, students are taught English language from grade one, or even in kindergarten.

school and to maintain our momentum in studying even at home. At least every week, quizzes or examinations were given to us for evaluation of how much we had learned. The result of these quizzes or examinations was a report to notify parents of our progress or decline in learning. Regardless if it is elementary school or secondary school, my education followed a pattern of learning from the textbooks in class → doing homework → preparing for exams → taking exams → reporting results to parents → correcting mistakes → learning more textbook information in class. Once in a while some teachers might motivate the classes with experiments or outdoor activities, but the higher the grade was, the fewer these activities.

This seemed like a teaching-to-the-test approach. However, what makes *tianya* education distinctive is that students are fed with knowledge and ideas for memorization. The concept of *tianya* education resembles forcefully stuffing a duck with food to fatten it. It did not matter if they understood or if they were interested, students were constantly fed and required to absorb. As long as what was fed was memorized and students could recall it for the examinations, its purpose was fulfilled. I felt like a stuffed-duck most profoundly when preparing for *gaokao*. At that time, my English literature teacher took over the classes that were assigned to physical education and gave us examinations or reviewed English grammar. Sometimes the ten-or-fifteen-minute break between classes would also be used by my teachers.

I gradually realized that memorizing textbooks was the most effective way of learning, because almost all the answers on the exams could be found in the textbooks. "Study hard so that you can go to university," teachers and parents would say. It was like an alarm set in my mind all those school years. Learning in this way worked to some

degree for subjects such as Chinese literature, history, and English, whereas the subjects such as mathematics or chemistry had many formulas that I could learn by heart but I did not know where or how to apply them. I was committed to the effort of remembering all that was taught, but I was still struggling to reach higher scores.

Although the *tianya* pedagogy, namely, the stuffed-duck pedagogy, was implemented widely, a small number of my teachers maintained teaching in ways that provoked creative thinking and offered hands-on opportunities. However, these teachers taught the subjects, such as manual labor or music, which took up the least of our schedule and had the least bearing upon a student's promotion to higher grades or graduation.

The *tianya* pedagogy fits into China's *gaokao* educational system. This pedagogy has appeared to be an efficient approach in terms of test preparation. In spite of this, it also revealed educational deficiencies. The foci of this chapter are on an analysis of this test-driven system, and on a closer view of educational reform in contemporary China.

2. *Gaokao* – China's test-driven educational system

The current educational structure in China was established in 1977 when gaokao was re-introduced after the Cultural Revolution, and it has been developed into a test-driven system since then (Hayhoe, 1991). This system places a great emphasis on secondary education; it is the only channel to what the Chinese have named the "palace of higher education," i.e., university education.

In terms of China's secondary education, the basic types are the general secondary schools, and vocational secondary schools. General secondary schools consist

of junior secondary and senior secondary. Regular specialized secondary schools, adult specialized schools, and vocational junior secondary schools constitute vocational secondary schools, with specialties in agriculture and forestry, manufacturing, communication and transportation, medicine and health, trade and tourism, finance and economics, teaching training, etc. (National Bureau of Statistics of China, 2006).

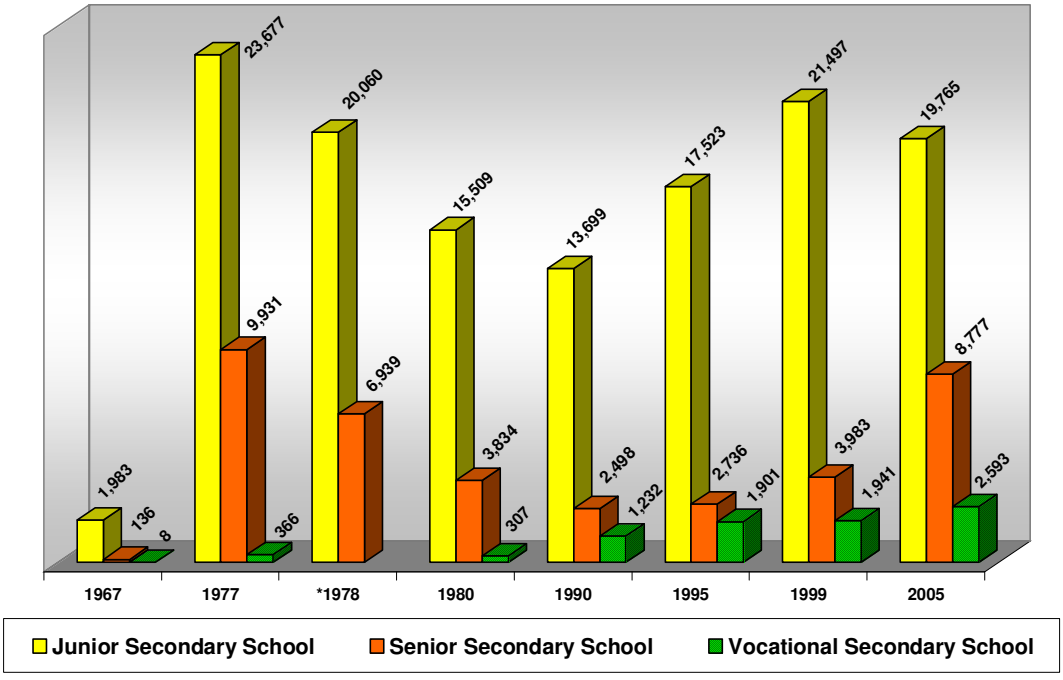
Along with the development of China's educational system, the track for general education versus the track for vocational education became parallel but with a disparity in importance. Because of the distinctions between the two tracks, students who follow the vocational path are prevented from upgrading to higher institutions through *gaokao*. After graduation, they become technicians, crafts-persons, or employees in the service area, but mostly in manual labor sectors. In particular, crafts schools are a student's last resort because crafts employment is considered a "dead-end career" that offers low pay and inferior treatment (Liang, 2001, p. 2). On the other hand, students staying on the general education track will experience a concentrated academic education preparing for *gaokao*. It does not guarantee each individual's entrance to colleges or universities, however, as the only channel to higher education, general education is still considered worthy of an effort. From primary school or even earlier, mostly with their parents' and teachers' guidance, children will start racing to stay on the general education track, and strive for the opportunity to pass *gaokao* and eventually attend higher education. Gaokao, then, is considered a "fierce life-time competition" (Liang, 2001, p. 19), or "a huge battle for Chinese students" (Lin & Zhang, 2006, p. 256).

Included below are two charts created by this researcher. The first chart presents the comparison in data of new enrollments in general and vocational secondary schools.

The years selected in the two charts are in accordance with major changes in China's educational policies. For instance, as revealed in the previous chapter, the 1966-1976 Cultural Revolution increased especially the secondary education enrollment. Its sharp increase of student enrollment is shown in chart one.

The second chart shows the relationship between senior secondary graduates and university and college enrollments. The year 1999 was the first year of the implementation of China's central government's decision to increase the number of higher education enrollments. As indicated in chart two, approximately 474,600 more graduates were enrolled in higher education through the 8 years from 1990 to 1998, however, in just one year, from 1998 to 1999, that number increased to about 513,400 new enrollments.

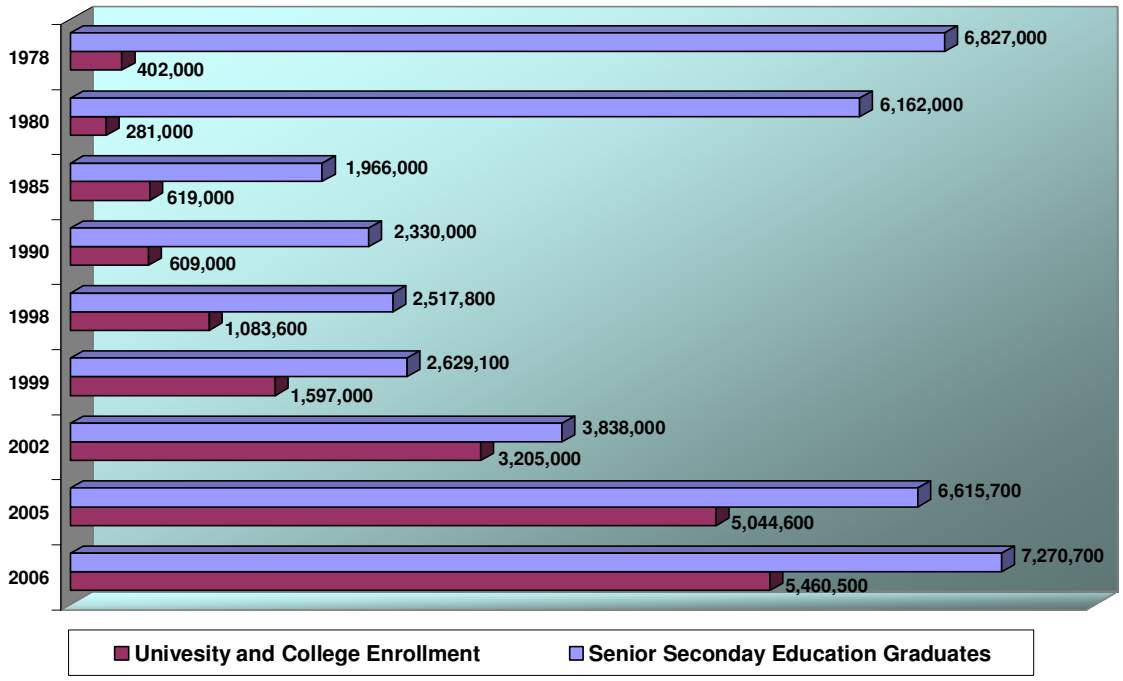
Chart One: Secondary School New Student Enrollments



Resources: (Andreas, 2004, p. 12 & 17; National Bureau of Statistics of China, 2006, p. 800)

Note: 1 unit = 1,000 persons; * No vocational secondary school data available for 1978.

Chart Two: Senior Secondary Graduates vs. Higher Education Enrollments



Resources: (Ministry of Education, 2007; National Bureau of Statistics of China, 2006, p. 800-801).

Gaokao and More Educational Statistics

In order to get a better understanding, statistics from recent years explain the intense educational situation for students, their parents and schools. Let's first take a look at higher education from a global view. Examples of the percentages of people receiving higher education almost a decade ago were 5.012% in Canada, 5.591% in US, 1.698% in Egypt, 2.328% in Japan, 3.899% in South Korea, 2.738% in Philippines, and 0.186% in China (Huang, as cited in Wang & Ke, 2003). China has the lowest percentage of students in higher education. Second, from a domestic view in China, in the early 1990s, 3-4% of the secondary school students could attend university (Marton, 2006); "only

3.1% of the entire youth population (15-35 years of age) had higher education in 1996" (Luo, 2004, p. 779). From 1999, the State Council decided to enlarge regular higher education enrollment, resulting in a 42% increase from 1.08 million in 1998 to 1.53 million in 1999 (Tsang, 2000). In the year 2005, there were 6,739,805 senior secondary school graduates, among whom roughly 35% were enrolled in bachelor's degree programs (National Bureau of Statistics of China, 2006). Although the number of undergraduates is increasing every year, it has raised the government's and the educators' concerns in various areas such as unemployment and educational quality. For example, with the increase of university enrollment comes the enlarging of classroom student-to-teacher ratio, which may jeopardize the quality of education that students receive.

Secondly, it is important to be aware that there is a shortage of secondary schools across the country, especially senior secondary schools (Lin & Zhang, 2006). If we take a look at the statistics, in 2001, senior secondary school enrollment reached 42.8% (Lin & Zhang, 2006). According to the China Statistical Yearbook, in the year 2005, of 21,065,150 junior secondary school graduates, 8,777,317 were enrolled in senior secondary school; 42% of junior high graduates (National Bureau of Statistics of China, 2006). This reveals that more than half of junior secondary graduates are funneled out of competition for *gaokao* annually. Moreover, the pitfall of such an operation of selection and exclusion is that, along the way, there are no alternatives for those factored out of the academic educational system (Pepper, 1996). Some of these students may follow the vocational education track and learn one or more skills, some join manual labor and continue learning from the worksite, some stay in the rural areas farming, and others stay home and are unemployed. Either way, most of them remain at the lower levels of the

social stratum. Regardless, it does not decrease the degrees of competition for entrances into senior secondary schools.

Gaokao – Main Artery of China's Education

Aside from the fierce competition inherent in remaining on the battlefield of *gaokao*, this test-driven system also has an effect on the general secondary schools' categorization and operation, the teachers' pedagogies, the students' learning content and techniques, and the parents' attitudes towards education. *Gaokao*'s relationship to China's educational system might be better expressed metaphorically as the main artery. For, just as the artery carries oxygen rich blood from the heart and lungs, en mass, to the vessels to be further distributed to the cells, the tissues, and the organs of the body, so *gaokao* connects government policies and school operations, carries a competitive spirit to all levels of educational practice, and manipulates schools at all levels to compete, to survive and thrive. It has a profound affect on the everyday lives of the educational shareholders from all sections of society.

The basic categorization of Chinese schools is that of the key schools and of the regular schools. This structural hierarchy results from the implementation of the *gaokao* system. Its initialization can be traced back to the post 1949 period, when Liu Shaoqi and Deng Xiaoping, representatives of the moderates, supported the establishment of key schools and competitive examinations in order to enhance educational selection and prepare leaders and the elite for the country (Tsang, 2000). In 1978, the Ministry of Education formulated a plan with a pyramidal framework for building and restructuring key schools, which eventually developed into prestigious school (Li, 2004). Nowadays,

there are not only key universities, secondary schools, and elementary schools, but also key kindergartens in some Chinese cities.

Key schools normally get the most funding and best resources from the central and local governments (Bush, Qiang, & Fang, 1998). Accordingly, they have the most competent administration and teachers, the best teaching facilities and learning environments, and even the students who score highest on exams (Luo & Wendel, 1999). They are also most likely located in neighborhoods with large concentrations of leaders and intellectuals. They represent the primary access to higher education (Pepper, 1990). Key schools are thus the leading force in China's school system, and are practically always at the forefront of experimenting with educational reform.

The development of key schools also results from a test-driven system. It is acknowledged that educational hierarchy in contemporary China is a "modern reincarnation of the ancient institution," and it acclimatizes the modern educational achievement to China's imperial past,[10] so that the elite selection has been carefully controlled regionally (Pepper, 1996, p. 346).

An additional effect of the key schools operation is that it intensified the *gaokao* battle. Schools would compete with each other for more funds, better teachers and students with higher academic achievement. Both the key school teachers and non-key school teachers are experiencing increasing pressure at work, as they help students get higher scores to be streamed into better schools. Students are therefore overloaded with learning materials, as they fight for an opportunity of attending a key school. It is most

[10] China's imperial past refers to the civil service examination system that is discussed in the previous chapter.

likely that once one is enrolled in a key elementary school or a key secondary school, s/he is holding a non-stop ticket to higher education.

In addition to the increasing pressure of preparing students for *gaokao*, the pedagogies that teachers can utilize are very much confined by the test-driven system, because both schools and teachers are judged based on their students' examination results. According to Paine (1991), the Chinese test-driven system supports teaching authoritatively from the textbooks. Class instruction has an emphasis on enhancing the students' memorization and test skills, consequently, teacher-centered instruction is the predominant method adopted by most educators (Liang, 2001).

Nationally, the Ministry of Education will annually issue a booklet for each subject outlining the year's important items that may be tested in *gaokao*. Teachers will then study carefully what is listed in the booklet, and compare with the previous year's booklets plus the examination papers given within at least the previous five years. It is believed that close examination and comparison of the annual booklet and examination papers can help identify the current year's probable examination contents.

Many a teacher from secondary school, especially those at grade twelve, spend more time on reinforcing their students' exam skills and proficiency of using the knowledge they have learned than on teaching them new information. According to Zhu (2006), teachers are facing a dilemma. For example, they want to teach students with diversified pedagogies and to facilitate the curriculum reform; however, the test-driven system compels them to follow teacher-centered lecturing. Through a survey result he points out that teachers believe *gaokao* is impeding educational development in China and they support reforming the test-driven system.

Through research on recent secondary school geography curriculum reform in Shanghai, Marton (2006) analyzed the crux of the problem. He points out the deficiency of this curriculum reform as providing insufficient contacts between classroom teachers and curriculum rewriters, i.e., university professors, educational bureaucrats and administrators, and inadequate efforts made by examination writers to familiarize themselves with the new curriculum. He also concludes some practical problems such as some informational deficiencies demonstrated in textbooks, and a disconnection between textbooks and examinations. Therefore, teachers are burdened with finding the 'right stuff' to teach – the right content that meets examination requirements. As claimed by Marton (2006),

> It is neither surprising nor unexpected, under such circumstances, to find that classroom practice in Chinese middle school geography lessons is teacher-centered, focusing on the need for students to achieve high marks on the examinations largely through lecturing and rote learning. (p. 250)

Because of examination preparation pedagogies and the detailed test requirements from the Ministry of Education, cultivating students' diversified ways of learning is limited. There are few open-ended and problem-solving exam questions. Mostly, students recall and write down what is memorized. Particularly with subjects such as Chinese literature, history, and political science, the more students remember, the more possible it is that they can get high scores. According to Pepper (1996), "ritualized drills, rote memorization," and "pre-exam cramming" had proven to be the quickest means for one to achieve the desired results, so that they were preferred teaching methods, even though the content was shortly forgotten after finishing the exam (p. 19). In the classroom,

teachers will take care to explain the specific details of each subject and students are expected to memorize as many as they can.

Students are facing excessive burdens of study. First, due to an emphasis on textbook learning, the students' evaluation is confined to how much detailed textbook content they are able to remember. Students spend more time seated at their desks than doing any experiential activities. Opportunities for hands-on experiences are thus neglected. As described by Tian (2002), Chinese students attend schools with a "question mark" but graduate with a "period." He means when students go to school they have various questions, but they graduate with an understanding of answers that are given by teachers, and believe them to be the one true answer. A process of students discovering answers for themselves is removed from the equation, so that many students are deprived of the ability to explore and to be innovative.

Second, the learning requirements set for the targeted students are too high to train their cognitive and problem-solving abilities (Li, 2004; Marton, 2006). China's textbooks are "difficult," "complicated," "obscure," "antiquated," and with some even "incorrect," as indicated by China's former premier Li Lanqing (Li, 2004, p. 340). Examples given by him demonstrate some of these textbook shortcomings,

> In a third-year senior secondary ideology and political science textbook I saw the question: "How should the relationship between the central authorities and localities be properly handled?" This is not an easy question even for ministers and governors, let alone teenagers. . . . The description and analysis of historical processes and events in history textbooks for junior secondary students are loaded with trivial details that cannot really be understood by most 12 or 13-year-olds.

> Moreover, the tests for this course are designed merely for these children to memorize by rote such incomprehensible content, including the exact dates of certain historical events. (Li, 2004, p. 341-342)

Despite the monotonous learning approaches and heavy burdens, students are expected to overcome difficulties, or else they will be left behind or even be funneled out of the academic education system. Demand of this sort is mostly from parents, as parents have a desperate desire for their children's academic achievements, so that the parents, too, will be considered successful. This desire has intensified, more so now, since China's only-child policy was initiated in 1979 (Davin, 1991). Some wealthy parents have even been known to pay large sums of money to buy test scores in order to send their children to better schools (Lin & Zhang, 2006). This is not the exact situation as bribing principals or other school administrators. Rather, from a conversation I heard from some Chinese secondary school teachers, it is more like a school's channel to generate revenue. This is done under the table in some cities and out in the open in others. According to a news report, some counties in Heze, Shandong province sold *gaokao* scores publicly. Outside some universities, advertisements were posted for selling scores. An investigation conducted in Heze, by a reporter from Workers' Daily, revealed that there were special agencies dealing with the business. Those agencies established connections to the teachers or the leaders in some universities to guarantee the buyers' enrollment. In the investigation, a parent told the reporter that his child had a score of 232, which does not qualify for any higher institution enrollment. Through buying scores, the child was eventually enrolled by a university (as cited in Wang, 2006).

Gaokao – High Stakes Testing

The re-establishment of *gaokao* in contemporary China has its pros and cons. The latest uneven educational development in China has revealed many of the system's deficiencies. Society's spotlight is on secondary school graduates who can pass *gaokao*, and those students' achievements are made into popular stories for inspiring other secondary school students. In my city, TV stations often broadcasts the successful students' stories for other students to learn from. Every year, the secondary school not far away from my home hangs a huge poster on the main building wall indicating the yearly gaokao champion as a learning model. However, graduates who fail the examinations are left on their own, struggling for their future. Although they can continually study in vocational schools or look for jobs, their opportunity for employment, promotion, etc. are disadvantaged in a society where higher education diplomas and certificates are valued above all else.

According to a government document, secondary education should include a 'double track' to provide the higher level schools with qualified students and train a fine labor reserve force for society (Liang, 2001). But in practice, secondary schools are not geared for a comprehensive preparation for both academic development and vocational exploration. Rather, their focus is solely upon the advancement of academic education which is intensified by the test-driven system.

"China's education is the epitome of high-stakes testing," claims Romanowski (2006, p. 6). In this section, associating *gaokao* with high stakes testing is an attempt to look for possibilities of introducing methods of improvement discussed in the literature. With the concerns of the quality of education students will get, there are advocates for

restructuring the Chinese examination system (Marton, 2006). The impossibility of getting rid of the test-driven system in a given period has also been pointed out (Li, 2007). If the complete alteration of the system cannot be achieved for the time being, then perhaps amelioration may be sought.

During their education, all sorts of quizzes or examinations are given to the students. As a result, students' memories and abilities are tested, the academic improvements they achieve are measured, and decisions are made regarding whether or not they can move to the next grade of study. An accountability of educational entities is also evaluated through the mechanism of tests (DeVillier, 2003; Heubert & Hauser, 1999; Smith & Fey, 2000). Among these quizzes and examinations, some become so crucial that not only do they affect the students' school lives and jeopardize their career choices and development after graduation, but they may also bring serious consequences for teachers, educational institutions, and even parents. An example given by Lewis (2000) presents that "in the case of low scores, schools stand to lose accreditation, be reconstituted, or even closed" (p. 4). Tests with these features and influences are considered as high stakes testing (Davis, 2006; Ediger, 2000; Lewis, 2000; Shriberg & Kruger, 2007). *Gaokao*, therefore, qualifies as high stakes testing.

The literature pertaining to high stakes testing recognizes its advantages, yet what are mostly revealed are its inadequacies. From the positive side, proponents of high stakes testing believe that students' achievements can be improved, and the performance of the educational system will be enhanced (Koretz, Linn, Dunbar, & Shepard, 1991; A. Lewis, 2000; Natriello & Pallas, 1999). Because of the rigid requirements of high stakes testing, students are thus supposed to put more effort into their schooling, and teachers'

pedagogies will be elevated. Reports prepared by Greene and others (2003) illustrate that when properly designed and handled, the result of high stakes tests can provide a reliable source of information that signifies a student's level of academic performance. Research also shows that the school's preparation for high stakes testing does raise students' test scores (Koretz et al., 1991). High stakes testing is also believed to ensure students attain a basic education, even for the students who are from the least advantaged situations (Smith & Fey, 2000). In a broader perspective, proponents also argue that through test results, parents and the public will be informed of the performance of the children, their schools and the educational system (Natriello & Pallas, 1999).

Regardless of the promising expectations and conjectures made by proponents, and of some research results that they have obtained to support their ideas, educators with opposite opinions have expressed more concerns with the quality of education involved in high stakes testing in areas such as pedagogy and students' learning.

When preparing students for high stakes testing, teachers tend to narrow down their instructional content to meet test requirements (Ananda & Rabinowitz, 2000). Test results may be improved after an intense preparation, yet real learning may not be advanced (Greene et al., 2003). When tests are designed with isolated information or ideas, they may provide unrealistic contexts. Therefore, students can only associate bits of information that they have learned previously. In this case, the test contents only measure partial aspects of the learning system (Ediger, 2001). The co-effect is the prevention of some students from having a comprehensive understanding of what they have learned, and an inability to recall how to best use it. These students are like someone who has learned the names, tastes, and special features of a box of ingredients. But,

because they cannot make the right connections and envision the dish, they are unable to prepare the meal.[11] This suggests that high stakes tests outline what are important for students to learn, but allows limited room for associating them with practicality.

Teachers also spend more time than needed on reinforcing the test-taking skills. Training on these skills depletes students' opportunities for learning what could be useful and practical in the workplace. Because students' performance at work will not be evaluated by multiple choice questions, teaching to the test and training of test skills are wasteful of valuable educational time. According to Maylone (2004), skills measured by high stakes tests are only useful in the condition of taking tests, where students' resourcefulness is not examined and teamwork is discouraged. Through a repeated process of memorization and skills training, the students' interests and motivation may diminish (Clark, Haney, & Madaus, 2000; Lattimore, 2001). In a worse scenario, students' learning remains on a superficial level where they remember some things, but without discerning the connections and purposes of what is memorized. Moreover, students learning under the pressure of trying to pass high stakes tests may even suffer mental interference because of the increasing anxiety and tension (DeVillier, 2003; Ediger, 2000).

Some educators claim that students' scores will increase after a concentrated preparation for a test, which, as mentioned earlier, is very possible. Nevertheless, opponents believe that the increase in scores sends the public a false signal of the students' achievement and the educational institution's accountability (Ananda & Rabinowitz, 2000; Koretz et al., 1991). According to Goldberg, students, teachers, and

[11] When reading this metaphor, Michelle Forrest, my thesis supervisor commented "the 'stuffed ducks' do not know how to stuff a duck" (April 22, 2008).

even administrators may cheat in the exams, and human errors exist in terms of evaluation and selection (2004). Test results only convey partial aspects of the students' learning. Excluded is evaluation of the students' capabilities of dealing with practical problems, problems that they may face on the job.

In terms of education of minority students and the poor, Smith and Fey (2000) point out that the schools' emphasis is more on raising scores so that the test preparation governs the pedagogy. Being buried in the sea of book reading and exam item memorization, these students are enclosed in the world filled with pieces of paper. They miss out on the meaningful and inspiring educational experiences which encourage more of students' interaction and creation.

Finally, many educators put forward questions that challenge the standing of high stakes testing. Lewis (2000) asks "is high-stakes testing ultimately an effective tool to encourage students to achieve their best and teachers to provide the instruction that will assure high levels of learning" (p. 3). Goldberg (2004) puts forward the question "are we going to tell students who have done all of the work and passed the required classes that they cannot graduate or go on to the next grade because they failed to meet the standard on one state test – perhaps by as little as one point or question?" (p. 363) Ediger's questions are "what is the correlation of the high stakes test result with later success at the workplace?" and "should multiple kinds of assessments be used, other than one exit test only, to determine a student's future?" (2001, p. 4). These questions clearly point out the various shortcomings of high stakes testing. They are also illuminating for one to seek improved methods of managing high stakes testing and especially student evaluation.

Actually, Goldberg (2004) suggests that we should have confidence in qualified teachers' evaluating students through investigating their daily work and accomplishment. Ediger (2001) proposed the "portfolio philosophy of assessment" (p. 9). Information taken into portfolios is demonstration of students' daily accomplishment in the classroom. Activities students engage in and learning products they generate are recorded. Even teacher and peer evaluations are also included. Ediger (2001) explains,

> the contents in a portfolio pertain to every day work of students, not on isolated test items in a multiple choice test written by those far removed from the local classroom. Multiple choice test items are taken out of context whereas portfolio contents pertain to authentic work of the student. (p. 9)

This "portfolio philosophy of assessment" is adoptable in educational assessment because it offers an account of a student's educational experiences and achievements from comprehensive perspectives. A crucial decision can be made more objectively regarding whether a student can go on to the next grade or graduate with a diploma.

Since *gaokao*, China's high stakes test, bears various aforementioned negative aspects, it is true that these proposals could be introduced to adjust the means of how student achievements are evaluated. Nonetheless, Ediger or Goldberg's proposals may face practical difficulties in Chinese schools because of the high teacher-to-student ratio. It is even more difficult to carry out these proposals in some rural schools in that either their teachers do not have professional training experience or teaching is not their primary responsibility. As Xiao (2008) exemplifies, some countryside teachers' priorities are not only teaching but also farming so that they will be able to sustain their living.

Among many functions of test assessment, Heubert and Hauser (1999) list that it facilitates instructional decisions made towards individual students and directs the modification of classroom instruction. In addition, major decisions in terms of a student's promotion or graduation should not be made exclusively dependent upon a test score (DeVillier, 2003). With these criteria, several measures can be taken to reform China's *gaokao* system. Regarding student evaluation, various aspects could firstly be taken into consideration. Students could be evaluated regarding their classroom participation, by both teachers and their classmates. Classroom participation reveals information of students' learning attitude. Students' quiz or test scores throughout the school years could be used as an indication for teachers to decide what a student is deficient in and how s/he can improve. The students' overall performance in these scores could also be used as one of the parameters to decide their promotion or graduation.

A second possible suggestion, regarding teaching effectiveness, would be that the students, especially those in secondary school, could be given opportunities to evaluate their teachers and suggest how they want to learn. The suggestions students give may contain unconventional ideas that are not compatible with daily classroom instruction, however, these ideas may be crucial for teachers to understand their students' needs and thus modify their pedagogies. This input from students could also be used as an evaluation parameter because it signifies whether a student takes what is taught seriously and whether s/he is improving. In addition, high stakes testing result could play a supplementary role in deciding students' promotion or graduation. This may look as if the significance of high stakes testing is reduced, because more measures are adopted for decision making. Yet, this may allow for a more objective and comprehensive evaluation

of the students' achievement. After all, what really needs to be understood is not whether students are doing well on the crucial examinations, but what knowledge they have assimilated and what competencies they have after all those days and years of learning.

From studying the literature of high stakes testing, these are examples of some modifications that can be realized in the *gaokao* evaluation system. Besides, the Chinese government has initiated a national educational reform since the end of the last century, namely, *suzhi* education.[12] This reform is not meant to undermine the *gaokao* system, but to advance the quality of education people get and the quality of educational results. This contemporary reform of Chinese education will be discussed in the next section, as *suzhi* education reform opens a window for my further discussion of China's secondary school academic and vocational education integration in chapter six.

3. Contemporary educational reform – *suzhi* education

Since the re-implementation of the tracking and elite selection educational system, *gaokao*, more and more educators begin to realize that such a system places an excessive amount of emphasis on educating for the test and it impedes the students' all-round development. Many students are thus trained to become what Chinese people called "高分低能儿 (*gaofen dineng'er*)," meaning students with high scores but low abilities. It refers to students or graduates who are good at taking examinations and achieving high scores, but who lack practical competencies to deal with problems in everyday life and at a work place. As indicated by Andreas (2004), China's test-driven system, especially

[12] The Chinese term 素质教育 (*suzhi* education) is translated into quality education or character education. However, the word *suzhi* encompasses more meaning than the word 'quality' or 'character' carry. This will be explained in section three of this chapter.

with its intensity on elite selection, has vigorously motivated study. However, it has also narrowed participation, in that "the main purpose of attending school is seen as passing the examinations, once failure appears inevitable, parents and students see no purpose in continuing" (p. 40). Li (2004) claims,

> tests are an important and necessary means of evaluating students, but the problem with examination-oriented education is that both teaching and learning focus on dealing with exams, whereas education in morality and aesthetics, as well as students' physical and mental health, are neglected, resulting in uneven student development. (p. 308)

With these realizations of deficiency in general education, a concept of *suzhi* education became clear in the late 1980s, and the idea of *suzhi* education has then been promoted and developed since the 1990s (Zhu, 2004). The experimenting and exploration of *suzhi* education has also been an influential force in China's contemporary educational reform. The Chinese word *suzhi* connotes two separate meanings. First, the word means the biological and psychological characteristics one is born with, mostly seen from a genetic view. Second, *suzhi* is understood from a more comprehensive perspective, namely, morality, intelligence, health, aesthetics, and skill, etc. It refers to intrinsic, positive, and relatively stable aptitudes and capacities one develops after education (Liu, 2003; Yan, 2007). S*uzhi* education takes on the second definition of *suzhi*. It is to cultivate the students' all-round competencies so that the students can be well prepared for living and working in the future. It also emphasizes a balance of the students' education in physiological, psychological, ideological and cultural aspects (Bi, 2004; Li, 2004).

In the Chinese educational society, however, an authoritative definition and the guidelines of *suzhi* education in practice have not been developed (Zhu, 2004). In spite of this, after more than two decades of trial-and-error experimenting with *suzhi* education, educators have been able to illustrate a kind of system that clearly represents it. Most educators agree that *suzhi* education was promoted as an opposition to the test-driven education. The system of test-driven education forces general education to funnel out students who cannot achieve high scores, and it only concentrates on educating a few promising students. S*uzhi* education, however, puts emphasis on a diversified education for all students while paying attention to each individual student's learning needs. It also teaches students about *zuoren*,[13] and to develop their potentialities and abilities (Liu, 2003; Qian, 2001; Yan, 2007). A general understanding of how *suzhi* education should be different from the test-driven education is that s*uzhi* education is more inclusive, and it is supposed to present students with a learning environment that is active and motivating.

A few educators believe that *gaokao* and other high stakes tests should be eliminated from the system. Most others hold the opinion that they should still be used to evaluate the students' achievements (Qian, 2001). *Gaokao* and those high stakes tests used in *suzhi* education should be better designed to examine the students' problem solving abilities, and provide opportunities for the students to think but not to write from memory. In addition, they should not be the one and only criterion for student evaluation and promotion. If the need is to encompass the full scope of the student's physiological, psychological, ideological and cultural education, then a comprehensive system should be developed to evaluate the students' achievements in all these areas. All these factors

[13] This Chinese phrase (做人) means being a person who behaves appropriately according to various situations, carries socially and culturally agreed virtues such as respect, truthfulness and courtesy, and encompasses work ethics such as responsibility and spirit of devotion.

should all be taken into consideration when deciding the students' eligibility for graduation and promotion.

Suzhi education does not only entail the imparting of information from the textbooks, but also provides an atmosphere in which students put forward their questions and find answers for themselves. Students are encouraged to do research, to do experiments, and to help teach each other, which appears to be a return to John Dewey's educational theories. Instead of sitting in the classroom for a great number of their school days, more social and outdoor activities are integrated in education. Educators point out that for *suzhi* education to achieve this integration, interactions among schools, parents, communities and other social institutions should be established (Yan, 2007; Yang, & Huang, 2006). Social resources can be efficiently managed to provide students with hands-on opportunities for discovering, to increase their interest in learning, and to cultivate potential abilities that individual students can best develop. Wu (2002) points out that *suzhi* education is to facilitate students as they learn what interests them, and offer them an environment where they are able to practice what is learned. Other than maintaining academic education stressed by the test-driven system, *suzhi* education also proposes humanism, since moral education is believed to be at its core (Li, 2007; Tian, 2002).Through *suzhi* education, students are educated with an appreciation of family, vocational, and social morals (Fang & Song, 2004). Other indispensible proficiencies stressed are the learning of languages, professional and scientific advancements, responsibility, respect, perseverance, and cooperation.

To challenge the inefficient practices of the predominant test-driven system, advocates of *suzhi* education support a premise that does not only focus on the

accumulation of textual information, but also cultivates the students' potentials in synthesis, imagination, problem solving, management, cooperation, inquiry, innovation, and civility. The result is that students experience an all-round development through their education and will merge into society with less difficulty after graduation (Bi, 2004; Liu, 2003; Tian, 2002; Yi et al., 2006; Zhu, 2004). S*uzhi* education is believed to be a critical reform in contemporary Chinese education, and educators have endorsed various schemes for its proper implementation. Yet, many problems impede the expansion and full operation of *suzhi* education. Chief among them is the fact that, even though the efficacies of the test-driven system have been revealed as confining, to this day, educational activities centered on tests, with its emphasis primarily on the final test score, remains the prevailing process in almost all schools.

Because the *gaokao* system remains dominant, the test results impact not only the evaluation and promotion of students, but the ranking and merit of teachers and schools as well. If teachers cannot better prepare students for the examinations and schools cannot send as many students to higher education as targeted, then they will be disqualified as teachers. The percentage of success in *gaokao* remains the only measure to evaluate schools' effectiveness. Yang (2006) presents a vivid example,

> In July 2005, when Yushe country in Shanxi province slipped down in its ranking on college entrance examination performance, the party standing committee of the country went to television to apologize to the people of the county, after which they fired the entire secondary school administration leadership and conducted a province-wide public campaign to recruit new principals. (p. 15)

Most likely, if schools cannot guarantee a rate of growth in the number of graduation and higher institution enrollments, it will be meaningless for them to promote *suzhi* education.

Parents all carry the best hope for their children to attend higher institutions; therefore, they push their children to study hard. A study by the China National Institution for Educational Research reveals that 85.95% of participating parents care about their children's knowledge acquisition, 40.86% of them are concerned with their children's practical experiences, 39.24% with innovation, and 36.8% with aesthetics, which are all considered as subordinated to knowledge acquisition. Because examination is the only measure for the students' evaluation, test scores become a parameter that parents use to assess how well their children are learning (Yong, as cited in Liu, 2006, p. 186).

Since the promotion of *suzhi* education, some schools and parents have misinterpreted its approaches. One slogan of *suzhi* education is to decrease the students' burden of learning, especially those students at primary schools. It is suggested to assign less homework to students. In truth, the burden is not really decreased. When less homework is assigned, students are required to take part in the extracurricular courses organized by schools. As indicated by Xiao (2003), some schools equate *suzhi* education with the education of arts and aesthetics. The students' achievement in this *suzhi* education is used as a principal criterion to rank schools. Parents misunderstand the call of *suzhi* education and go to the extreme (Ma, 2002). They fill their children's free time with learning one or more musical instruments, practicing calligraphy, learning a third or fourth language, and even taking more academic courses at some learning centers.

With *gaokao*'s dominant role in deciding a student's future, the promotion of *suzhi* education will continue facing various obstacles. If students continue learning in an environment where rote memorization and test skills are emphasized, they will be greatly disadvantaged in this fast-developing society, in that they are good at memory recall but not at making use of knowledge.

Students are like keys[14]. Education should not shape the student as a key which can only open one specific lock on a door, the door of *gaokao*, because then the student loses the opportunity to have a view of the other side of many other doors. In fact, a type of key called a master key can open various doors. When a student is molded into a master key, more opportunities are then waiting for her or him to choose from. If it happens to be a bad key for the door of *gaokao*, s/he will not be disadvantaged because there are other doors that may lead to different successes. China's *suzhi* education, then, is a way to avoid fitting one key to one door. In the next chapter, I will shift the focus of discussion from education in China to vocational education and especially the concept of vocationalism, so as to present a variety of doors which education may provide for students.

[14] My metaphor of seeing students as "keys" is different from the meaning taken on "key" schools. The word key here is referred as a tool that opens locks. (see footnote 4)

Chapter Five Literature Review of Vocational Education and Vocationalism

The focus of this chapter is a discussion of vocational education and its contemporarily developed concept called vocationalism. In this chapter, I will first demonstrate definitions of 'vocation' and its related terms. Academic and vocational divisions are subsequently analyzed in a discussion of their differences and similarities, which is a basis for exploring what are the possibilities and opportunities for bridging the two in secondary education. With a demonstration of the historical line of vocational-oriented educational development, from the manual training movement to vocational education, I will then discuss the pros and cons and featured instructional approaches of vocational education. The concept and practice of vocationalism will be explored, as it is a current popular educational improvement that involves both vocational and academic education. Under the umbrella of analyzing the development of vocationalism, I will, in the next chapter, uncover approaches of facilitating secondary school graduates' school-to-work transition, especially that of integrating vocational and academic learning. With discussion included in this chapter, I intend to illustrate many examples as references for China's secondary school reform.

1. Understanding 'vocation' and its related terms

When I first started this research on secondary school's integration of academic and vocational education, my thesis supervisor suggested that it would be necessary to give an introduction of the term vocation. 'Vōcatiō' was the Latin word she wrote on a piece of paper, when she explained to me where "vocation" came from. She also told me

that ‘vōcatiō’ meant a calling, religiously related. As the research has been carried on, I started to realize that there are other terms, such as job, occupation, career, profession, which all connote similar meanings to the term vocation.

I looked up the American Heritage Dictionary of the English Language (2000), trying to clarify how these terms are referred to differently and how they are related. According to the Dictionary (2000), vocation is currently defined as “a regular occupation especially for which a person is particularly suited or qualified,” and besides its Latin origin ‘vōcatiō’ meaning “a calling,” vocation’s Middle English usage “vocacioun” meant “divine call to a religious life” (p. 1926). The term occupation means “an activity that serves as one’s regular source of livelihood; a vocation” (p. 1215). A person needs not only to be “suited or qualified” for the occupation, but it is also one’s source of making a living to sustain life. According to Dewey (1916/1997), an emphasis of occupation is also on its continuity with a purpose. In the Dictionary (2000), definitions of ‘job’ are: “1. a regular activity performed in exchange for payment, especially as one’s trade, occupation, or profession; 2. a position in which one is employed” (p. 941). Although there are other definitions for ‘job,’ the two I include here are related to the definition of vocation. Job is not only one’s vocational engagement, but also brings in payment – a reward to one’s vocational engagement.

“A chosen pursuit, a profession or occupation; the general course of progression of one’s working life, or one’s professional achievement” is the definition of ‘career’ (The American Heritage Dictionary of the English Language, 2000, p. 281). In Dewey’s (1916/1997) opinion, the opposite to career is “aimlessness, capriciousness, the absence of cumulative achievement in experience,” and “parasitic dependence upon the others” (p.

307). The last vocation related term 'profession' means "an occupation, such as law, medicine, or engineering that requires considerable training and specialized study" (The American Heritage Dictionary of the English Language, 2000, p. 1400). As I compare the meanings between career and profession, I find that the term career emphasizes the status of progression and achievement, and implies a state of consistency. Profession, however, emphasizes training and specialization in a certain area, which is sophisticated and requires a great deal of mental engagement.

All these terms define some activity people engage in, with or without a personal intention, but all towards gainful end. Whether it is for a job, a vocation or a career, one performs and fulfills the task with his/her intelligence plus skill or expertise, the end of which would bring him/her some substantial or spiritual reward. On such general levels, these terms are not differentiated; however, they are in fact embedded with the bias, one that reveals a hierarchy of jobs. Society's acknowledgement of the hierarchy of jobs interacts with educational practices, which will affect students' educational experiences. To this point, I will return for discussion in the third section. Now I will turn to an analysis of the academic and vocational division, to clarify, on a conceptual level, why and how the two can be integrated.

2. The divisions between academic and vocational education

> Mencius claims that in society, 'some labor with their minds, and some labor with their strength. Those who labor with their minds govern others; those who labor with their strength are governed by others' (Mencius, 3a:4, as cited in Hu, 1997, p. 354).
>
> Contemporary debate over education often reflects the same sharply divided opinions identified by Aristotle some twenty-five hundred years ago. Leaders of industry, politicians, some parents and students demand increased occupational

> relevance in schools while other stakeholders wish to insulate education from what they view as simply another ill-conceived challenge to liberal and democratic learning ideals (Hyslop-Margison, 2005, p. 1).

The division between academic and vocational education is lasting, in China or in the West. Over two thousand years ago, Mencius in China described the relationship between mental and manual labor, as the former governing the latter, which explicitly revealed the hierarchy of labor. In today's society, especially with a new social feature called the 'knowledge-based economy,'[15] knowledge is used as a tool to advance science and technology so as to produce economic profit. It would seem, then, that "those who labor with their minds" continue to govern "those who labor with their strength" (Mencius, as cited in Hu, 1997, p. 354). Such a phenomenon, being reflected in the field of education, was an early Chinese demonstration of what we see as a divide between academic and vocational education.

Some twenty-five hundred years ago, Aristotle (as cited in Hyslop-Margison, 2005) who comes from a Western European cultural perspective articulated the debate over educational pursuits that are termed as "practically useful" or "morally edifying" (p. 1). According to Hyslop-Margison (2005), this debate can be traced back to the disagreement between Plato who advocated the "search for truth" and Isocrates who emphasized "the practical necessities of life" (p. 2). To this day, this disagreement of educators over these two issues continues. For example, Hodkinson (1991) points out a

[15] According to the Organization for Economic Co-operation and Development, in the knowledge economy "knowledge becomes an essential factor of production alongside the traditional, more tangible factors. With knowledge as an essential factor of production, the ability of people, and cities and regions, to acquire and develop it becomes critical to their successful integration into the global economy. … Symbolic resources are replacing physical resources, mental exertion is replacing physical exertion and knowledge capital is beginning to challenge money and all other forms of capital" (as cited in Warhurst, 2008, p. 73). I will return in a later section to discuss further the concept of 'knowledge-based economy' in relation to academic and vocational integrated education.

"current rerunning of the debate" by specifying its question as whether education should "be concerned with knowledge for its own sake or be purely instrumental" (p. 73).

Dewey (1916/1997) suggests that, in the history of education, the antithesis of education for useful labor and education for leisure is the most deeply-rooted, meanwhile it reflects the division in social life. He further points out a historical conception that "knowledge is derived from a higher source than is practical activity, and possesses a higher and more spiritual worth" (p. 262). The appreciation of knowledge, therefore, is separated from the comprehension of practical experiences which are considered substantial and superficial. Knowledge, which in particular is spiritual, intellectual, and rational, is viewed as superior and valuable. The imparting of such knowledge is of the most significance in education, and the acquisition of such knowledge carries the promise of upward mobility in society.

In today's education, two camps exist, resulting from the divisions between mental and manual labor, and between knowledge and practice. The two camps are led by people who favor general/academic education that supposedly promotes intelligence and by people who favor the vocational education that trains hands-on skills (Hallak, 1990). Withheld by the two camps are some apparent differences in their traditions, goals, requirements and pedagogies. For example, Heijke and coauthors (2003) suggest that while some educators advocate a concentration on occupation-specific competencies that can offer positive labor market outcomes in return, others emphasize the more generic academic competencies which are supposed to be a strong basis for further learning. Young (1998) specifies that the division between academic and vocational separates the subject-based curriculum from job-skill training, and this division "reflects and is

reflected in the organization of work and, in particular, in the division between mental and manual labor" (p. 51).

A study of academic and vocational divisions must understand similarities and differences between the two aspects, be aware of their conflicts in education, and help find possibilities and means of integrating the two. In this section, I will further demonstrate how academic and vocational education are distinguished in theory and in practice, and I will explore the idea of training. I will also take a look at the role of liberal education in this division and, most importantly, its relation to vocational education. As I see it, trying to identify the similarities and differences between academic/liberal and vocational education is a basis from which educators can seek to integrate the two. As improving China's secondary school education by means of vocational and academic integration is the interest of my research, comprehending the divisions between the academic and the vocational is necessary.

Academic is defined as "relating to studies that are liberal or classical, rather than technical or vocational." It is also "relating to scholarly performance" (The American Heritage Dictionary of the English Language, 2000, p. 9). Based on my understanding, academic education involves the learning mostly of knowledge that is indirect, abstract, and theoretical, the fostering of mental capacities, the inspiration of intellectual growth, and the advancement of expertise in a related discipline. Vocational education, on the other hand, builds a close tie between knowledge acquisition, skills training and the world of occupation, but with an emphasis on the skills training for the purpose of preparing for employment. In addition, as Emad and Roth (2008) point out regarding policymaking, vocational education includes not only academic communities, but also a

broader range of non-academic ones, which are workplaces, labor unions, administrative authorities, and many other stakeholders.

Hodkinson (1991) describes the division between the academic and the vocational as "polarized ideologies." He further claims that academic learning has a higher status, whereas vocational training is peripheral. This is because academic education receives high status provision and is central to public schools and the universities; vocational training, on the other hand, is considered as connecting to the less able and towards the end of general education. When trying to define the two "polarized ideologies," he explains that academics are concerned with mental activities, with knowing and understanding being its significance. One's ability in thinking critically, logically and independently is cultivated. However, vocational education trains people to do things. It emphasizes knowing how, because one's competencies in handling physical tasks, especially doing them skillfully, are valued. With Hodkinson's differentiation, a clear line could be drawn to identify the basic aims of the two types of education. To illustrate simply, academic education aims towards the cultivating of brains while vocational education is towards the training of hands.

The dichotomy between what students learn at school and the knowledge they use in the places apart from school poses a persistent educational problem (Benenson, 2001). However, to compare, vocational education solves the problem more efficiently than academic education does, as vocational education presents a smaller gap between the two aspects of the dichotomy. By the training of hands, vocational education invites many experiences that are hands-on and tangible. The world outside school is by and large where people do things and practice theories. Vocational education in particular is geared

to provide vocational-specific engagement a better connection between knowing and doing, and between theory and practice. Its concentration lies on training how to apply what is learnt in books and what is learnt theoretically. The concept of training can refer to that of the use of hands or its role in training people to think. Yet, the stance I am taking here is to comprehend the role of training with respect to a vocational-oriented hands-on preparation and a mastery of physical skills, as opposed to an academic cultivation of mind. Based on Piore and Sabel's (as cited in Young, 1993b) point of view, that the development of mass production "made it possible (for the system of production) to rely on two separate institutions for training employees: the formal education system and the firm itself," Young (1993b) claims that "school-based 'education' and work-based 'training' became increasingly separate" (p. 210). Whether it is a school's vocational preparation program or a firm's effort to teach skills, training, according to Hallak (1990), is related to the needs of the labor market, whereas academic education is not, and this gives rise to their differences in priorities.

Training may of course "involve the mastery of a significant body of knowledge;" nevertheless, it essentially is "an activity in which the student is taught how to master the techniques and procedures needed to perform a particular task" (Woodhead, 2002, p. 156). It is the activity of performing certain tasks which training draws attention to. A necessary beginning of training is, in Ryle's (1967) point of view, drilling that puts students "through stereotyped experiences which he masters by sheer repetition" (p. 109). He explains that once drilling enables one to "do certain low-level things automatically and without thinking," training shall be forwarded to the next level where the student is expected to make advancement and "to employ his inculcated automatisms in higher

level tasks which are not automatic, and cannot be done without thinking" (p. 109). He also points out that training involves more than the learning of skills, because the mastery of "knack" is not enough when passing on morally-related rationale or involving principles (p. 109). Similarly, Peters (1967) suggests that the child has to be able to distinguish between the right and wrong of a certain action. In such a sense, training should be distinguished from the mechanical practice of skills, because "drill dispenses with intelligence, training develops it" (Ryle, 1949, p. 42).

Based on what has been analyzed, training does not appear as simply developing an automatic machine out of any individual who can then perform certain jobs under a programmed condition. Rather, a proper training fosters an individual who has obtained some skills as well as developed a capacity to make appropriate judgment. By means of training, the acquisition of knowledge and its application in relevant situations are brought together in vocational education.

Returning to the previous definition of academic as "relating to studies that are liberal or classical, rather than technical or vocational" (The American Heritage Dictionary of the English Language, 2000, p. 9), we can then take a look at the differentiation between liberal education and vocational education. As defined by Hirst (1974), "determined in scope and content by knowledge itself," liberal education is "concerned with the development of mind" (p. 41). In view of that, liberal education is to free one's mind so as to develop the mind regarding the pursuit of knowledge and to achieve an understanding of experience. As well, Hirst (1974) indicates that "the aim of the study of a discipline in liberal education is not that of its study in a specialist or technical course," because other than the concern of developing how one understands

experience, “mastering the details of knowledge, how it is established, and the use of it in other enterprises, particularly those of a practical nature” are also indispensable (p. 48). Liberal education offers a milieu for the experiential acquisition of knowledge, which makes the free development of mind possible.

So far, it is also important to bear in mind that even though the academic is related to studies that are liberal and the concept of liberal education is associated commonly with academic education, in today’s educational milieu, academic education is by no means equivalent to liberal education. Vocational education can also be liberal, to which I will return in the later discussion of various forms of vocationalism.

On the topic of the differences between liberal and vocational education, Pring (1993) makes many conclusions that are comparable to what I have recapitulated in the previous paragraphs from other educators. For instance, he writes that “liberal education introduces the learner to a world of ideas, of understandings, of imagination; vocational preparation leads to skills and competencies.” Here, he likewise targets differences of liberal and vocational education pertaining to two notions, namely, ideas/understandings which are conceptual and skills that are practical. As well, he writes “liberal education is an investment in intellectual values, the reward for which (largely an act of faith) is the enhancement of those values; vocational preparation is an investment in accomplishment, the reward of which is economic success.” From this it can be concluded that liberal education is a pursuit for its own sake and is abstract, but vocational education has a touchable reward, therefore is substantive (p. 66).

Regardless of these similarities in distinguishing the liberal/academic from the vocational, Pring (1993) further states that “the liberal program is a process, an

engagement; the vocational specifies the product (an 'output' compared with an 'input')" (p. 66). Because vocational programs are directly connected to the labor market requirements, they are managed mainly for the purpose of satisfying those requirements and they prepare students to meet specific job or skill criteria. Vocational students then become products to be used in the market. Liberal education, on the other hand, highlights intellectual growth and the fostering of attributes such as critical thinking and open-mindedness. There is hardly a specifically defined end to one's effort, but it pays attention to a continuous individual growth – a growth of intellectual abilities at one's own availability. It is this continuous growth that is crucial for liberal education which gives emphasis to "process" and "engagement."

Educators seem to use similar criteria to define how the academic and vocational educations are divided in theory and in practice. Despite the conflicting foci of the two educational camps, one academic and the other vocational, Hallak (1990) makes some connections between their overlapping areas. As indicated by him, academic education consists of "the development of rote memorization, understanding, internalizing processes, mental capacity and creativity, and the application of knowledge to problem-solving." Vocational education, he continues, "develops understanding and its application to the performance tasks, and knowledge and its application to problem-solving, but also includes mental development and the stimulation of creativity" (p. 121). Generally speaking, it would seem that both types of education involve knowledge acquisition, the development of mental ability, and the ability of problem-solving. Lewis (2005) suggests that "methods traditionally associated with vocational learning, such as authentic practical experiences drawn from work, can be adopted by the liberal curriculum as

pedagogy aimed at improving the learning of academic subjects" (p. 433). Pring (1993) also argues that academic knowledge and vocational preparation are not necessarily separated, because vocational interests can lead one to the academic world, and it can "be subjected to critical academic scrutiny" (p. 73). On the other hand, a rich academic background can facilitate a productive vocational learning and offer one's vocational practice a meaningful outcome.

In general, there are uncertainties if one is to determine whether it is academic education or vocational education that is more effective and rewarding. Too many situational varieties exist if one is to give a proper evaluation. The answer, therefore, lies in each individual person or group in a particular context. A focus on academic learning in secondary school and vocational studies in post-secondary education may appear to be beneficial to students, but it may also be that students' improvements are enhanced by relating secondary education to later work by introducing workplace learning content (US Congress, Office of Technology Assessment, 1995). In order to facilitate teaching for individual students to achieve the optimal educational results, educators should be mindful of all the variations of educating every student. Whether it is academic or vocational education, only when its knowledge acquisition is organized into one's individuality, to enable one to find the ideal adaptations of the environment to one's needs, aims and desires, will this education then make sense to the person (Dewey, 1916/1997). The importance of learning is how to connect it with what is happening around one, to make meanings of one's experiences, to open one's eyes and to meet opportunities with preparation. The integration of the two types of education, therefore, is hoped to bring the best practical result for one's education.

In the next section, the foci are vocational education and the contemporary development of vocationalism. Due to limited access, the literature of vocational education that I have reviewed is mostly related to that of North America. Although the paces of developing vocational education and its target groups differ in every country (Fretwell, 2003), a study of two North American countries' examples can provide some general conceptions of vocational education, with regard to its priorities and goals, its pedagogical characteristics and its pros and cons. A special concept – vocationalism – has also increasingly been discussed in the literature of vocational education (Coulter & Goodson, 1993; Grubb, 1996; Grubb & Lazerson, 2004; Grubb & Lazerson, 2005; Hodkinson, 1991; Lazerson & Grubb, 1974; Lehmann & Taylor, 2003; Ryan, 2003), which presents a contemporary trend of educational development in the US and Canada. Vocationalism provides a variety of examples that *suzhi* educational reform in China can refer to, so as to include alternatives for enriching secondary school graduates' experience with more than just learning for *gaokao*.

3. From vocational education to vocationalism

> The concept of vocational education, like the concept of education for life, has been a slippery one in the history of modern Western thought. Its meaning obviously depends at least in part, on how vocation itself is defined. Some theorists – one thinks of such idealist philosophers as Johann Gottlieb Fichte or Ralph Waldo Emerson – have used the term exceedingly broadly, referring to a "vocation of man" in such a way as to make vocational education essentially inclusive of all education. Other theorists – Georg Kerschensteiner or Charles A. Prosser would be excellent examples – have used the term more narrowly, referring to a trade or craft (though never, interestingly, to a profession) for which one prepares via specific practical training.
>
> Lawrence A. Cremin (as cited in Lazerson & Grubb, 1974, p. ix)

As Cremin (as cited in Lazerson & Grubb, 1974) argues, how to define 'vocation' partially decides the definition of vocational education. He then offers examples of how vocational education can be viewed either from a broad perspective, i.e., "vocational education essentially inclusive of all education," or from a narrow perspective, i.e. "a trade or craft" which requires "specific practical training" (p. ix). Based on Cremin, I would also argue that, first and foremost, a differentiation of the meanings of those previously defined terms, such as vocation, occupation, profession, etc. are indispensible for one's understanding and positioning of today's vocational education, in that these different concepts determine how we look at the hierarchy of jobs, and influence the directions of educational priorities and pedagogical choices. For example, some educators, such as Marland (as cited in Lazerson & Grubb, 1974), advocate the concept of 'career education' as a substitute for 'vocational education' in that the term 'career' connotes a deeper and further meaning than vocation. To this point I will return later. In this section, I will first discuss my view on the hierarchy of jobs and its implications for education. I will then discuss the development of vocational education, with that of the United States as an example, and I will investigate the pros and cons of vocational education. Several featured instructional approaches of vocational education are also included, for references that academic education can draw from. Lastly, I will look into the concept of vocationalism, its practice and its implications for vocational and academic integration.

The Hierarchy of Job and Its Educational Implication

As pointed out formerly, 'job', 'vocation', or 'profession' may generally refer to one's engagement to fulfill tasks for gainful results. With this comprehension,

housekeeper is a job. Lawyer, although it is viewed at the high end of the vocational spectrum, is also a job. Nonetheless, lawyer is not simply categorized as a job, but also as a profession. A lawyer is thought to possesses 'intelligence + lots of schooling + high salary + much more,' and deals with people of various kinds, builds an effective interpersonal relationship web, reads volume after volume of documents, and tries to master laws and regulations as well as possible to help win a case. The lawyer's job involves a great deal of complexity in order to fulfill a task. As a housekeeper, on the other hand, one cleans certain areas that s/he is poorly or averagely paid to be responsible for. Cleaning supplies are a housekeeper's regular tools, and manual labor is the main input. For what it is worth, it is just a job. These are taken-for-granted comprehensions of the two jobs, and the distinction between them demonstrates the hierarchy of jobs[16].

There seems no doubt that a housekeeper is not qualified for a lawyer's job, but a lawyer can be a housekeeper. I would not argue with the former idea that a housekeeper cannot do a lawyer's job unless with proper training. However, I would not agree that any lawyer could accomplish a housekeeper's job, because even if housekeeping is seemingly an easy task, it actually involves complexities of its own. For example, one needs to be able to endure the physical work for a long period of time in order to finish the job. The cleaning process itself also requires precision. Housekeeping can still be a profession for its task specificity. Despite these defaults for distinguishing a job from a profession and devaluing one over the other, the hierarchy of jobs is at present unbreakable. My question then is "what does this have to do with education?"

[16] My thesis committee member, Susan, points out that the job hierarchical examples between the lawyer and the housekeeper, at least in Western societies, entail a gender bias. It is a fact that I failed to recognize in the first place. Her indication, therefore, reveals an additional factor that sustains the hierarchy of jobs.

When asked about our occupations, most likely we will hear the questions "what do you do (for a living)?" or "what is your job?" Rarely, if ever, would any of us be asked "what's your vocation?" or "what's your profession?" It is only after the answers are given – "I'm a housekeeper" or "I am a lawyer" – that an association to the job hierarchy occurs: a lawyer is a more prestigious occupation than a housekeeper. The job hierarchy suggests people's varied acknowledgement of the importance and worthiness of different jobs. Today's jobs are also given different economic values. People's perceptions of the hierarchy of jobs and the sustained status quo of such hierarchy reveal an occupationally biased society. The hierarchy of jobs reinforces the divisions between academic and vocational education, for the reason that it supports overvaluing of academic education and intellectual growth, while undervaluing vocational education and training in physical capacities.

In addition, the different views of jobs held by parents, teachers and the other educational stakeholders may or may not be the same because of differences in their societal environments and in their own knowledge and biases towards jobs. With educational stakeholders' different appreciation of the hierarchy of jobs, different educational institutions will engage students in vocational-oriented educational experiences that present a diversity in quantity and quality. Accordingly, education, with which every student is provided, is like a multifaceted kaleidoscope presenting an assortment of vocational factors. Just as in Dewey's (as cited in Hyslop-Margison, 2005) viewpoint that all education is in a sense vocational preparation, my assumption here is that every school child is experiencing vocational education of some sort, no matter if the education itself is academic-oriented or vocational-oriented. After all, at the end of

students' schooling, facing the society and joining the workforce is a stage that almost everyone will come across. I would assume that if we try to minimize the biased view supporting the hierarchy of jobs, especially at the secondary level when we start to stream students, we can manage to provide them all with curricula that involve more vocational content. Instead of teaching students in a sense that reinforces the hierarchy of jobs and that prepares students for specific jobs that fit one type of vocation, it seems to me that education should present a bigger picture of the occupationally structured society and allow students to have a broader vocational experience. Students' schooling would then be more closely linked to their living and working in the future.

The Historical Development of Vocational Education in the United States

The emergence and development of vocational education, which is "the product of an extended evolutionary process" in the United States, has been influenced by economic, education and societal issues (Guthrie, 2003, p. 2636). The discussion of manual education, vocational education, industrial arts education, and technology education are often seen in the literature of vocational education. I will also try to sort out the four issues here, as they provide a clue to the development of vocational education.

In the late nineteenth century in the United States, the movement of manual education, led by John D. Runkle and Calvin M. Woodward, was to open up the traditional classroom which aimed at educating the young mainly for intellectual growth, and to bring in opportunities for students' involvement in learning experiences that are less bookish but more practical (Feirer & Lindbeck, 1964; Foster, 1995b; Lazerson & Grubb, 1974). Lazerson and Grubb (1974) point out that the ideology of the manual

education movement argued for the moral value of training, education and improvement for the poor, and the integration of education and life. They also indicate that "manual training changed the conception of what might legitimately be taught in the schools" (p. 17). Nevertheless, the movement was a short-lived event. In the beginning of the twentieth century, because of the growth of industrialism, new assumptions about education emerged. These assumptions were (a) considering industry's importance in contributing to social progress, it should also have an important influence on education, and (b) in an industrial society marked by bureaucracy and hierarchy, formal schooling was necessary for upward mobility (Lazerson & Grubb, 1974, p. 17). As a result, manual education was overtaken by other forms of education.

At one level, the development of manual education was replaced by industrial arts education, as Foster (1995b) claims that the industrial arts program could find its historical roots in the manual training movement. A broadly used definition of industrial arts is "a study of the changes made by man in the forms of materials to increase their values, and of the problems of life related to these changes," which shows the framework of the integration of education, technology and society (Bonser & Mossman, as cited in Foster, 1994). In Feirer and Lindbeck's (1964) book, *Industrial Arts Education*, and many of Fosters's (1994; 1995a; 1995b) articles, it is pointed out that industrial arts education was initially intended for the elementary school classroom, through setting up of various shops and laboratories, to introduce pupils to the broad range of the technologies appearing in the industrial world, and to present them with a brief view of vocational opportunities. In their words, industrial arts was "to lead to specific vocational training after elementary school" (Foster, 1995b, p. 17), and "to prepare young people to

live in our industrial society" (Feirer & Lindbeck, 1964, p. 1). Industrial arts education presents a historical example of the possibility and means of vocational content being integrated with academic learning. Its various forms of shops and laboratories not only livened up students' learning experiences but also broadened their views.

Since the late twentieth century, industrial arts education has evolved into technology education. According to Dugger (as cited in Foster, 1994), "industrial arts education has undergone a tremendous curriculum thrust that has become identified as technology education." Similarly, Waetjen (as cited in Foster, 1994) suggests "the last decade has witnessed a startling change in what was once industrial arts education and has now evolved into technology education" (p. 15). Technology education is "an educational program that helps people to develop an understanding and competency in designing, producing, and using technology products and systems and in assessing the appropriateness of technological actions" (Wright, Isreal & Lauda, as cited in Kirkwood, Foster, & Bartow, 1994, p. 18). This definition adopted by the International Technology Education Association repeats the relationship among education, technology, and society, similar to that of industrial arts education (Foster, 1994). Be it industrial arts or technology education, the emphasis is on developing students' aptitudes and broadening their occupational choices.

At another level, the development of manual education was replaced by vocational education. The purpose proposed by manual education was to "train the hand in order to perfect a general cultural education," so as to expand the content and meaning of general education. Instead of carrying on this manual education purpose, vocational education established a closer link with the economic aspect of society, and was

"intended to prepare its students for specific jobs" (Lazerson & Grubb, 1974, p. 17). This replacement was the emergence of a new educational mechanism that was separated from the education that was academic-oriented, and its focus was job-specific preparation with an emphasis of hands-on training. From the manual training movement to vocational education, every step of development took place in response to the happenings of the industrial world. From the earlier manual education advocates of keeping boys longer at school (Woodward, as cited in Kirkwood et al., 1994), diversifying the classroom activities, and enriching the educational content with more than bookish study, the new entity of vocational education aimed specifically at training students with hands-on skills and preparing them to satisfy the labor market necessity.

In the United States, the Smith-Hughes Act of 1917 advocated training of specific skills, especially entry-level skills, and helped vocational education to start separate state boards. The vocational education system had been firmly established by the 1960s. Later, the 1963 Vocational Education Act expanded vocational education by introducing occupational programs, such as business and commerce, into public education. Then the mid-1980s school reform showed a particular interest in "improving the school-to-work transition for non-baccalaureate youth by creating closer linkages between vocational and academic education, secondary and postsecondary institutions, and schools and workplaces" (Guthrie, 2003, p. 2638). In order to protect national competiveness in the expanding global market, the most recent call in schools is for programs to enhance their occupational relevance and to prepare transferable skills for employment (Guthrie, 2003; Hyslop-Margison, 2005, p. 20-24). As indicated by Grubb (1996), "no one is proposing

to resurrect conventional vocational education, but the notion that public education should be more 'relevant' to our country's economic future is widespread" (p. 535).

Even though, based on the literature I have reviewed, I am trying here to make clear-cut distinctions among the notions of manual education, vocational education, industrial arts education, and technology education, concerning their appearances in different times in history and their varied goals, in fact, they overlap as regards philosophy of education, pedagogical choices, and educational contents. With the same origin in the manual education movement, the other three types of education discussed highlight the learning experience that connects education with life and work, and are in favor of the practicality of education. To different degrees, they all advocate bringing hands-on experiences into the classroom so as to facilitate students' comprehension and mastery of knowledge.

Pros and Cons of Vocational Education

> If students are not motivated toward the acquisition of adequate education, we will face an increasing waste of our human resources, continued riots in the streets, and a general deterioration of society. Except for the relatively small number of students who even now seek learning for its own sake, students will be motivated to learn only if their schooling is relevant to their lives, to their ambitions, and to their styles of learning. Vocational education speaks to the need for relevancy.
>
> Marvin Feldman (as cited in Lazerson & Grubb, 1974, p. 46)

On top of what I have tried to clarify so far, relating to vocational education and other forms of education that have vocational orientations, I would now like to turn to a discussion of the pros and cons of vocational education. Today's concept of vocational education has expanded its boundary. It encompasses the vocational preparation in secondary school or post-secondary school, in specialized vocational school, and even the

specific skill training process in the workforce. A decision on which body of knowledge and what skills to include in vocational education is made mainly according to its relationship with the world of work. What are the labor market requirements as a result of the fluctuation in economic and technological development? What are the skills necessary for accomplishing job-related tasks? What sort of personal and social profits can be attained by certain training, or is there any? In designing and developing vocational education, answering these questions reveals a close relationship between learning and using. As a result, the learners are likely to understand and appreciate the learning process.

Fretwell (2003) claims that when targeting different groups of people, vocational education carries different goals. Meanwhile, the goals of vocational education are translated differently depending on the reader's identity. He offers several examples to demonstrate such a point of view. For instance, youth training is to prepare them for an ability to interact in a changing economy. The goal of workers' training could be seen as increased productivity from the employer's perspective or as wage increase from the employee's perspective. The goal for retaining the unemployed could be seen as reducing social expenditures from the governmental side or preparing for being re-employed from the trainee's point of view.

A message we can draw from Fretwell's examples is that vocational education is a complex mechanism. Since vocational education has various target groups, it should include a variety of approaches to meet the needs of each target group, and even each member of a single target group. It would seem that the policies and practices of vocational education are unavoidably influenced by politics, the economic condition,

technology development, and the comprehension of educators. As I see it, the processes of debating which is better – vocational education or academic education – and the pursuing of varied educational goals decide the status of vocational education development in a particular society. Waterkamp (2002) makes it simple and clear that there is neither an ideal vocational training system nor ideal pedagogy. Hence, no matter who wins the debate, educators should come to a realization that it is essential to choose the right approaches and establish an appropriate system to deal with the corresponding target groups in education, so as to reach an ideal result for each individual learner.

The purpose of vocational education and training, according to Mulder, Weigel and Collins (2007), is to "make students capable of performing certain tasks incumbent in a given occupation or profession" (p. 72). Derived from this purpose, they also uncover that there is relevancy in terms of making students eligible for a diploma while preparing them to be qualified for performing the relevant tasks. They point out that the *sine qua non* of vocational education is qualifying students with skills and competencies, and most importantly with skills and competencies that are recognized by the education and/or the vocational authorities, which in their words is to "make students eligible for a diploma" (p. 72).

Marvin Feldman maintains that "vocational education speaks to the need for relevancy" (as cited in Lazerson & Grubb, 1974, p. 46). The relevancy is the connecting of lives in and out of schools. Vocational education or vocational programs set up a learning environment in the classroom, "a genuine situation of experience," as Dewey (1916/1997, p. 163) claims, where students can find association with their lives outside of the classroom. This relevancy will also assist students to make meaning of their learning

experiences and make them part of their internal resources. Especially in vocational education, when students pursue learning that is associated with their career interests, they may desire to experience and learn more. Such a feature of vocational education's relevancy is what educators can take advantage of in order to motivate and inspire students with knowledge and skill acquisition.

Many vocational education programs have targeted high-risk and disadvantaged students in secondary schools. These are the students who either have a tendency of dropping out of school and/or are educationally and economically disadvantaged. Vocational programs are for the purposes of solving these students' problems of schooling and of facilitating their employment. If these programs can be properly designed to meet these high-risk and disadvantaged students' needs, vocational education will most probably be successful, as claimed by Brown (1998). As a result, students are, first and foremost, less likely to drop out of secondary schools. Their problems of lacking worksite skills or their risk of unemployment after school will be minimized. Many educators have also unanimously confirmed these two positives of vocational education (Ainsworth & Roscigno, 2005; Arum & Shavit, 1995; Brown & ERIC Clearinghouse on Adult, Career, and Vocational Education, 1998; US Congress Office of Technology Assessment, 1995).

In their articles, Ainsworth and Roscigno (2005) and Arum and Shavit (1995) have also pointed out that vocational programs can prepare students for skilled positions in the workforce and can increase their earning potential. With regard to the effectiveness of vocational education in junior college in the United States, Ryan (2003) reveals that vocational programs do "produce economic benefits for participants, increase average

educational attainments, and reduce the inequality of education and social outcomes" (p. 159).

Generally speaking, these advantages of vocational education are the arguments that proponents maintain to advocate the expansion of vocational education. Besides, with these tangible advantages, there are reasons to believe – for students who are less-motivated and lack abilities for competing on the academic track – an involvement in the vocational programs or the academic-and-vocational-integrated programs will increase their interests and enhance their competencies so that more opportunities will be theirs when they enter the workforce.

Despite the previously discussed advantages, vocational education also invites criticisms. Vocational programs are blamed for hampering students' opportunities of attending four-year colleges. Meanwhile, they are considered as preparing students for low-wage jobs at the lower social strata, which limit the prospects of students' career advancement. Vocational education is believed to reproduce the social inequalities among classes, sexes and races (Ainsworth & Roscigno, 2005; Arum & Shavit, 1995; US Congress Office of Technology Assessment, 1995). For instance, disadvantaged students attend vocational education, after which they may just get jobs at the lower end of the hierarchy of jobs with poor payment. As a result, they remain disadvantaged. Summed up by Arum and Shavit (1995), there are also many other negative aspects regarding vocational programs. Examples they present are that students who participate in the program will hold low expectations of themselves, or that the classroom instruction remains at a lower level of intellectual complexity. Arum and Shavit (1995) admit that some benefits from vocational programs will disappear at a later time after graduating

from school. Nevertheless, they argue that "the early labor market benefits must still be recognized" (p. 202).

As a matter of fact, these disadvantages must be taken into account when designing vocational programs and when deciding who will be streamed into vocational education. Because students are brought up and educated in various family and social environments, it is inevitable that their levels of development in interest, cognitive ability, and hands-on competency vary. In the meantime, some students may demonstrate an enthusiasm in learning academic knowledge, and they are motivated and actually good at digesting and transferring such knowledge. However, others may show the very opposite. Due to this fact, when we are going to argue whether vocational education brings more advantages or more disadvantages to students, we need to analyze or at least be aware of these aspects of individual students. If a student is not motivated and can hardly make any progress in academic learning, vocational programs may just be a fresh start for the student to find motivation and acquire skills.

Featured Instructional Approaches of Vocational Education

The essence of teaching vocational programs lies in its emphasis on practice. It is not enough to just know about or memorize theories of how to perform skills. More importantly, learners need to be able to put the theories into practice and to apply them appropriately in diverse circumstances. Vocational learning targets a coordination of brains and hands. A study of the features of instructional approaches to vocational education will identify some pedagogical characteristics of vocational education. This can provide academic-oriented education some references regarding how to associate

learning with more practical meaning and how to connect education with work and life more closely. With a comprehension of vocational education pedagogies, integrating vocational and academic education could be facilitated.

Even though, as maintained earlier, technology education is a derivation from industrial arts, which was a vocational preparation focused on the academic education track, and even though in practice technology education has been separated from vocational education, they are considered as a "border crossing" (Lewis, 1996; Lewis, as cited in Sanders, 2001), because the two fields share similarities in theories and/or practices, such as "the situated nature of instruction (laboratory focus), and learning by doing" (Lewis, 1999, p. 49). In classrooms, technology education and vocational education appear to adopt some similar approaches for instruction. Many approaches often seen in technology education are also gradually used by other vocational programs in order to enhance the training of skills and to better prepare the trainees for their prospective jobs. Although as proposed by Dugger, Meade, Delany, and Nichols (2003), in relation to technology programs, the learning environment should encourage students' interaction, support students' abilities in various aspects such as questioning or invention, and should by itself be up-to-date and adaptable, the truth is that such a live and active learning environment should also be applicable to almost all vocational education programs, in that they consistently aim to enable the students to transfer the skills they acquire in a given context for which they have been prepared. For these reasons, some instructional approaches for technology education are also included here.

Sanders (2001) has identified a couple of approaches for technology education. These approaches are called the project approach, by which instructors plan the projects

for the learners to follow and to achieve estimated learning results, and the design and technology approach, through which students design and develop strategies to solve problems initiated by instructors.

Recommended by Kemp and Schwaller (as cited in Foster, 1994), technology education should teach concepts, use an interdisciplinary approach, emphasize social/cultural impacts of technology, develop problem solving skills, integrate the system for technology, and interpret industry. Not only does their recommendation focus on the teaching of skills, but it covers a provision for technical and social contexts for learning as well. These instructional strategies of technology education present a feature of education that is comprehensive and takes care of the relationship between learning and living.

One systematic approach, called project-based learning, according to Frank (2005), is to encourage students' active engagement in learning multidisciplinary knowledge while working in a real-world context. Project-based learning supports the learners' participation. An assumption of participation is to view a learner as an "active human being," "a holder of certain capacities and potential" and a representative with specific needs and interests (Masschelein & Quaghebeur, 2005, p. 55). Finlay, Hodgson, and Steer (2007) argue that there are considerable benefits for learners when learning in the workplace. A real-world context can provide them an opportunity to discover and learn. Learning by discovery can improve motivation and can also help retain what has been acquired. Moreover, as Dearden (1967) says, it "allows more room for individual differences and permits a more intelligent appreciation of what one is doing" (p. 152). As suggested by Krajcik et al (as cited in Frank, 2005), learners benefit from project-based

learning in three aspects: (a) a development of integrated understanding of content and process, (b) a promotion of responsibility and enhancement in independent learning, and (c) a satisfaction of students' diversified learning needs (p. 21). It seems that project-based learning reveals a pedagogical flexibility, and puts students at the center of their educational experiences. While it provides students with hands-on opportunities, it also relates the opportunity to individual worthiness.

Problem solving is identified as a core instructional approach for technology education (Zuga, 1994), but its popularity has gone beyond technology education. Today's advocate for teaching problem-solving skills is seen in both vocational and academic education. In Nova Scotia, problem solving is listed as one of the essential graduation learning outcomes. It generally requires that "graduates will be able to use the strategies and processes needed to solve a wide variety of problems, including those requiring language, mathematical, and scientific concepts" (Foundation for the Atlantic Canada Technology Education Curriculum, 2001, p. 11; Nova Scotia Department of Education, 2003, p. 10). Other than that, there are also more detailed outcomes in accordance with each curriculum and grade. For example, "gather information, evaluate entrepreneurial ideas for a business venture, and make informed decisions" (Foundation for the Atlantic Canada Technology Education Curriculum, 2001, p. 11; Nova Scotia Department of Education, 2003, p. 10) are outcomes for grade twelve entrepreneurship graduates. Involving students in a learning context where they have opportunities to analyze and solve problems is a popular trend in classroom instruction.

Gerard Lum (2003) offers an exceptional approach for vocational education – in his words "constitutive understandings" – which is supposed to develop students'

practical and theoretical capabilities simultaneously (p.1). He criticizes that vocational education in the UK has put much more emphasis on doing and practice than on thinking and theory. He disagrees with the dichotomous conception between knowing that and knowing how, which are distinguished by Ryle (1949). Lum considers knowing that and knowing how as "fundamentally untenable." He continues that "there are so many aspects of vocational capability – such things as having a sense of responsibility, or a capacity for decision-making, problem solving, judgment, imagination, leadership, etc. – which are patently neither a matter of knowing particular facts nor knowing how to do specific things" (p. 3). As a result, he proposes vocational education that develops students' capabilities with an emphasis on "constitutive understandings," which is based on a premise that "it is a world *constituted by* our understandings, or to be more precise, by a network of such understanding" (p. 11).

As indicated by Lum (2003), the world is "constituted by the sphere of purposes and meanings that structures what we do and who we are, and within which beings can be revealed and can make sense to us" (p. 6). The presentation of the world is through people's understandings. The world of work in particular is interwoven with the workers' understandings of practices in particular contexts. These contexts conversely shape one's perception of the world and make meaning of one's experiences. He incorporates Heidegger's point of view that the "conception of 'understanding,' partly constitutive of Being-in-the-world, is far more fundamental than 'knowledge': it is a prerequisite of such things as 'knowing,' 'theorizing' or 'explaining'" (p. 10). Lum's suggestions is that the learning process is more about "our being able to modify our interpretations so that what we see is appropriate to the priorities and purposes we contingently happen to adopt" (p.

9). To be capable is not just to acquire skills and be good at them, but is mainly about gaining fundamental understandings. As a result of an interaction among understandings, the individual adopts a stance or viewpoint that is meaningful and purposeful to oneself, which "in turn structures our consciousness and thus our experience" (p. 11). Once having acquired many and enough understandings, one is then ready to interpret the world of work and perform appropriately under various circumstances. Thus, teaching lays emphasis on facilitating students' understanding of the world, and the world of work in particular.

In their articles *Career Education as Humanization: A Freirean Approach to Lifelong learning*, Hyslop-Margison and Naseen (2007) propose vocational education be incorporate into a Freirean pedagogy, which views students as political participants and empowers students to actively shape their own vocational lives. Hence, students are not passively affected by the development of society and economy, and they are not taught to simply adapt themselves in an environment. Instead, students are involved "in continual reflection on social reality as a first step toward transforming the political and educational conditions that limit historical understanding and human liberation" (p. 350). In this case, students are like catalysts engaging in and activating an environment. For classroom instruction, they suggest that "students might be encouraged to ask questions about the problems affecting their personal or working lives, explore the structural causes of these problems, and seek solutions that may involve social transformation" (p. 355). They also provide an interesting point of view that "when discussing labor-market instability in career education, for example, the emphasis is placed on what might be done to improve this situation rather than on what students can do to cope with such conditions" (p. 356).

Their approach of students improving a situation rather than only coping with a situation implies that students' participation is influential to the environment and they can actually make a difference, which is what it means to prepare students as "political participants."

Vocationalism and Its Development

> Around the turn of the twentieth century, a new movement swept public schooling in both the United States and Canada. Now known conventionally as vocationalism, the movement was based on the belief that state-supported education ought to do more to prepare young people for employment and be more oriented towards the full range of occupational destinations. (Coulter & Goodson, 1993, p. 1)

As mentioned in the beginning of this chapter, vocationalism is a special concept that presents a contemporary trend of educational development in two North American countries – the United States and Canada. Since the start of the twentieth century, the development of vocationalism has provided a diversity of examples of means by which the vocational and the academic collaborate. It is my objective here to target these examples; thereafter, I can further discuss their implications for China's educational reform.

The term 'vocationalism' was coined by educators based on the study of vocational education (Grubb & Lazerson, 2004). Given this context, comprehending its definition from the perspective of educators should be more precise and informative than definitions found in the dictionary. Grubb and Lazerson (2005) point out that vocationalism refers

> not primarily to traditional vocational education but to preparation for vocations – occupations as careers or callings rather than mere jobs, employment that

> provides personal meaning, economic benefits, continued development over the life course, social status, and connections to the greater society. (p. 3)

In general, from a perspective of the individual person, vocationalism is like a thread connecting one's experiences and growth in education, occupation, and livelihood. Vocationalism provides opportunity – "preparation for vocations" – to the individual person, and it opens doors to the outside world, where one could seek to enrich one's life and realize one's value. In relation to vocationalism is the term "professionalism," which in Grubb and Lazerson's opinion is "the wealthy cousin of vocationalism" (2004, p. 25), and "vocationalism in higher education has always been called professionalism so as to distinguish it from its low-status cousin in secondary schools" (2005, p. 301). Whether it is vocationalism or professionalism, they aim at preparing individuals for their careers. As well, as Grubb and Lazerson (2004; 2005) suggest, vocationalism and professionalism confront similar problems in practice, such as how to connect schooling with employment and what skills should be included in education. With vocationalism being the focus of my following discussion, my purpose is to find out how academic-oriented general education can prepare students for their careers at the same time as cultivate their intellectual capacity.

Ryan (2003) claims that educational history of the twentieth century can be named "the century of vocationalism," when "the expansion and vocationalization of school-based education went hand in hand" (p. 147). As indicated by him, vocationalism carries a broad meaning that includes at one end "job-specific apprenticeship training" and at the other end "technically-oriented higher education" (p. 148). In a similar vein, Grubb and Lazerson (2005) indicate that the phenomenon of vocationalism influences

multiple levels of education, and "its effects have been more pervasive than simply adding to the multiple purposes of education" (p. 301). Vocationalism can, therefore, simply be seen as a source of power that brings new energy to inspire educational development, so that there are more opportunities and fresh ideas for educational practice.

Hayward (2004) acknowledges that in the UK, vocationalism is distinctively traced back to 1976 when James Callaghan gave a speech at Ruskin College specifying that in "today's world, higher standards are demanded than were required yesterday and there are simply fewer jobs for those without skill." He further points out that "vocationalism is much older than this and there is a long tradition of regarding education as the route to economic success" (p. 1). A century ago in the United States, the vocationalization of curriculum penetrated into secondary school that was dominated by the academic curricula, and the role of vocational education was to get all students better jobs through schooling, but not just those students in vocational education. The vocationalism in the United States, according to Grubb and Lazerson (2004; 2005), emphasizes the preparation for work through formal schooling but not through other institutions.

Today's vocationalism is a multifaceted mechanism that encompasses more than job training or vocational school education, and it prepares one for more than entry into the workforce. Also, when we talk about vocationalism today, it implies a mechanism that carries a variety of forms merged into all levels of educational institutions. Grubb and Lazerson (2005) argue that just as there are varieties of capitalism and welfare states, there are correspondingly varieties of vocationalism. As far as I can comprehend, the growth of vocationalism is dependent on the impact from technological innovation and

economic development, on society's expectation of better educated citizens, on people's change of lifestyles, and on the improvement of employment requirements. All these factors vary as regards different circumstances in different countries, which more or less affect education and vocationalism.

"Vocationalism raised more explicitly than ever before questions about the purpose of schooling and the utility of various kinds of knowledge" (Lazerson & Grubb, 1974, p. 1). In general, vocationalism changes the pedagogies, revolutionizes the school-to-work relations, and enriches people's understanding of skills, knowledge and their relationship with competencies. Is vocationalism the right model for promoting today's general education? Towards what end is vocationalism planned? What should be included in vocationalism? How should vocationalism be evaluated? How effective is vocationalism, to an individual, to an institution, and to a society? Questions of this sort are what I'd like to refer to as practicing questions, that is, questions that do not have a single right or wrong answer, because their answers are conditional and vary. One needs to put the question into practice to find out its relevant answer, and that answer is particular to the condition where the experiences are involved. For these reasons, the exploration, choice, and analysis of the 'right' vocationalism is conditional and the approaches should be flexible in order to find the best answer. Because vocationalism has various forms in different countries (Grubb & Lazerson, 2005) and it spreads to diverse educational levels (Ryan, 2003), the study of the expansion of vocationalism in different educational sites should seek to identify their circumstantial advantages, in order to achieve the most promising result in educating youth. Various concepts in relation to developing vocationalism have been discussed in the literature. In the following section, I

will investigate four concepts representing vocationalism. They are respectively Marland's "career education," initiatives of school-to-work transition, Young's "critical vocationalism," and Hyslop-Margison's "liberalizing vocational study."

I. Career Education Proposed by Marland

In the 1970s, the concept of career education was first introduced by Sidney P. Marland. It was proposed as distinct from the concept of vocational education. Career education targeted students from elementary and secondary schools inclusively, and was intended to familiarize students with general information on many, if not all, occupations (Guthrie, 2003; Hyslop-Margison, 2005; Lazerson & Grubb, 1974). Vocational education, however, largely targets academically disadvantaged secondary school graduates, and concentrates on training students with certain occupation-related skills. In Marland's (as cited in Lazerson & Grubb, 1974) words, career education "would embrace vocational education but would go a good deal further," and it emphasized "adopting all school experiences toward practical and occupational ends" (p. 46).

During his interview, Marland (as cited in Lazerson & Grubb, 1974, p. 174-176) clarifies three principles concerning career education: (a) it should be a component of part of the curriculum for all students; (b) it should be extended through all grades at any level in general education; (c) it would provide the skills that could enable students to make a living, even if they dropped out of school. Based on the principles, Marland also sketched out a plan for carrying out career education. As indicated by him, throughout the first six years of schooling, the student would be introduced to a variety of occupational choices and come to an understanding of the requirements and necessities for entering

various occupations. In grade seven and eight, the student would be provided with opportunities to get acquainted with an occupation cluster they were interested in. During grade nine and ten, he or she would further explore more about some specific occupations and get some hands-on experiences. Finally in grade eleven and twelve, he or she would be involved more intensely in the selected occupation. As a result of this process of carrying out career education, the student would be directed to

> one of three options: acquiring skills that would enable him to take a job immediately upon leaving secondary school; taking a consideration of academic and on-the-job courses in preparation for entering a post-secondary institution that would train him as a technician, for instance; or electing a somewhat similar combination of courses in preparation for a professional degree from a four-year college and beyond. (p. 176)

While career education had a strong occupational preparation orientation, it nevertheless was suggested to be woven through the academic courses, to increase relevancy between schooling and living, and to bring more meaning for general education. Then, students, especially those who were less successful in academic pursuits, would be motivated to learn for their own good and, in the meantime, would follow the career paths that appealed to them.

Even though career education started out with intentions of teaching students both academic knowledge and training them with skills, of making all students' schooling more meaningful and productive, and of preparing them for occupations, it was still criticized as having streamed economically disadvantaged students into technical training programs and secretarial work (Hyslop-Margison, 2005). Many aspects of Marland's

proposal of how to achieve career education in general education are similar to today's practice of school-to-work transition or co-op programs, which will be briefly illustrated in the next section.

II. Initiatives of School-to-Work Transition

In the United States, since the School-to-Work Opportunities Act was passed in 1994, there has been a focus on preparing secondary school students with knowledge and skills related to occupations and providing them with information relating to the labor market and the economy (Grubb & Lazerson, 2005; Guthrie, 2003; Hughes, Bailey, & Karp, 2002). Through establishing partnerships among schools, employers and community, a school-to-work system can coordinate related programs on a state or a single school district level; it can also coordinate activities for students from elementary school to secondary school (Bonds, 2003).

Even though the intention of school-to-work initiatives is to prepare students for occupations so that their employment opportunities can be increased, opponents worry that they would reduce the academic standard, limit students with low-level skills and prevent them from continuing their studies. Nevertheless, some educators believe the school-to-work initiatives do not necessarily actualize their worries. According to Hughes, Bailey and Karp (2002), an implementation of the school-to-work initiatives facilitated a pedagogical integration of academic and vocational education, promoted students' attendance and graduation rates, improved students' academic competencies and vocational skills, and unveiled more opportunities for occupations. Additionally, after attending school-to-work programs, students are likely to be motivated to attend colleges.

In general, they believe the implementation of the School-to-Work Opportunities Act was successful.

Grubb and Lazerson (2005), on the other hand, claim the implementation of the School-to-Work Opportunities Act was a failure. From the support from government to the practice of schools, they reviewed several shortcomings concerning the implementation of the Act: a five-year plan was too short; there was not enough financial support from the government; most school were incapable of moving beyond the practice of counseling; the main conventional curriculum and work-based activities were disconnected (Hershey et al. Stull & Sanders, as cited in Grubb & Lazerson, 2005). Taking the Massachusetts school-to-work transition as an example, Diehl, Alex, and Weisstein (2002) argue that it is difficult to advance academic achievement while also enhancing occupational preparation. They point out the difficulties with

> defining the scope and purposes of school-to-work transition; a lack of sufficient resources to implement the vision; challenges associated with creating new and substantially different types of relationship between schools, employers, and community partners; and the shift in educational policy toward academic standards and high stakes testing. (p. 288)

Other than focusing on how school-to-work initiatives can benefit students, these educators have made the analyses from the higher points of view – government policy, school implementation and society cooperation – to identify the inadequacies of the initiatives.

While the worthiness of the United States' effort of school-to-work transition has been acknowledged, such as students are encouraged to engage in academic learning and

increase vocational skills, and they are directed to identify careers for themselves, this American school-to-work approach has also presented examples of failures and revealed the difficulties of such practice. It provides the later practitioners, whether from the US or from other countries, with cautions and suggestions on how school-to-work initiatives can be effectively pursued.

It seems to me that school-to-work initiatives are one of the important components of vocationalism. They are strategically planned approaches to integrate school-based academic learning and work-based skills acquisition, for the purpose of increasing employment opportunities for secondary school students, especially those who do not aim at four-year study at college. Different countries share similar school-to-work initiative objectives, such as facilitating secondary school graduates' employment or extending students' schooling experience. Nevertheless, there are variations in the methods applied.

In general, three forms of school-and-work linkages are categorized by Grubb and Lazerson (2005): (a) internships and career information and guidance, "to prepare students to be rational choosers;" (b) "direct connections between educational institutions and workplaces," such as "school-business partnerships, advisory committees, customized training" and "the dual system or cooperative education where schools and employers jointly prepare workers;" (c) "a variety of credentials, licenses, and qualifications" (p. 310). Entrepreneurship education is suggested as a basis for a school-to-work transition model (Smith & Rojewski as cited in Lakes, 1996). Researchers found that during the implementation of the School-to-Work Opportunities Act of 1994, the

most prevalent activities are work-site visits and job shadowing (Hughes et al., 2002), which were forms of providing career information and guidance.

In Alberta, Canada, there are youth apprenticeship programs, registered apprenticeship programs, career and technology studies, and Tech Prep (Brigham & Taylor, 2006; Lehmann & Taylor, 2003). All these approaches more or less present three forms of school-and-work linkage. While offering credits for students to finish schooling, they also enhance students' skills training. By surveying, Crysdale, King and Mandell (1999) have compared Canadian co-op programs and the British co-op programs. They find that other than some superficial similarities, the two countries' co-op programs are by no means similar because of the two countries' different educational ideologies and class structures. For example, the integration of work experience into the educational programs which involve academic credentials awards is handled differently, and it is more difficult to implement in the UK. According to Hyslop-Margison (2005), the program of work studies in Western Australia provides a better example of secondary level democratic career education by offering students comprehensive information on industrial relations. The school-to-work approaches of several other European countries were also compared. For example, Waterkamp (2002) analyzes different approaches in Austria, Switzerland and Germany with varied emphasis on the student age differences. She explains that in Austria, students at the age of 14 (ninth grade) may attend a one-year-program called a polytechnic program, to explore their interest in occupations and to complete schooling. In Switzerland, it is at the age of 15, tenth grade, when students can participate in practical learning, which is a part of the lower secondary school program to prepare for a vocational training scheme. To explore the concept of competency in the

development of vocational education and training, Mulder, Weigel and Collins (2007) analyze vocational programs in England, Germany, France and the Netherland respectively as "the National Vocational Qualifications in England, the approach to learning areas in Germany, the ETED and the *bilan de compétences* in France, and the implementation of competence-based vocational education in the Netherlands" (p. 67).

III. Michael Young's "Critical Vocationalism"

"Critical vocationalism" is a concept that Michael Young (1998) proposed for the British educational system pertaining to the improvement of 14-19[17] curriculum (p. 56). It aims to connect liberal education with the concept of occupation and to integrate the academic subject with the world of work. Through re-conceptualizing the relationships between work and education, and critically acknowledging the two concepts of vocationalism that are provided by John Dewey and Antonio Gramsci, Young puts forward this inventive concept of vocationalism. According to Dewey's (as cited in Young, 1998) concept of "liberal vocationalism," "the best liberal education is vocational and the best vocational education is liberal" (p. 55). He points out that Dewey was not aware that vocations which could support "liberal vocationalism" are limited. Gramsci, on the other hand, sees a necessity to "understand the context of workers' working and the economic, social and cultural implications of their skills" and he believes that industrial workers and industrial work itself can be an emancipatory force in history (p. 55-56).

[17] The 14-19 curriculum in the British educational system is similar to that of the secondary school in North America.

Based on these understandings and from three aspects, Young illustrates the concepts of critical vocationalism. According to him,

> the principles of critical vocationalism would give priority to the ways that young people can relate to work and knowledge and how they can draw on both subject knowledge and their experience and understanding of work in developing their ideas about the future. It would draw on academic subjects to shed light on the social divisions and changes in the current organization of work and draw on the work experience of students to help give meaning and context to subject-based knowledge. It would build on the experience of the schools-industry movement and in particular the work of Jamieson, Miller and Watts who have recognized the importance of students understanding the causes of economic change and how such understanding needs to involve the more active forms of pedagogy associated with work experience (p. 56).

Embedded in the three aspects concerning the concept of "critical vocationalism" are three curriculum approaches discussed in many of Young's writings.

In his book *The Curriculum of the Future: from the "New Sociology of Education" to a Critical Theory of Learning* and several other articles, Young stresses once again the curriculum approaches of (a) understanding curriculum from a sociological perspective (1993b;1998; 1999; 2004; 2007), (b) analyzing the academic/vocational divisions from the stratification of knowledge and the social division between manual and mental labor so as to bridge their gaps within the curriculum (1993b; 1998; 1999), and (c) setting new criteria for the curriculum which emphasize connectiveness or connectivity between knowledge, skills and the learning process

(1993b; 1998; 1999). A comprehension of these three approaches is helpful for envisaging an appropriate application of "critical vocationalism."

To take these in turn, from a sociological perspective, curriculum is considered as socially and historically constructed. Knowledge should be perceived as the historical development of human societies, and the acquisition of knowledge is the goal of formal education. Thus, the development of curriculum should correspondingly reflect the social and historical context of knowledge (Young, 2007). Particularly when the subjects learned involve students in working experiences, associating the social and historical contexts of knowledge can make students' learning more relevant and meaningful. Young (1998) also argues that "curriculum needs to be seen not just as something imposed on teachers' and pupils' classroom practice, but as a historically specific social reality which teachers act on and thus transform" (p. 23). This sociological perspective of developing curriculum is also a theoretical basis for the first aspect of "critical vocationalism," in which Young (1998) brings up the priority of young people relating work and knowledge and making use of subject knowledge and their experience to understand work, so that young people will develop their ideas about the future.

The second aspect of "critical vocationalism" is concerned with bridging the gap between the academic and the vocational division. According to Young (1993b; 1999, p. 466), this gap derives from the separation of "knowledge for its own sake" and "the application of knowledge," and from the separation of mental and manual labor. The academic/vocational division causes the uneven management of subject-based curriculum and work-related skill training programs, which in turn produces wider social divisions (Young, 1998). A comprehension of the academic/vocational division is associated with

the second aspect of "critical vocationalism," in that with the curriculum development based on a sociological perspective, correlations between academic and vocational aspects of curriculum need also to be identified. Academic aspects can reinforce the theoretical framework of vocational subjects, while vocational aspects can give a context and enrich the content of academic subjects. "Critical vocationalism" can, in Young's words (1998), "draw on academic subjects to shed light on the social divisions and changes in the current organization of work and draw on the work experience of students to help give meaning and context to subject-based knowledge" (p. 56).

> Connectivity or connectiveness, as indicated by Young (Young, 1998), stresses the need to link the purposes and activities of both learner and teachers with how they relate to developments in the wider society. . . . Connectivity does not refer to a particular curriculum model but to how the curriculum purposes of a school or college are expressed in all its activities and how these activities are brought together to articulate and support the purposes of individual learners (p. 90).

Accordingly, connectivity gives rise to an approach which helps define curriculum within a broader social context and with a closer linkage to school capabilities and student needs. Curriculum built on the concept of connectivity brings together areas of knowledge, generic skills and a specialization in certain fields to support a contextualized learning. In Young's (1998) words, "connectivity stresses the interdependence of a school or college's whole curriculum and the elements that make it up – subject and vocational programs, learner support, guidance, etc. and its relationship to broader development in society" (p. 90). Applying connectivity benefits academic learning by linking

opportunities for understanding and experiencing the world of social life and/or vocational content. Connectivity relates with "critical vocationalism" in that it suggests learning content, pedagogies, and students' learning purposes be related to a wider social context. It thus corresponds to the third aspect of "critical vocationalism" with respect to "building on the experiences of the schools-industry movement" and helping students to understand the causes of economic change by relating pedagogies with work experience (p. 56).

Generally speaking, the aim of "critical vocationalism" is to widen the social and economic contexts of academic curriculum by integrating particularly the vocational aspect of learning and experience. Other than being engaged in acquiring knowledge and skills through subject learning, learners will also be familiarized with social and historical circumstances which help to develop a vision of where and how to apply their learning as well as be able to reproduce knowledge and skills.

IV. Hyslop-Margison's "Liberalizing Vocational Study"

In his book *Liberalizing Vocational Study: Democratic Approaches to Career Education*, Hyslop-Margison (2005) seeks to demonstrate how vocational education programs and liberal learning can be integrated, to address the issues of bridging the gap between liberal and career education, and of developing career education as one that is comprehensive and critical. With the Aristotelian view of education, which has as its aim intellectual virtue, he maps out the possibility for career education to maintain "the cognitive dimension of liberal learning" as well as prepare students "for their future vocational experience" (p. 63). As DesRoches (2007) comments this, "using the

Aristotelian perspective of education to poke holes in both sides of the educational spectrum provides a means of reconciling the two in error rather than exonerating one at the expense of the other" (p.68).

The Aristotelian concept of intellectual virtue contains three aspects: productive wisdom, practical wisdom, and theoretical wisdom. They are defined in Hyslop-Margison (2005):

> *productive wisdom* exercises the deliberative capacity of the rational faculty to construct useful and beautiful artifacts or provide necessary services; *practical wisdom* utilizes rational deliberation as a guide to effective ethical and political action; and *theoretical wisdom* employs the contemplative side of the rational faculty to understand the truth about human experience and our interaction with the world (p. 31).

As he further explains, productive wisdom has its connection with one's vocational achievement, which covers the production of goods and the provision of services to satisfy human necessities. Productive wisdom also "involves a crucial cognitive or creative dimension," which signifies the competencies of making judgment and seeking solutions corresponding to a particular situation (p. 33). The intellectual virtue of practical wisdom is about moral virtue, the promotion of which takes care of the critical development of personal character, rather than simply fostering general abstract employability skills. Lastly, theoretical wisdom, "a superior intellectual virtue," is linked to human excellence. Theoretical wisdom involves the capacity of reason and reflective action, and it suggests that material means on its own cannot enrich human experience (p. 36).

As I see it, in general, all three aspects of intellectual virtue involve a development of rational thought or reflection corresponding to their own fields, while rejecting learning that is instrumental and uncritical. As well, they cover the cognitive, moral and productive aspects of intellectual virtue. On the one hand, the idea of intellectual virtue demonstrates a liberal approach to education. Intellectual virtue implies that career education can be liberalized, derived from a comprehension that fostering abilities of making things or providing services, which refer to productive wisdom, can only be a partial aim of vocational-oriented education. This is a foundation for liberalized career education. Based on what has been discussed, Hyslop-Margison (2005) suggests that the occupational or economic objections should not be an end in career education. The presentation of career education should include more than the labor market requirements and situations. Career education should relate the cognitive dimension of productive wisdom, in which case, students do not just passively accept messages on certain subjects, but are also encouraged to make judgments and exchange ideas for an improvement on the subjects. Therefore, students do not merely adjust or adapt themselves to future workplace conditions, but they also critically interact with and, for their own good, change the environment. A wider social and economic context should also be brought in to introduce various work-related issues, so that individual students can possess an information reservoir, built for assessing problems and handling difficulties on their own (p. 34-42 & p. 86-98).

From my understanding, the four concepts pertaining to vocationalism, that is, Marland's "career education," school-to-work initiatives, Young's "critical vocationalism," and Hyslop-Margison's "liberalizing vocational study," all involve an

attempt to bridge the gap between the academic and the vocational, for the purpose of easing students' entry into the occupational world and enabling them to deal with the world's complexity. Although the four concepts target different student groups and present various specifications for vocational study, they share explicit ideas of relating schooling with working by including a wider social and economic context into the curriculum, and of familiarizing students with basic but extensive understandings of occupation while not overlooking the importance of academic learning. Thus, as I see it, integrating vocational and academic education represents a general approach of vocationalism. In the next chapter, I will explain, through a review of literature and my own experiences, the idea of integrating the vocational and the academic. In the end, I will discuss my proposal for China's secondary school reform, based on the knowledge of vocationalism, its various forms, and its general approach of integrating vocational and academic education.

Chapter Six Integrating Vocational and Academic Education – A General Approach of Vocationalism

In the beginning of this chapter, I would like to start by discussing one of my perceptions of vocational education from my own experiences. Do you still remember what you dreamed of becoming when you were a child? Before seven years old, I had always dreamed of becoming a doctor. After that, my dream has always been to be a teacher. Because I was a frequent hospital visitor, gradually, I started to love the smell of the hospital, and fancy the doctors' white coats and their crazy handwriting. At that time, I used to observe the way doctors examined me or other patients. I also liked to watch how they used syringes to perform injections, hoping that I would be allowed to give it a try. Certainly I would not be allowed to touch any medical tools. Nevertheless, my friends and I opened up our own 'hospital': parents' white shirts were used as doctors' white coats, ink pens were syringes, spoons were stethoscopes, and many other household items were improvised as medical facilities. We then took turns being doctors, parents and sick children. We treated our 'patients' the way our doctors treated us.

Some friends' dreams were to become bus drivers or conductors, so we lined our chairs on the street. The person in the front would be the bus driver, and the conductor stood in the end. When the 'bus' was on the move, we all carried our chairs and followed the 'bus driver' to the next stop. My friends and I also opened grocery stores, played teaching, mimicked policemen and criminals. Those childhood activities were not only fun but inspiring as well. We had all experienced what we saw adults do in our own childish but creative ways – it was a revival of our dreams.

Every child has one or more dreams about occupation(s) that s/he is interested in and would like to take up after growing up. While the childhood experiences of dreaming about occupations were without boundaries, in real life, various constraints create problems for them to come true. During many years of education, some children's dreams are supported by their parents and/or teachers, and are eventually realized. For various reasons and constraints, however, many other children's dreams may be neglected or denied. If, as it has been claimed, "most students still come to school, behave themselves, and study in order to avoid the consequences of not doing so" (Cooney, Cross, & Trunk, 1993, p. 205), then don't students deserve to learn something that is motivating and close to their hearts, and that does benefit their future lives by "avoiding the consequence of not doing so?" Shouldn't they be encouraged to follow their dreams under appropriate circumstances so that they can truly appreciate learning and discover their potential? These issues then lead to the fundamental question of what the purpose and content of education should be.

Educators hardly share the same philosophical perspective in terms of aims of education (Dare, 2001; Hirst, as cited in White, 1973). As Whitehead (1929) argues, "there is only one subject-matter for education, and that is Life in all its manifestations" (p. 6). Through exhibiting its relation to key characteristics of all intelligent or emotional perception, life can be woven into general education. "The goals education must serve are ultimately generated individually by rational choice in relation to personal wants and contextual constraints," and "complex interrelated packages of such elements as actions, knowledge, judgments, criteria of success, values, skills, dispositions, virtues, feelings" should all be included in education (Hirst, 1993, p. 190 & 195). As well, Hirst and Peters

(1970) differentiate educating and teaching by exemplifying that if a science teacher holds purely vocational or economic ends as their aim, it should then be distinguished from educating, in that teaching is not necessarily educative. From a student's point of view, I wish to reveal how education can be vocationally meaningful and useful to individuals.

As I look back to trace my vocational education, I find that, strictly speaking, it didn't happen until after I attended university for a bachelor's degree in English education, where classes were offered to give detailed instruction as regards to how English language should be taught in secondary school classrooms. First we had to learn linguistics, English grammar, English literature, the culture of English speaking countries, and so on, to reach the required level of proficiency in order to be qualified as English teachers. Then, we were taught skills of lesson planning and classroom instruction, and were also given plenty of time to practice these skills through teaching our classmates. As compared to general education at secondary school, there were more university programs which presented an explicit link between education and employment. The meaning of education became less ambiguous than that of secondary school. It was no longer some inculcated messages from parents or teachers about memorizing notes or passing exams, instead, it was to transfer the learning to be part of myself and to see myself becoming a teacher.

Attending university was undoubtedly the beginning of my formal vocational education. However, my dream, since the age of seven, of becoming a teacher initiated a vocational education that was personal and informal. Although during elementary and secondary schools, I was not motivated for academic learning and could not see any

purpose of schooling further than obeying parents and teachers to please them, the fire of my dream never ceased burning, which attracted me to observe how teachers did their jobs and other endeavors related with teaching. During leisure time, my friends and I also played teaching, the same as the way we were taught in the classroom. Such observation and practice all came back to me as hints or cautions under various circumstances during teaching practice in university, which were very advantageous for enriching my learning and improving my competency.

The point I am trying to make here is for teachers and parents to be more attentive to children's dreams and to recognize their vocational orientations. As Waterkamp (2002) indicates,

> to be able to make a relative stable decision about the occupation or profession a young person wants to work in later, does not only require knowledge about the accessible opportunities but also about oneself, i.e. their own interests, talents and abilities. (p. 6)

Children's dreams are indeed related with their interests. Before teachers or parents decide whether children's dreams are appropriate or not, opportunities should be provided for them to experience their dreams in ways such as observing people's work or engaging with adults who work in their dreamed of occupation. The idea is like the two North American countries' vocationalism development that presents children with plenty of opportunities for occupational experiences. Consequently, children either will be motivated with learning at school as well as accumulate some working experiences, or may find their dreams unrealistic or improper so that they can explore new directions. When students' dreams are used as a lead for them to explore learning subjects, no matter

how much academic achievement is made, the vocational aspects of learning are nonetheless expanded.

White (1973) suggests that education should acquaint children with various pursuits in life on behalf of their own interests and enable them to prioritize the pursuits considering their future, so that they will be able to determine the good for themselves. The best start, as I see it, is the encouragement of students' pursuit of dreams. Hirst and Peters (1970) indicate that "children's existing interests can be used as a starting point from which they can be led on to take an interest in realms of whose existence they never dreamt" (p. 38). Dream is not interest, yet they may coincide in terms of content and may also share the same source of inspiration. In order to educate all children, we must "stop attempting to determine their capacity", and learn the children's "lived culture, their interests, their intellectual, political and historical legacies" (Delpit, 2003, p. 20). Hence, teachers need to recognize students for who they are and what they want, in order to create a learning environment that is supportive for students' intellectual growth and skill attainment. These ideas connect to the vocational and academic integration in the sense that they recognize students' interests and needs considering the connection between education and occupation. Subsequently, from a review of literature, I will illustrate specifically the vocationalism approach of integrating vocational and academic education.

1. Literature review of vocational and academic integration

Education to Welcome Experiences of "the Other Side of Life"

In his article *the School and Society*, Dewey (1899/1964) proposes that school should include "the other side of life" so as to establish a connection with the "physical realities of life" (p. 299). This other side of life means more than facilitating students' academic learning with the simple inclusion of practical experiences. It further embraces many other social encounters and interactions that people face and deal with on a daily basis. As "the other side of life" is incorporated, schools in a sense are to be transferred into a miniature society, in which students learn and live naturally as in a genuine environment – true society – where grown-ups live and learn. Dewey (1916/1997) also indicates that "the educative process is its own end and that the only sufficient preparation for later responsibility comes by making the most of immediately present life" (p. 310). If students are provided with a genuine environment, they may find better connections of studying at school with living outside of school, so that they will be able to better comprehend their educational experiences, become more motivated with academic learning, and, in Dewey's (1916/1997) words, obtain "a genuine discovery of personal aptitudes so that the proper choice of a specialized pursuit in later life may be indicated" (p. 311).

In the first chapter, I presented two scenes of my first classes in Canadian and Chinese universities, revealing two contrasting atmospheres of classroom learning. The Canadian classroom appeared to be diversified and interactive, whereas the Chinese classroom was formalized and monotonous. Although two scenes of only the first class

are described, the subsequent classes in the two universities maintained their atmospheres respectively. I experienced a difference in the Canadian classroom, as it unfolded its inclusion of a great deal of discussion among students and between students and professors, and its provision of opportunities for students to find answers through experiential explorations and debates. This is just like a forum in a society where people argue, hold on to their opinions, give in, or seek for agreement. Presenting class in this dynamic but controlled way is likely to enrich students' experiences of knowledge acquisition and enhance their skills such as critical thinking, reasoning, and judging. At least, I felt driven to make improvement in my learning and communicative skills.

Society contains different levels of engagement from physical working to mentally involved engagements, such as construction or negotiation. Society also contains a diversity of activities, from the domestic activities of cooking and cleaning to the societal ones of driving a bus, serving tables, managing a company or even leading a government. Knowledge and skills related to so many aspects of engagement all cannot be taught to each individual student at school. Nevertheless, a glimpse of basic information related with social engagements, which are to be portrayed in a systematically organized framework, should be introduced through education so as to familiarize students with what they may encounter outside school. Connections exist between knowledge and knowledge, between skills and skills, and between knowledge and skills. Therefore, assisting students to find their own proper way to weave a knowledge-skill web can be helpful for their future knowledge and skill acquisition and application.

On the other hand, due to students' individual differences in characteristics and personalities, some of them are good at acquiring knowledge simply through mental exercises such as reading, thinking, conceptualization, and theorization. However, others may be inclined to acquire knowledge through hands-on experiences. I believe that Dewey's proposal of "the other side of life" opens the window for students who are less able to learn solely through mental exercises, but more through practical engagement. As one who favored hands-on learning, I found that my elementary manual labor class proved the value of including "the other side of life."

Among many subjects at elementary school, the most appealing one was Mrs. Huang's manual labor class. The manual labor subject was designed to show students the skills of living everyday life and to develop their appreciation for physical work. Partially due to the practical nature of the manual labor class, Mrs. Huang's approach was different from many other teachers' stuffing-duck approach. She designed the lessons with contents which satisfied my curiosity. She introduced us to knitting, sewing, cleaning, cooking, tree planting, and many other things that, as a child, I saw adults do every now and then, but was rarely asked to even try myself. Many of Mrs. Huang's lessons are very unforgettable because we were allowed to experiment with many fascinating and inspiring things. Through the manual labor class, I had opportunities to practice what I learned as theory in the classroom. At the same time, parents' assistance at home was required, in order to help us become familiar with and even master certain skills.

Take learning to cook as an example. It was in grade five when we learned how to cook fried rice. In the classroom, Mrs. Huang explained a general process of frying rice.

We discussed what kind of ingredients we would like to add to our fried rice. I always liked to watch my father cooking but he never allowed me to try for safety reasons. However, this special lesson just suited my appetite. As homework, we were asked to cook our favorite fried rice with parents' help and bring it to class the next day. As soon as I got back home, I started to steam rice and prepare the ingredients I'd like to use. I intended to surprise my parents once they got home. How did I do? The rice was not fully cooked and I added too much oil when frying it. It ended up salty and greasy, but I was still proud of myself. The next day, I still brought my failed fried rice to school to share with my classmates the food and also the experiences of cooking.

When the spring of grade five came, the manual labor class teachers initiated a cooking contest among grade five students. Five classes participated and five to six groups were organized in each class. One best group would be chosen from each class and compete with the best group from other classes. We had two weeks to design the menu and prepare for the contest. In my group, we had a thorough discussion about the menu and shared our parents' best dishes. We exchanged opinions on our cooking trials, made modifications and came up with the best way of cooking certain dishes. We then assigned everyone different tasks for the contest preparation, such as practicing cooking, purchasing ingredients and preparing cooking gadgets.

Although my group did not win in the final, I appreciated the opportunities given and had an understanding of the importance of preparation. As well, I have grown a love for cooking since then. Whenever the practical experiences are offered, students often find for themselves useful things. Through this process, each individual student may, more or less, discover different things and come to different realizations. Nevertheless, it

adds bricks to their walls of knowledge, which are built up through experiential learning in order to prepare them for a more unpredictable future. As indicated by Kincheloe (1995), not relating the social context in which education takes place with the materials students learn causes the alienation students feel towards those materials. Therefore, Dewey's "other side of life," will make a difference for students' experiential learning and assist them with the building of the walls of knowledge.

Through many ways, school can include "the other side of life." With the rapid evolution of science and technology which pushes social development, transforms the occupational environment, changes people's lifestyles, and quickens the pace of living, educators endeavor to prepare students with knowledge and skills that not only help them to adapt to society but also enable them to transform society into a better environment for their own growth. In this case, one beneficial approach would be that generally seen in developing vocationalism – integrating academic and vocational education – which has been increasingly taken on in both academic oriented teaching and in technical and vocational training programs.

Integration of Vocational and Academic Education: a Necessity and a Trend

In his article *The New Vocationalism*, Grubb (1996) asserts that "vocationalism is rampant once again." He continues: "the claims that schooling ought to better prepare workers for the 21st century have become increasingly strident" (p. 535). Because "pedagogy, culture and society are interrelated" (Alexander, as cited in Hartley, 2003, p. 88), with influences from the development of science and technology, from the needs of the business world and the labor market, and from various requirements of many other

educational stakeholders, educators, based on an increasing appreciation towards the importance of bringing together knowledge acquisition and practice, endeavor to make use of the most suitable approaches for imparting knowledge and to teach the best to the students in order to cultivate in them the capabilities of dealing with the complicated world outside school.

The 21st century societal progress bares a feature which is termed 'knowledge-based economy.' According to Farrell (2001), although the phrase has become somewhat of a cliché, which implies economic activity relies on knowledge for the first time in history, as a matter of fact, "knowledge is, and always has been critical in maintenance and growth of individual organizations, and local and global economies" (p. 205). The case we see today is that scientific knowledge in particular is "central to most aspects of economic production, political regulation and most spheres of social and cultural life (Delanty, in Guile, 2002, p. 253). The role of knowledge as "a principle driver of growth" and of "the information and communication revolution" has become more and more important. Correspondingly, the role of education also turns to be more influential (Salmi, as cited in Davis, Evans, & Hickey, 2006, p. 233-234).

As regards the relationship between the knowledge-based economy and its influence towards education, Fenwick (2006) says:

> As policy rhetoric continues to spin the 'knowledge economy' and urgently demand lifelong learning of all workers who don't want to be left behind, schools have been pressured to prepare workers to be better adapted for this so-called new economy. . . . The focus is upon increasing the individual's skills and competencies – the supposed intellectual capital of a nation – both to enhance

each person's employability in an uncertain and rapidly changing labor market, and to improve individuals' and thus national productivity and overall competitiveness. (p. 453-454)

On the other hand, a negative phenomenon is noted: "public school curricula has responded by incorporating non-critical entrepreneurial education, 'employability skills' listed by business agencies, new illiteracies and continuous learning skills supposedly required of 21st century workers" (Talyor, as cited in Fenwick, 2006, p. 454). For better or worse, the knowledge-based economy has certainly built a platform upon which the links between school-based and work-based learning and application are to be established and systemized. There is also a "redistribution of learning requirements" which put an emphasis on "the importance of basic academic skills as the foundation for being able to learn and to perform the tasks expected in the emerging occupations as well as in many of the traditional occupations" (Herr, as cited in Lankard, 1996, p. 4). Having said that, the developmental needs of the 21st century societies then tie the academic oriented learning with the vocational aspects of education even more closely: integrating vocational and academic education has become a necessity. As analyzed in the previous chapter, the two share theoretical and practical features. They are thus expected to go hand in hand towards a more ideal educational result for individual students. Moreover, various forms of vocationalism discussed in the previous chapter have demonstrated, to a certain degree, an inclination to integrate vocational and academic education.

The vocational-and-academic-integration approach discussed in various books and articles appears to me as *new blood* to the contemporary educational practice. Hyslop-Margison and Naseem (2007) and Kincheloe (1995) share a similar point of view

that the integration endeavors serve the purpose of educating students to become entities who can not only adapt well to the society they will face in the future, but also engage in improving the living and working environment for their own good. My view of the vocational and academic integration as *new blood* is not because such an approach was something never seen in the past,[18] rather, it is that there has emerged a variety of new forms of integration, keeping pace with societal change, and with the scientific and technological developments, serving the purpose of preparing the students to meet these challenges and enabling them to deal with the complexities that they may encounter outside of schools, which, according to Brown (1998), is especially significant for academically disadvantaged students.

Many educators believe that an integration of vocational and academic education will prepare secondary school graduates for the challenges that may arise at their workplace (Penn & Williams, 1996). However, Baily (as cited in Hoachlander, 1999) points out that integration is not necessarily only for non-college-bound students, because on behalf of students who are successful at college preparation, integration can also solidify and deepen their understanding of academic subjects and their utility. Vocational and academic educational integration is more than accommodating students' vocational and academic learning behind classroom doors. Most importantly, it offers students opportunities to learn academic knowledge in connection with job-specific matters (Lankard, 1996). In Cutshall's (2003) article *The Core Connection – CTE and Academics: a Perfect Fit*, she demonstrates many educators' viewpoints towards how integration affects students and teachers. For example, Lipton (as cited in Cutshall, 2003) suggests "most important is that students see the relevance of academic subjects and understand

[18] A prominent example of integration from the past would be Dewey's "the other side of life."

how these skills are applicable in the real world" (p. 19). Bouchillon's (as cited in Cutshall, 2003) opinion is that when the "real world-real life" context is integrated with applied technology, it can bridge classroom learning and motivate students with self-responsibility (p. 20). Lastly, Cutshall (2003) demonstrates Wilson's point of view that integration creates a win-win situation in that integrated activities help students to figure 'Why do we need to learn this stuff?' and "teachers can learn from each other by sharing lessons, facilities and equipment" (p. 21). It builds a linkage between knowledge acquisition in the classroom and its application in the workplace, the result of which makes contextualized learning available so as to motivate students' learning, enhance the skills and knowledge they acquire, promote their abilities of transferring knowledge, and empower them to make good use of objective realities to facilitate their work.

Dewey (1916/1997) claims that the "teacher should be occupied not with subject matter in itself but in its interaction with the pupil's present needs and capacities" (p. 183). With integrating academic learning and vocational experiences, teachers shall step out of the monotonous process of instilling theorized knowledge. They could also be expected to evaluate students from a more holistic perspective so as to be sensitive to their real needs and help them overcome incompetence. As indicated by Kincheloe (1995),

> the call for the integration of academic and vocational education . . . offers a rare passageway in the educational time-space continuum. It is a window that may take us to a new dimension of pedagogical thinking and classroom practice. (p. x)

In Bode's point of view (as cited in Zuga, 1992), the school is "transformed into a place where pupils go, not primarily to acquire knowledge, but to carry on a way of life" (p. 50).

In the previous chapter I made the point that from an individual perspective, vocationalism is like a thread connecting one's experiences and growth in education, occupation and livelihood, while from a perspective of education in general, vocationalism changes the pedagogies, revolutionizes the school-to-work relations, and enriches people's understanding of skills, knowledge, and their relationship with competencies. When I am immersed in the vocationalism-related literature produced within the last decade, I come to an understanding that, although they are presented in various forms and target students of different age groups, a good number of contemporary educational initiatives and reforms encompass a workable approach of integrating vocational and academic education. These various forms of vocational and academic integration are what I shall present in the following section.

Forms of Integration and Some Examples

I have discussed the necessity of integrating vocational and academic aspects of education as today's societal development requires. I have also pointed out that this is a trend which educators follow in order to teach the best to their students and to prepare them for a complicated future. Now before I start to demonstrate how vocational and academic education is integrated in practice, I would like to first clarify the notion of integration.

Different colors can be integrated to create a new one, such as blue and yellow making green, or red and white making pink. Curry is made from an integration of assorted spices. Various musical instruments are used to perform a symphony, which is also a form of integration. Economic conditions may compel two or more companies to

integrate in order to capitalize on the potential for greater profits. With the contemporary development of globalization, two or more subcultures in a nation may integrate to meet challenges and seek understandings. The act of integrating A and B is physically putting them together or abstractly combining their functions. Its purpose is as simple as forming a new co-existent unit. Or else, the newly formed co-existence of A and B enhances individual capacities and/or allows for the development of new ones. With respect to the integration of vocational and academic education, the objective is to facilitate the attainment of a better educational result.

In the previous chapter, I explained the existence of the academic and vocational division within the educational system, as a result of the social division between mental and manual labor and between knowledge and practice. It is claimed that, of all education systems, academic/vocational divisions are a basic structural feature which represent social hierarchy. Young (1993a) wrote,

> even in what are among the most egalitarian education systems in the world, there is evidence of profound resistance to weakening the distinctiveness of the academic (or general education) route, or changing its traditional role in the process of social selection in preparing students for university. (p. 212)

The good news is that while the status of divisions has been maintained for as long as it needs to or is compelled to, various approaches are underway to discover the best out of the 'teamwork' between academic and vocational education. Integrating vocational and academic education is, however, by no means to negate the distinctiveness of the two, but to make good use of their individual distinctiveness as well as establish collaborative

advantages. Thus, their successful co-existence within the current educational system could improve educational efforts and better help individual students.

Despite the fact that discussions of integrating vocational and academic education have typically been around the reform of vocational education (Kincheloe, 1995), it can, as a matter of fact, be implemented at a range of educational levels from elementary school to post-secondary institutions. It can also take place in various contexts of school-based learning such as classroom instruction, or of work-based learning that is as simple as a field trip or as complicated as cooperative education. Many examples are demonstrated in the literature on the subject of improving an integrated education. Michael Young's (1998) "critical vocationalism" and Emery J. Hyslop-Margison's (2005) "liberalizing vocational study," discussed in the previous chapter, are also two examples of how vocational and academic integration can be approached. In Young's case, academic oriented education is the basis for the integration, which aims to enhance the 14-19 curriculum. Hyslop-Margison tends to be more concerned with integration within career oriented education, so as to prepare students on the levels of hands-on practice, ethical value and intellectual growth.

Based on the categorization of four different forms of integration provided by Hoachlander (1999), I am able to study those examples more systematically. His four forms of integration are categorized as follows:

> (1) course-level integration within the existing vocational and academic curriculum, (2) cross-curriculum integration, using horizontal and vertical alignment, (3) programmatic integration around career clusters or industry majors,

and (4) school-wide integration using academics or other strategies for thematically defining the mission of an entire school. (p. 5)

This categorization of integration is inclusive and detailed. On the other hand, it also reveals the complicated nature of putting a concept into practice. Now to answer the 'how' question, I would like to lay out examples pertaining to the four forms respectively.

Course-level integration, or intra-disciplinary integration, happens within vocational or academic curriculum, in order to help students make their own connections among the subjects. One of its approaches is incorporating more academic content into vocational curriculum, so that academic skills can aid a more successful vocational learning experience. A lot of work, therefore, is required for teachers to unveil and relate formerly neglected or unnoticed academic substances that are "embedded" (Zirkle, 2004, p. 24) in the vocational disciplines. Another approach is relating academic courses with more vocational experiences to develop what is in Grubb's (1996) term "applied academics." In this case, academic teachers can use real-life problem-based activities for students to apply academic knowledge in relevant ways and contexts (Zirkle, 2004). For example, a science teacher can explore with students how a bridge is built applying necessary mathematical or physical formula. An English language teacher can invite a person from any occupational background to converse with students about his/her day of work.

This course-level integration is correlated with teachers' pedagogical choices in improving instruction inside classroom, as it relies on the individual teacher's effort to bring academic and vocational matters together in course subject-related contexts. Relying on lecturing for classroom instruction is not enough. Teachers need to

incorporate diverse pedagogies such as modeling or project-learning to impart the educational content. Also according to Hoachlander (1999), "vocational teachers must take responsibility for directly teaching selected aspects of academic subjects, and academic teachers must commit to using work-related applications of academic concepts and skills as part of their instructional routine" (p. 5). The two approaches implemented in the course-level integration depend on individual teachers' efforts in making a difference in teaching one discipline. However, the two approaches are not limited to this form only. To a certain extent, they can also be regarded as fundamental approaches for the other three forms of integration. In the following discussion, you may recognize some examples which do incorporate these two basic approaches. Now let's move on to the second form: cross-curriculum integration.

Cross-curriculum integration, or interdisciplinary integration (Dare, 2001), is one that links multiple disciplines in both academic and vocational courses, which can enable students to see connections between knowledge and its application and to find relevancy with their lives. Hoachlander (1999) explains that

> academic and vocational teachers each map out the work planned for an upcoming semester. Then, by reordering the sequence in which particular content is taught in each course, the group defines key points where the material in one class directly complements and reinforces material in another. (p. 6)

Take Career and Technical Education (CTE) as an example. In general, Bloyd (2006) proposes that CTE should be integrated with academics as well as be integrated throughout grades K-12. His idea is similar to the concept of career education, initiated by Sidney P. Marland, who, as discussed in the previous chapter, presents a clear outlook

for career education implementation. Bloyd has not included a detailed example with his proposal. He emphasizes the career awareness that students would gain through the two-way integration, which in his word is "priceless." He also perceives two possible directions by which students may step forward:

> First, the students may challenge themselves more, pushing to achieve a goal that allows them to obtain a particular occupation. A second option may be to set a more realistic goal, whether it is work toward a different career field, or to go about obtaining the desired occupation through achieving a series of multiple goals that will eventually lead to the ultimate, desired position. (p. 49)

In their article *Academic Standards in Career and Technical Education*, Pundt, Beiter and Dolak (2007) offer an example of collaboration among academic and CTE teachers. Academic teachers as resource teachers were to design 30-minute lessons with CTE teachers. As they describe in detail,

> these lessons incorporated the math or reading anchors in a manner that related directly to the CTE lab where the lesson was taught. At the CTE lab, the academic teacher taught a short lesson on a specific anchor while the CTE teacher observed. When the academic teacher finished, he or she observed as the CTE teacher applied the anchor presented to their skill area. (p. 29)

Through the example, Pundt, Beiter and Dolak (2007) point out teachers from two divisions are all satisfied with this collaboration. As they continue "CTE teachers gain a much better understanding of math and reading anchor, while math and English teachers gain insight into how to apply math and reading anchors to CTE labs" (p. 29).

Cross-curriculum integration is to design a 'vocational plus academic' subject. This employs the advantages of necessary vocational and academic content and supports the educational progression. That teachers from different disciplinary backgrounds collaborate with each other is an emphasis of this form of integration. It also bears collaboration difficulties such as teachers seeomg the importance of the subject domain and appreciating the vocational and the academic differently. Nevertheless, its process can benefit academic teachers to find new teaching methods inspired by vocational teachers, and vocational teachers to "discover windows through which they can contextualize vocational skills with academic knowledge" (Kincheloe, 1995, p. 39).

The third form – "programmatic integration around career clusters or industry majors" – is oriented in engaging students in learning through participating in work-related environments. Within the last decade, various ways of programmatic integration have been developed along with the proposal of school-to-work transition. There are job shadowing, Tech Prep, youth apprenticeship, or cooperative education, which all tie the school and work with their own distinctiveness (Barton, 1996; Clarke & Winch, 2004; Crysdale et al., 1999; Grubb & Lazerson, 2005; Guthrie, 2003; Lehmann & Taylor, 2003; Reese, 2005). Hoachlander (1999) indicates that this is "a more ambitious approach to integration – involving more teachers, planning, coordination, and curriculum changes – and focuses on defining challenging, coherent, multi-year programs of academic and vocational instruction" (p. 8). Meanwhile, financial support is also very necessary for the success of programmatic integration.

In *Exploring the World of Work through Job Shadowing*, Susan Reese (2005) offers a detailed analysis of the idea of job shadowing and its advantages for students and

teachers. The idea of job shadowing is easy to grasp. It simply means students spend the workday as a shadow to an experienced worker to explore the job which is appealing to them by coming into contact with the workplace environment, observing the necessary skills as applied on the job, and conversing with the worker. Reese (2005) explains that "following their job shadowing experiences, the students write thank you letters to the employers, and these are then graded by their English teachers and placed in their career portfolios" (p. 23). For students, job shadowing can facilitate their learning and help with their career awareness so that they can have a more realistic picture of career pursuit. For teachers, job shadowing gives them insight into what employers need, and also allows them to update their skills and knowledge, which in turn is beneficial for students' classroom learning (p. 21-22). Job shadowing is a form of field trip which covers a broader area of school and business collaboration and has a more definite school-to-work correlation.

Tech Prep involves in-classroom learning of integrated academic/vocational courses and workplace learning with application. A whole school can be managed with a focus on technical education. However, Lehmann (2003, p. 54) presents an Albertan example which may give you an idea of how Tech Prep can be integrated in a comprehensive secondary school. As indicated by him, the Alberta example of Tech Prep targets the high achieving students. When they pursue the Tech Prep Credential, they take required credits in math and science and in non-core subjects and work experience, which focus on an occupational cluster. Students also develop "employability skills portfolios based on the list of 'generic' employability skills provided by the Conference Board of Canada" (p. 54). The Alberta Tech Prep example presents both course-level integration

and programmatic integration, and also exemplifies the importance of allowing students to take credits to evaluate their accomplishment in the integration program.

When we mention apprenticeship today, it differs from the nineteenth century apprenticeship given that in addition to working and learning with a professional on the site, one will also go through a standard and systemized learning (Clarke & Winch, 2004). Employers' participation is crucial to accomplishing the program. It basically requires coordination between the school and their business partners, to map out a scheduled process for students to take. Apprenticeship programs can include any career cluster, as long as a clearly-defined connection between school-based learning and work-based training is established. In Alberta, although the program itself is designed restrictedly to meet the needs in the trades for the shortage of skilled workers, it does support young people to gain work experience as well as obtain a secondary school diploma (Brigham & Taylor, 2006; Lehmann & Taylor, 2003).

Herman Schneider created the first cooperative (co-op) education program at the University of Cincinnati through the College of Engineering in 1906, but co-op education today has developed beyond the program of engineering (Jones & Quick, 2007). It is involved in the programs such as arts, medicine, technology, and business. Co-op education is one that takes into consideration a student's career goal, integrates career cluster knowledge with classroom instruction, and involves training in the workforce (Barton, 1996; Drysdale et al., 2007). It has mostly been associated with vocational education. However, its implementation is seen in both college and secondary school programs. In secondary school, no matter whether they are college-bound or academically disadvantaged, students can all join the program to earn credits and/or

explore careers of interest. As indicated by Crysdale and colleagues (1999), "advanced-level students, then, typically take a single academic co-op credit, while non-university-bound students link multiple co-op credits to work-related credits in technology or business" (p. 58). Positive feedback from students are that these programs are "more connected with their disciplines," "more connected with the people who are working in their chosen field" and provide richer experiences than simply learning in the classroom (Jones & Quick, 2007, p. 30). In order to create new ideas and resources, co-op education requires "investment of time and resources" and "collaboration and dedication" in the cooperative community (Haskell, 2003, p. 2). Similar to the other means of programmatic integration, well-organized teamwork between the educational institutions (including administrative staff and teachers) and their co-op partners from the workforce is crucial.

Programmatic integration contains many ways through which school and partners from the workforce can work together to provide students a learning context which is affordable and may be most suitable for exploring certain careers. It is no doubt that programmatic integration requires efforts from many educational stakeholders, especially educators and those from the workforce. It may also take a very long period of time and a great deal of resources for planning and achieving efficiency. Nevertheless, it offers a way out for educational institutions to prepare future employees who have not only job-specific skills but also generic skills. These employees are also expected to be experienced in dealing with their jobs and be ready to meet the challenges.

The last form of integration is school-wide integration, which, according to Hoachlander (1999), is "the most challenging and demanding form which creates an academy or entire secondary school organized around a major industry or career area" (p.

7). This takes the form of specialized vocational institutions which can provide students with rich resources and concentrated training. Although generally vocational education per se is disdained for its focus on skill training, with enhanced academic skills being integrated with the well-defined occupational objectives and competencies, school-wide institutional integration can make a difference in vocational education as a whole. As mentioned earlier, Tech Prep can be managed on a school level. Hoachlander (1999) gives some examples of rigorous schools in New York City representing school-wide integration: Aviation Secondary school, the Murray Bergtraum School of Business and Commerce, and the New York Secondary school for the Performing Arts (p.7). Even though this integration covers a school-wide effort in terms of administration, school to associated business cooperation, facility supplying, and instructors' occupational expertise, a vocational and academic integrated school-based learning is a necessary start.

2. Proposal for vocational and academic integration in China's secondary schools

> The new generation of graduates cannot simply be introduced to various knowledge domains, no matter how deep this goes. For their employability and position in society they need to be able to apply knowledge in a specific context. . . . On the contrary, the complexity of work is increasing faster and faster and a solid knowledge base is required by every citizen. There is great pressure for more students to reach higher levels of education. (Weigel, Mulder, & Collins, 2007, p. 65)

It is the intention of this thesis to find possibilities of improving the secondary school education in China by means of integrating vocational and academic education, as well as to discuss how such integration can be achieved to enrich students' educational experiences, and benefit especially academically disadvantaged students. Gao and Xiong (1988) suggest that "secondary school education is the intermediate link in the whole

school system. The state of secondary school education influences the quality of higher education and affects the development of the national economy and the co-ordination of social life" (p. 55). Due to an over-emphasis on the significance of evaluating students through *gaokao* achievement in China, the secondary school students' educational experiences are abstract and restricted to academic subjects. The occupational prospects provided for students are also limited, especially for those who perform poorly but still linger on the academic track.

As discussed in chapter four, the development of contemporary secondary school education in China has been influenced by various historical factors. They are the Confucian ideology, the civil service examination tradition, and the incorporation of Deweyism, Marxism and Maoism at different stages of societal development. These factors have more or less affected current educational policies and practices. They have some bearing on the structure of the education system, the way the system is maintained, the pedagogical choices of teachers, and the pressures from parents towards educational practices. All factors added together contribute to the foundations of the prevalent *gaokao* system, which relies on examination-related means to teach and evaluate students.

More than two decades ago, Barton (as cited in Marshall, 1997) claimed that, in the United States, "more non-college bound secondary school graduates are left to sink or swim – without advice or career counseling and without any job placement assistance" (p. 197). This statement mirrors what secondary school students are facing in China today. The development of the *gaokao* system binds students very tightly to textbook learning, which is imparted in a way that, by and large, disconnects daily life and overlooks the significance of students' experiential growth and how it may be associated with their

future career pursuits. Nevertheless, with the current educational reform that promotes *suzhi* education, a path has been opened for improving students' learning experiences and cultivating future citizens who have more to offer than test skills.

Suzhi education reform endeavors to cover various aspects of education, which has been illustrated in chapter four. In line with Unger's (1984) argument that "reforms to the structure of schooling . . . will not succeed if they do not address students' hopes to climb into desired careers" (p. 99), it is my proposal here to take *suzhi* education reform as a breakthrough point to seek vocational and academic integration in general secondary school, and to develop a vocationalism that is compatible with Chinese culture and the pace of China's social and economic development. As Bishop and Mane (2005) suggest, in the United States,

> at least 40% of youth seek full-time work immediately after secondary school and never complete even a single year of post-secondary education. For these students secondary school is going to be their last chance to develop occupational skills that can help them compete for good jobs. (p. 172)

This is exactly the awareness that educators in China need to attain. *Gaokao* does send many academically well-performing students to universities and colleges for professional study. However, not every secondary school graduate is eligible for, nor can afford higher education. Despite this, those students are still trying to get into higher education, as long as there exists the slimmest opportunity. This leads to awkwardness: after going through a concentrated test preparation, students who fail *gaokao* may be disadvantaged at facing vocational opportunities and encounter obstacles in the workplace. Since *suzhi* education is to prepare future citizens with all-round competencies to deal with work and life, a

vocationalism approach of vocational and academic integration is expected to facilitate such an aim.

Various issues need to be addressed before putting the integration into practice. These issues start with changing educators' and parents' mindsets on considering test scores as the most valid way of evaluating students, and adopting more criteria than simply relying on the *gaokao* results for determining university enrollment. It is important that the two aspects take place simultaneously, in order to avoid failures on either side. For example, if secondary school teachers endeavor to incorporate some vocational knowledge and experiences to facilitate their classroom instruction on academic subjects, whereas *gaokao* is the guideline in evaluation that supersedes any other personal achievements by academic achievement, these teachers will be disheartened, and they most likely will have to concentrate on a more academically oriented instruction to better prepare students to meet *gaokao*'s standards. Nonetheless, *gaokao*'s status cannot be expected to be overthrown overnight. It is also an improper attempt to completely eliminate *gaokao*'s evaluative function for deciding university enrollment. Due to the deep-rooted Confucian ideology and the civil service examination tradition, the society, especially the individual families, have taken test results for granted as an indispensible measure of assessing their children's educational achievement.

On top of these traditional influences, new measures can be tried out in small steps, to reform the confined concepts and ways of evaluating university enrollment qualification. For example, by fulfilling integrated courses or programs, students are allowed to collect credits which can be used as a supplementary evaluation for university enrollment. In the previous chapter, I discussed the integration examples of Tech Prep

(Lehmann & Taylor, 2003) and cooperative education (Crysdale et al., 1999) explaining the usage of credits. These are the examples that the *gaokao* system can experiment with. During the early twentieth century Deweyan influence in China, the credit system was used for evaluating students' achievement. This history may offer contemporary educators lessons of success and failure in adopting the credit system. Unless the learning result from taking an integrated course or program is also used to evaluate students' attainment or such results becomes a criterion for university enrollment, the integrated courses or programs can hardly develop. If integrated courses or programs are treated as minor subjects, as are music and physical education, most probably they will be pushed to the corner as students move to higher grades. For this reason, the validity of the integrated courses or programs may only be found through legitimating them as evaluative means for university enrollment.

One of the issues has to do with the academic and vocational division, and the bias towards vocational education that is fostered by such a division. In China's secondary schools, the endeavor to integrate academic education with vocational has to fight to minimize such bias. As long as vocational education is still viewed as inferior to academic education, or as long as it is considered as one last alternative to fall back on if one's education is to continue, the integration approaches will find great resistance, because vocational learning may be seen to cause distractions on the academic track. When the academic/vocational division is efficiently bridged, students would be expected to make more sense of secondary school learning. It would also help to draw on Dewey's point of view that all education is to a vocational end. While studying in secondary school creates opportunities for many students to further pursue a more professionalized

learning in higher education, the reality in China is that no matter how university enrollment numbers are annually enlarged by the government, secondary school graduates still outnumber the enrollment necessities. No matter if graduating from universities or from secondary schools, students carry mostly what they have learned at school to join the workforce. With this in view, applying integrated courses or programs in secondary school would introduce workplace conditions and enrich learning experiences for all students, but especially for those who may be cut out of the university enrollment line. According to Kincheloe (1995), "with the integration of academic and vocational education everyone, in a sense, would take vocational education" (p. 41). Therefore, the students' transition to the workforce would be eased.

Another issue relates to the collaborations among the educational stakeholders. As pointed out in the previous chapter, depending on differences in form and feature, academic and vocational integration requires different levels of well-organized collaborations of schools, families, business partners, and the community. Hence, with the help of collaboration, integration would be successful, and, most importantly, it would last. Collaboration is a complicated issue. Like the cogs in a gear box, if any portion is broken, it holds back the whole process, and even causes problems. Collaboration requires participants to constantly communicate and to achieve mutual understanding. If all participants aim at facilitating students' academic advancement and career exploration, and at making education a meaningful and gainful process for students, collaboration will then have a solid basis and be directional. China has already seen an example of collaboration between schools and employers in the Special

Economic Zones (SEZs).[19] As indicated by Hawkins and Koppel (1991), secondary school reform has focused on introducing more vocational-technical courses in most SEZs. In central China where vocational-technical education is only school-based, "linkages have been formed with employers in SEZs to provide hands-on instruction and ease the transition from school to work" (p. 181). Until now, I have drawn your attention to several conceptual and systematical issues regarding China's education. It is important to be aware of, and even to manage to reduce the negative effects caused by, these issues, so as to remove barriers to vocational and academic integration.

At the outset of this research, I planned, based on a review of literature, to discuss, on a pedagogical level, what the approaches are of integrating vocational and academic education. Just as maintained by Woodhead (2002) that education depends on the individual teacher who makes the difference, I intended to explore the pedagogical approaches that individual teachers use in classrooms to teach to integrate the academic and the vocational, so that there are examples for China's secondary school teachers to learn from in order to substitute the stuffed-duck teaching method with one that engages and inspires all students as well as enriches their learning experiences and attainments. As my research progressed, I gradually came in touch with the concept of vocationalism, and got to know various means that develop vocationalism and the attempt to bridge the gap between school learning and workplace application by means of vocationalism. When associating vocational and academic integration with the development of vocationalism, an implication is that simply adopting useful pedagogies is far from

[19] The Special Economic Zone, founded in the early 1980s, is a designation of some cities, which open up to the outside world as well as enjoy special economic policies to promote the economy and explore new and efficient ways of cooperation. In the initial establishment, five cities in Southern China were included. They are Shenzhen, Zhuhai, Shantou, Xiamen, and Hainan.

enough if we want to better enable students to face and handle complexities of living and working in the future. Most importantly, Grubb and Lazerson (2004; 2005) have pointed out that as there are varieties of welfare and capitalism, there are varieties of vocationalism. They have also analyzed the American style of vocationalism as having been approached from formal education rather than from any other institutions. Based on my understanding of Grubb and Lazerson's viewpoints, I have come to realize that by means of exploring vocational and academic integration, China's secondary schools need also to promote a vocationalism as an expanded educational system that takes into consideration students' career aspirations, families' expectations, and workforce requirements; that is adaptable to the educational system structure; and that keeps pace with social and economic development. In turn, this vocationalism will also be expected to advance the practice of vocational and academic integration.

With respect to my proposal for vocational and academic integration in China's secondary school, I would still like to start with my viewpoint of adopting pedagogies which facilitate vocational and academic integration in the classroom. As I see it, regarding the various pedagogical integration examples, what has been analyzed in the previous section on the topic of course-level integration and cross-curriculum integration are many but not all useful references. In relation to one discipline, teachers can try to identify its connections with other academic and/or vocational disciplines, and demonstrate to students such connections through instruction or other forms of teaching. It is going to be hard work for individual teachers to accomplish. Nevertheless, it appears to me that this will be a rewarding endeavor, in that to use a proper instructional approach that not only presents content of the discipline but also its broader connections with other

disciplines and societal aspects, means that students' learning experiences and outcomes are likely to improve. Instead of dragging students through page after page of printed texts, I would assume that, through course-level or cross-curriculum integration, teaching would present students with knowledge that stands out of textbooks and interacts with students, which will be a start for secondary students to engage in active and meaningful learning. On the other hand, academic teachers can refer to useful instructional approaches for vocational education, such as project-based learning, problem-solving, "constitutive understanding," or a Freirean approach of making students political participants, as discussed in the previous chapter. The idea is to consider academic disciplines as vocational and to allow students to learn by practice but not solely by memorization.

Besides learning from various examples of pedagogical integration, the issues of flexibility and contextualized teaching appear to be important. Teaching with flexibility is, as I see it, pertaining to the use of academic and vocational integration pedagogies. According to Ertl (2005), the issue of flexibility is also a current concern in most European vocational education and training systems. Three concepts of flexibility have been identified in the book *Shaping Flexibility in Vocational Education and Training*: "input flexibility (responsiveness to changing skill demands), throughput flexibility (responsiveness to individual needs of trainees), and output flexibility (transferability of skills and mobility of trainees)" (Nijhof, Heikkinen, Nieuwenhuis, as cited in Ertl, 2005, p. 273). Young (1998; 1993b) suggests that, as a curriculum term, flexibility refers to individual students' opportunity "to make choices and combine different kinds of learning in new ways" (p. 57; p. 74). Based on discussing my teaching experiences, I

have mentioned in chapter two that flexibility becomes my own theory of teaching, as I found it is necessary to design a flexible teaching plan in considering requirements of individual classes so as to meet students' needs. This understanding of flexibility indicates that the issue can be applied from different perspectives. Nevertheless, in connection with the vocational and academic integration on a pedagogical level, the issue of flexibility is similar to the concept of "throughput flexibility." As I see it, first and foremost, flexibility demands the teacher's particular familiarity with the discipline, so that he/she has a resource to be flexible with. It requires the teacher's ability to cope with students who are from various social backgrounds and have great diversity in learning styles. It also involves pedagogical responsiveness to individual students' desires, needs and motivations. Research has indicated that effective teachers recognize individual students' differences in learning and adjust teaching to meet diversities in style (Smith, 2006). As a result, a student will develop competency and individuality corresponding to his/her own desire, motivation and learning style. Although Woodhead (2002) proposes a return to the traditional way of teaching by suggesting that "the belief that teachers must cater for individual needs (let alone adapt their pedagogy to a pupil's favored 'learning style' or 'dominant intelligence') is a dangerous nonsense" and further claims that "whole class teaching is only possible when pupils have a firm grip on the concepts needed to make sense of whatever it is that is being taught" (p. 79), I consider teaching with flexibility a valuable endeavor. As I see it, when teaching a whole class, there will be students who have already surpassed the stage of trying to firmly grasp certain concepts while others are still managing to understand those concepts. This then is where flexible teaching can come into play, so that all students are helped to make improvement at their

own pace. Vocational and academic integration will require students to acquire a broader range of knowledge and skills. For this reason, teaching with flexibility can seek to satisfy every student's need so as to promote learning.

Based on integration examples discussed in the previous section, it also occurs to me that any teacher who chooses pedagogies that facilitates vocational and academic integration should incorporate a contextualized teaching. School-based learning is mainly concerned with memorization and reconstruction of verbal and abstract knowledge, whereas work-based learning emphasizes experiential growth and accumulation of experiential knowledge, which, as indicated by De Jong, Wierstra, and Hermanussen (2006), relies on more hands-on approaches, such as "learning by doing," "following instructions and assignments," and "experimenting and making sense of experience" (p. 168). It is the work-based learning that relates closely to the context in which experiences are carried on, and that provides learning with more context-specific meaning. If school-based and work-based learning are to be integrated, context shall continue to play an indispensable role, in that it presents circumstantial conditions, in which material and informational resources are situated, and through which acquiring knowledge as well as being familiar with its application becomes more attainable. The idea of contextualized teaching also echoes what has been emphasized by Deweyism and Maoism with respect to the importance of experience in learning and the connection between school and society.

Many educators have recognized the significance of associating learning with context. Lum's (2003) "constitutive understanding" indicates that people's understandings of practice are constituted in particular contexts, which is also important

for shaping understandings. Dare (2001) argues "learning is enhanced as learners process new information or knowledge within their frame of reference and that the mind naturally seeks meaning in context by searching for relationships that make sense and appear useful" (p. 85). Similarly, as regards many other aspects such as direct experience, learning by doing and teamwork, Griffey and Claxton (as cited in Lum, 2003) claim that learning is most effective when it takes place in relevant contexts. In respect to technology education, Lewis (1999) suggests that context helps students make sense of school knowledge and work in the real world of technology. According to Eraut (as cited in Paisey & Paisey, 2007), "professional knowledge cannot be characterized in a manner that is independent of how it is learned and how it is used. It is through looking at the contexts of its acquisition and its use that its essential nature is revealed" (p. 94). With the contextualization of a learning subject, teachers take advantage of its provision in visual, experiential and situational meanings, to help students to better grasp abstract content and balance academic and vocational learning. Contextualized teaching can be applied to any subject to enrich students' learning experiences and contribute to their attainment.

Generally speaking, contextualized teaching may be approached in two ways. For one thing, through locating a context which can appropriately present subject matter and matches students' capabilities of comprehension, teachers will be able to create such context inside the classroom. In this case, engaging students in project-based learning can be a good example of contextualizing teaching, which provides students with opportunities to experience, meet challenges, discover, and learn. In another way, through means such as field trips or job shadowing, students can be introduced to real contexts, in which processes of doing things and its necessary information naturally merge. Engaging

students in certain contexts either within or outside school creates experiential encounters for them to live through, and to inspire them to discover and acquire new knowledge. Contextualization also frees students from finding abstract connections among knowledge. It is the engagement, the process of contemplation, questioning, locating answers, and finding connections in a contextualized circumstance that promotes learning. In the meantime, it is necessary to be aware that, with contextualized teaching, students are not set free to randomly experience and learn. Requirements and guidance towards acquiring intended knowledge need to be specified in order for learning to reach an expected result. Just as Dearden (1967) claims, "what we teach is intended not just to be registered, but to be kept in mind: teaching involves the deliberate equipping of a person in some way, whether in respect of knowledge, skill or settled habit" (p. 137).

Besides course-level and cross-curriculum integration, for Chinese secondary schools to develop vocationalism requires more systematic approaches of vocational and academic integration. To this point, examples of programmatic integration and school-wide integration can come into play. For instance, implementing cooperative education, apprenticeship programs or various other forms of school-to-work approaches can be considered. The idea here is that school curricula and programs should not be limited to advance students' academic competencies. Instead, more practical and vocational connections should be involved so that academically disadvantaged students can graduate. Since every year a certain percentage of secondary school graduates in China are not enrolled in higher education, their educational experiences at secondary school are crucial to their career preparation, which should be as important as the effort of preparing for *gaokao*. On the other hand, in order to achieve these broader perspectives of integration,

sound cooperation among educational stakeholders is indispensible, which requires that schools and communities create channels for expanding students' vocational experiences that are connected to their academic learning. There are examples in the earlier section as to how programmatic or school-wide integration can be put into practice.

It also appears to me that China's secondary education also needs to explore a type of vocationalism that is compatible with its educational system, since copying one or two examples is not going to help if the *gaokao* system is to adopt more engaging practices. It is essential to be able to efficiently incorporate programmatic or school-wide integration with the whole school system and to make such practice persist. A Hong Kong example given by Cheung and Wong (2006) has shown an integration approach that is different from all the other approaches discussed in the previous chapter. I purposely present this integration example here in that mainland China and Hong Kong share a similar educational background, which is an emphasis on academic achievement in mainstream subjects. Furthermore, although being a colony of Great Britain for so many years, educators and parents in Hong Kong are influenced by the same cultural tradition as that of mainland China. These similarities make the Hong Kong example a valuable lesson to learn from.

According to their example, twelve career-oriented courses are designed in relation to business studies, creative studies, information technology and logistics. According to the authors' (Cheung & Wong, 2006) explanation,

> these courses are arranged on Saturday mornings in order not to disturb students' normal classes in the weekdays. Courses are taught at the venues of the course providers and are taught by their staff. . . . The program is not mainly focused on

> training apprenticeships; but provides multifarious learning areas of interests, and students can choose in accordance with their own interests and career aspirations. It provides students with alternative routes to further their studies in areas they are interested in, and also allows students to obtain one certificate and multiple diplomas for further studies, work or both. (p. 103)

As they further indicate,

> the CODC (Career-Oriented Diversified Curriculum) is not for students who are academically less able; rather it aims to provide diversified options of curriculum at the senior secondary level that are career-oriented to help students better prepare for their future studies and working life. (p. 106)

I find this Hong Kong example a valuable lesson because of the idea of making use of Saturday morning for career development. In the mainland China secondary schools, at least those in the city I am from, it is mandatory to take academic classes on Saturdays in order to better prepare for *gaokao*. Imagine if, on Saturdays, students could take a break from academic courses and take part in preliminary vocational experiences, they might be better motivated with learning and accumulate some practical experiences. Just as Marshall (1997) maintains "all students could benefit from earlier and more systematic learning about career options" (p. 220). The encouraging perspective here is to expose students to a variety of career options for their future decision-making on what they can and are willing to do.

With my discussion of vocationalism in the previous chapter, I mention that vocationalism changes the pedagogies, revolutionizes the school-to-work relations, and enriches people's understanding of skills, knowledge and their relationship with

competencies, and I also question whether vocationalism is the right model for promoting today's education. With respect to China's *gaokao* system, I would argue that vocationalism will be the right model for promoting secondary education. Although this is on a hypothetical level presently, the functions of vocationalism is to revolutionize education and connect working life more closely with schooling so as to keep pace with developing the move to a knowledge economy. In addition, with the *suzhi* education reform as a runway, developing vocationalism, especially integrating the vocational and the academic, can expect to take off. For further research, I also believe that there is much room for studying within the classroom to find individual teachers' choices of instruction that integrate the vocational and the academic, which could be practical examples for others to learn from. I believe that, for China's educators, Whitehead's (1929) point of view on teaching is worth pondering:

> The result of teaching small parts of a large number of subjects is the passive reception of disconnected ideas, not illumined with any spark of vitality. Let the main ideas which are introduced into a child's education be few and important, and let them be thrown into every combination possible. The child should make them his own, and should understand their application here and now in the circumstances of his actual life. From the very beginning of his education the child should experience the joy of discovery. (p. 2)

At this point, my reader, I have exhausted my conceptualized suggestions for vocationalizing China's secondary schools. The next step, in my opinion, will be discovering through experiment and practice how things can work out for educating secondary students both academically and vocationally. As a result, even if a student

finds herself disadvantaged in *gaokao*, through a supplemental vocational preparation at secondary level, she can continue to look for other sparkles in her life.

References

Aguirre, A. J. (2005). The personal narrative as academic storytelling: A Chicano's search for presence and voice in academe. *International Journal of Qualitative Studies in Education, 18*(2), 147-163.

Ainsworth, J. W., & Roscigno, V. J. (2005). Stratification, school-work linkages and vocational education. *Social Forces, 84*(1), 259-286.

The American Heritage Dictionary of the English Language (4th ed.). (2000). Boston & New York: Houghton Mifflin Company.

Ananda, S., & Rabinowitz, S. (2000). *The high stakes of high-stakes testing*. (ERIC Document Reproduction Service No. ED455254).

Andreas, J. (2004). Leveling the little pagoda: The impact of college examinations, and their elimination, on rural education in China. *Comparative Education Review, 48*(1), 1-47.

Arum, R., & Shavit, Y. (1995). Secondary vocational education and the transition from school to work. *Sociology of Education, 68*, 187-204.

Barton, P. E. (1996). Cooperative education in secondary school: Promise and neglect. (ERIC Document Reproduction Service No. ED400413).

Benenson, G. (2001). The unrealized potential of everyday technology as a context for learning. *Journal of Research in Science Teaching, 38*(7), 730-745.

Bi, X. J. (2004). 素质教育与创造力的培养 (Quality education and fostering of creativity). *Sun Yatsen University Forum, 24*(4), 350-352.

Bishop, J. H., & Mane, F. (2005). Raising academic standards and vocational concentrators: Are they better off or worse off? *Education Economics, 13*(2), 171-187.

Bloyd, J. (2006). The ripple effect: An integration of CTE into K-12 curricula. *Techniques, 81*(8), 48-51.

Bonds, B. G. (2003). School-to-work experiences: Curriculum as a bridge. *American Annals of the Deaf, 148*(1), 38-48.

Boote, D. N., & Beile, P. (2005). Scholars before researchers: On the centrality of the dissertation literature review in research preparation. *Educational Researcher, 34*(6), 3-15.

Brigham, S., & Taylor, A. (2006). Youth apprenticeship programs for aboriginal youth in Canada: Smoothing the path from school to work? *Canadian Journal of Native Education, 29*(2), 165-181.

Brown, B. L. (1998). *Is vocational education making a difference for high-risk populations? Myths and realities*. Columbus, OH. ERIC Clearinghouse on Adult, Career, and Vocational Education. (ERIC Document Reproduction Service No. ED415431).

Bruce, C. S. (1994). Research students' early experiences of the dissertation literature review. *Studies in Higher Education, 19*(2), 217-230.

Bush, T., Qiang, H. Y., & Fang, J. M. (1998). Educational management in China: An overview. *Compare, 28*(2), 133-140.

Carnoy, M., & Samoff, J. (Eds.). (1990). *Education and social transition in the Third World*. Princeton, New Jersey: Princeton University Press.

Carpenter, V. (1999). *Neither objective nor neutral? Reflecting on my subjectivity throughout the research process in Takiwa school.* (ERIC Document Reproduction Service No. ED440812).

Cheung, C. K., & Wong, A. K. C. (2006). Implementation of the career-oriented curriculum (COC) in the business curriculum for senior secondary schools in Hong Kong: A pilot study. *Journal of Vocational Education and Training, 58*(1), 99-114.

Clandinin, D. J., & Connelly, F. M. (1990). Stories of experience and narrative inquiry. *Educational Researcher, 19*(5), 2-14.

Clandinin, D. J., & Connelly, F. M. (1996). Teachers' professional knowledge landscapes: Teacher stories - stories of teachers - school stories - stories of schools. *Educational Researcher, 25*(3), 24-30.

Clandinin, D. J., & Connelly, F. M. (2000). *Narrative inquiry experience and story in qualitative research*. San Francisco: Jossey-Bass Publishers.

Clandinin, D. J., Pushor, D., & Orr, A. M. (2007). Navigating sites for narrative inquiry. *Journal of Teacher Education, 58*(1), 21-35.

Clandinin, D. J., & Rosiek, J. (2007). Mapping a landscape of narrative inquiry. In D. J. Clandinin (Ed.), *Handbook of narrative inquiry: Mapping a methodology* (pp. 35-75). Thousand Oaks, California: Sage Publication.

Clark, M., Haney, W., & Madaus, G. (2000). *High stakes testing and secondary school completion*. NBETPP Statements, 1(3). Chestnut Mill, MA. National Board on Educational Testing and Public Policy. (ERIC Document Reproduction Service No. ED456139).

Clarke, L., & Winch, C. (2004). Apprenticeship and applied theoretical knowledge. *Educational Philosophy and Theory, 36*(5), 509-521.

Clothey, R. (2005). China's policies for minority nationalities in higher education: Negotiating national values and ethnic identities. *Comparative Education Review, 49*(3), 389-409.

Confucius. (1997). *The analects of Confucius* (S. Leys, Trans.). New York: W. W. Norton & Company. (Original work done in 400 B. C.).

Conle, C. (2000). Narrative inquiry: Research tool and medium for professional development. *European Journal of Teacher Education, 23*(1), 49-63.

Conle, C. (2001). The rationality of narrative inquiry in research and professional development. *European Journal of Teacher Education, 24*(1), 21-33.

Connelly, R., & Zheng, Z. Z. (2003). Determinants of school environment and completion of 10 to 18 year olds in China. *Economics of Education Review, 22*, 379-388.

Cooney, W., Cross, C., & Trunk, B. (1993). *From Plato to Piaget: The greatest educational theorists from across the centuries and around the world*. Lanham: University Press of American, Inc.

Coulter, R. P., & Goodson, I. F. (Eds.). (1993). *Rethinking vocationalism: Whose work/life is it?* Montreal, Quebec: La Maitresse D'ecole inc.

Crysdale, S., King, A. J. C., & Mandell, N. (1999). *On their own? Making the transition from school to work in the information age*. Montreal & Kingston: McGill-Queen's University Press.

Cutshall, S. (2003). The core connection - CTE and academics: A perfect fit. *Techniques, 78*(6), 18-21.

Dare, D. E. (2001). Learner-centered instructional practices supporting the new vocationalism. *New Directions for Community Colleges,* (115), 81-91.

Davin, D. (1991). The early childhood education of the only child generation in urban China. In I. Epstein (Ed.), *Chinese education problems, policies, and prospects* (pp. 42-65). New York: Garland Publishing, Inc.

Davis, A. (2006). High stakes testing and the structure of mind: A reply to Randall Curren. *Journal of Philosophy of Education, 40*(1), 1-16.

Davis, H., Evans, T., & Hickey, C. (2006). A knowledge-based economy landscape: Implications for tertiary education and research training in Australia. *Journal of Higher Education Policy and Management, 28*(3), 231-244.

De Jong, J. A. S., Wierstra, R. F. A., & Hermanussen, J. (2006). An exploration of the relationship between academic and experiential learning approaches in vocational education. *British Journal of Educational Psychology,* (76), 155-169.

Dearden, R. F. (1967). Instruction and learning by discovery. In R. S. Peters (Ed.), *The concept of education* (pp. 135-155). London: Routledge & Kegan Paul.

Delpit, L. (2003). 2003 Dewitt Wallace-Reader's Digest distinguished lecture educators as "seed people" growing a new future. *Educational Researcher, 7*(32), 14-21.

DesRoches, S. (2007). Review of liberalizing vocational study: Democratic approaches to career education. *Paideusis, 16*(1), 67-68.

DeVillier, P. W. (2003). High-stakes testing - Florida comprehensive assessment test: A true measure of acquired skills or a political ruse? (ERIC Document Reproduction Service No. ED479335).

Dewey, J. (1938). *Experience and education*. New York: Collier Books Inc.

Dewey, J. (1964). The school and society (in 1899). In R. D. Archambault (Ed.), *John Dewey on education: selected writings* (pp. 295-310). New York: The Modern Library.

Dewey, J. (1997). *Democracy and education*. New York: The Free Press.

Diehl, W., Alex, H., & Weisstein, E. (2002). At the center or the margin: Massachusetts' experience under the school-to-work opportunities act. *Phi Delta Kappan, 84*(4), 280-288.

Drysdale, M., Goyder, J., Nosko, A., Easton, M., Frank, K., & Rowe, P. (2007). The role of co-op in the transition from secondary school to post-secondary education. *Journal of Cooperative Education and Internships, 41*(1), 48-55.

Dugger, W. E.,Jr, Meade, S. D., Delany, L., & Nichols, C. (2003). Advancing excellence in technological literacy. *Phi Delta Kappan, 85*(4), 316-320.

Ediger, M. (2000). *High stakes testing and student achievement.* (ERIC Document Reproduction Service No. ED447193).

Ediger, M. (2001). *Assessment and high stakes testing.* (ERIC Document Reproduction Service No. ED449234).

Emad, G., & Roth, W. (2008). *Creating productive vocational education policy (CSSE proposal).* Retrieved April, 16, 2008, from http://ocs.sfu.ca/fedcan/index.php/csse/csse2008/paper/view/306/21

Ertl, H. (2005). Book review: *Shaping flexibility in vocational education and training* edited by W. J. Nijhof, A. Heikkinen, & L. F. M. Nieuwenhuis. *Comparative Education Review, May*, 273-275.

Fang, L., & Song, G. F. (2004). 走出误区实施素质教育- 关于当前素质教育的思考 (Step out of the misleading zone of quality education - thoughts on practice of current quality education). *Forum of Vocational Education (in Chinese), June*, 51-52.

Farrell, L. (2001). Negotiating knowledge in the knowledge economy: Workplace educators and the politics of codification. *Studies in Continuing Education, 23*(2), 201-214.

Feirer, J. L., & Lindbeck, J. R. (1964). *Industrial arts education*. Washington, D. C.: Center for Applied Research in Education, Inc.

Feng, J. (1989). *A re-examination of John Dewey and education.* (ERIC Document Reproduction Service No. ED325448).

Fenwick, T. (2006). Work, learning and education in the knowledge economy: A working-class perspective. *Curriculum Inquiry, 36*(4), 453-466.

Finlay, I., Hodgson, A., & Steer, R. (2007). Flowers in the desert: The impact of policy on basic skills provision in the workplace. *Journal of Vocational Education and Training, 59*(2), 231-248.

Foster, P. N. (1994). Technology education: AKA industrial arts. *Journal of Technology Education, 5*(2), 15-30.

Foster, P. N. (1995a). Industrial Arts/Technology education as a social study: The original intent? *Journal of Technology Education, 6*(2), 4-18.

Foster, P. N. (1995b). The founders of industrial arts in the U.S. *Journal of Technology Education, 7*(1), 6-21.

Fouts, J. T., & Chan, J. C. K. (1995). Confucius, Mao and modernization: Social studies education in the People's Republic of China. *Journal of Curriculum Studies, 27*(5), 523-543.

Frank, M. (2005). A system approach for developing technological literacy. *Journal of Technology Education, 17*(1), 19-34.

Fretwell, D. (2003). A framework for evaluating vocational education and training (VET). *European Journal of Education, 38*(2), 177-190.

Gao, L. (2002). 浅谈让学生学会学习 (On teaching students to learn). *Journal of Xinjiang Education Institute, 18*(3), 57-58.

Gao, Z. Y., & Xiong, M. (1988). Structural reform in secondary school education-tendencies and strategies. *Interchange, 19*(3/4), 55-59.

Gardner, J. (1979). John Dewey as "negative example": A Chinese story. *The Journal of Educational Thought, 13*(1), 60-65.

Goldberg, M. F. (2004). The test mess. *Phi Delta Kappan, 84*(5), 361-366.

Greene, J. P., Winters, M. A., & Froster, G. (2003). *Testing high stakes tests: Can we believe the results of accountability tests? civic report.* No. CCI-R-33, Manhattan Inst., New York, NY. Center for Civic Innovation.

Grubb, W. N. (1996). The new vocationalism. *Phi Delta Kappan, 77*(8), 535-545.

Grubb, W. N., & Lazerson, M. (2004). *The education gospel. the economic power of schooling.* Cambridge, MA: Harvard University Press.

Grubb, W. N., & Lazerson, M. (2005). The education gospel and the role of vocationalism in American education. *American Journal of Education, 111*(May), 297-319.

Guile, D. (2002). Skill and work experience in the European knowledge economy. *Journal of Education and Work, 15*(3), 251-276.

Guthrie, J. W. (Ed.). (2003). *Encyclopedia of education* (2nd ed.). New York: Macmillan Reference USA & Thomson Learning.

Hallak, J. (1990). *Investing in the future. setting educational priorities in the developing world.* London: UNESCO International Institute for Educational Planning, Pergamon Press.

Hannum, E., & Wang, M. Y. (2006). Geography and educational inequality in China. *China Economic Review, 17*, 253-265.

Harding, S. (1993). Rethinking standpoint epistemology: What is "strong objectivity"? In E. Potter, & L. Alcoff (Eds.), *Feminist epistemologies* (pp. 49-82). New York: Routledge.

Hart, C. (1998). *Doing a literature review. Releasing the social science research imagination*. London: Sage.

Hartley, D. (2003). New economy, new pedagogy? *Oxford Review of Education, 29*(1), 81-94.

Haskell, J. (2003). Cooperative education can help renew and revitalize co-ops. *Rural Cooperatives, July/August*, 2.

Hawkins, J. N., & Koppel, B. (1991). Special economic zones and education in China: Bold reform or timid experiment? In I. Epstein (Ed.), *Chinese education problems, policies, and prospects* (pp. 172-195). New York: Garland Publishing, Inc.

Hayhoe, R. (1991). The tapestry of Chinese higher education. In I. Epstein (Ed.), *Chinese education problems, policies, and prospects* (pp. 145-162). New York: Garland Publishing, Inc.

Hayward, G. (2004). *Vocationalism and the decline of vocational learning in England.* Retrieved 09/03, 2007, from http://www.edstud.ox.ac.uk/masters/HigherEducation/resources/hayward_UK_bwpat7.pdf

Heijke, H., Meng, C., & Ris, C. (2003). Fitting to the job: The role of generic and vocational competencies in adjustment and performance. *Labor Economics,* (10), 215-229.

Heubert, J. P., & Hauser, R. M. (Eds.). (1999). *High stakes: Testing for tracking, promotion, and graduation*. Washington, D.C.: National Academy Press.

Hirst, P. H. (1974). *Knowledge and the curriculum: A collection of philosophical papers*. London and Boston: Routledge & Kegan Paul.

Hirst, P. H. (1993). Education, knowledge, and practices. In R. Barrow, & P. White (Eds.), *Beyond liberal education. Essays in honor of Paul Hirst* (pp. 184-197). New York: Routledge.

Hirst, P. H., & Peters, R. S. (1970). *The logic of education*. London: Routledge & Kegan Paul.

Hoachlander, G. (1999). *Integrating academic and vocational curriculum - why is theory so hard to practice?* Bekeley, CA: National Center for Research in Vocational Education.

Hodkinson, P. (1991). Liberal education and the new vocationalism: A progressive partnership? *Oxford Review of Education, 17*(1).

Hoi, K. S., & Lan, Y. (2006). Chronic consequences of high-stakes testing? Lessons from the Chinese civil service exam. *Comparative Education Review, 50*(1), 46-65.

Holsinger, D. B. (2005). Inequality in the public provision of education: Why it matters. *Comparative Education Review, 49*(3), 297-310.

Hong, K. F. (2006). *留守儿童：他们是当下中国最容易受伤害的人(Stay-home children: they are the most vulnerable people in contemporary China).* Retrieved March, 17, 2008, from http://news3.xinhuanet.com/politics/2006-05/29/content_4614922_1.htm

Hooper, B. (1991). Gender and education. In I. Epstein (Ed.), *Chinese education problems, policies, and prospects* (pp. 352-374). New York: Garland Publishing, Inc.

Hu, C. T. (1984). The historical background: Examinations and control in pre-modern China. *Comparative Education, 20*(1), 7-26.

Hu, S. H. (1997). Confucianism and western democracy. *Journal of Contemporary China, 6*(15), 347-363.

Hughes, K. L., Bailey, T. R., & Karp, M. M. (2002). School-to-work: Making a difference in education. *Phi Delta Kappan, 84*(4), 272-279.

Hulbert, A. (2007). Re-education. *The New York Times Magazine, April*, 36-43, 56, 59, 61.

Hyslop-Margison, E. J. (2005). *Liberalizing vocational study: Democratic approaches to career education*. Lanham, Maryland: University Press of America, Inc.

Hyslop-Margison, E. J., & Naseem, M. A. (2007). Career education as humanization: A Freirean approach to lifelong learning. *The Alberta Journal of Educational Research, 53*(4), 347-358.

James, C. E. (2002). Achieving desire: Narrative of a black male teacher. *Qualitative Studies in Education, 15*(2), 171-186.

Jesson, J., & Lacey, F. (2006). How to do (or not to do) a critical literature review. *Pharmacy Education, 6*(2), 139-148.

Jones, J., & Quick, D. (2007). Cooperative education: An educational strategy with links to experiential and connected learning. *Journal of Cooperative Education and Internships, 41*(2), 30-36.

Kincheloe, J. L. (1995). *Toil and trouble: Good work, smart workers, and the integration of academic and vocational education*. New York: Peter Lang.

Kipnis, A. (2002). Review work(s): *Education, culture, and identity in twentieth-century China*. *The China Journal, 48*, 234-236.

Kirkwood, J. J., Foster, P. N., & Bartow, S. M. (1994). Historical leaders in technology education philosophy. *Journal of Industrial Teacher Education, 32*(1), 6-25.

Ko, S. B. (2001). The exploration of historical-cultural perspective on behavior pattern of Chinese intellectuals. *Journal of Contemporary China, 10*(28), 533-549.

Koretz, D. M., Linn, R. L., Dunbar, S. B., & Shepard, L. A. (1991). The effects of high-stakes testing on achievement: Preliminary findings about generalization across tests. (E RIC Document Reproduction Service No. ED340730).

Lakes, R. D. (1996). The new vocationalism: Community economic development. *Journal of Industrial Teacher Education, 33*(4)

Lankard, B. A. (1996). Job training versus career development: What is voc ed's role? (ERIC Document Reproduction Service No. *ED395217*).

Lather, P. (1999). To be of use: The work of reviewing. *Review of Educational Research, 69*(1), 2-7.

Lattimore, R. (2001). The wrath of high-stakes tests. *The Urban View, 33*(1), 57-67.

Lazerson, M., & Grubb, W. N. (Eds.). (1974). *American education and vocationalism: A documentary history 1870-1970*. New York: Teachers College Press.

Lehmann, W., & Taylor, A. (2003). Giving employers what they want? New vocationalism in Alberta. *Journal of Education and Work, 16*(1), 45-67.

Lewis, A. (2000). *High stakes testing: Trends and issues. Policy brief*. Aurora, Co. Opinion paper, Mid-Continent Research for Education and Learning. (ERIC Document Reproduction Service No. ED442806).

Lewis, T. (1996). Accommodating border crossing. *Journal of Industrial Teacher Education, 33*(2)

Lewis, T. (2005). At the interface of school and work. *Journal of Philosophy of Education, 39*(3), 421-441.

Lewis, T. (1999). Research in technology education--some areas of need. *Journal of Technology Education, 10*(2), 41-56.

Li, F. (2007). A research on the professional moral conducts of teachers in China. *Frontiers of Education in China, 2*(1), 133-139.

Li, H. X. (2007). 中国传统文化在素质教育中的作用 (Chinese traditional culture's role in quality education). *Journal of Changchun University of Technology - Higher Education Study Edition (in Chinese), 28*(3), 115-117.

Li, L. Q. (2004). *Education for 1.3 billion. Former Chinese vice premier Li Lanqing on 10 years of education reform and development*. Beijing: Foreign Language Teaching and Research Press & Pearson Education.

Li, W. L. (1996). A comparative study of the Chinese educational system. *Asian Affairs, an American Review, 22*(4), 239-253.

Liang, X. (2001). *China: Challenges of secondary education. Secondary education series.* World Bank, Washington, DC. Human Development Network.

Lin, J., & Zhang, Y. (2006). Educational expansion and shortages in the secondary schools in China: The bottle neck syndrome. *Journal of Contemporary China, 15*(47), 255-274.

Liu, D. (2003). 素质教育的特征与发展途径 (The characteristics and development of quality education). *Journal of Shanxi Institute of Education (in Chinese), 19*(3), 10-12.

Liu, L. (2006). 我国素质教育的现状及反思 (Thoughts on china's quality education). *Economic and Social Development (in Chinese), 4*(3), 185-187.

Louie, K. (1984). Salvaging Confucian education (1949-1983). *Comparative Education, 20*(1), 27-38.

Lu, Y. Q., & Chi, Y. J. (2007). Educational philosophy in China: A centennial retrospect and prospect. *Frontiers of Education in China, 2*(1), 13-29.

Lum, G. (2003). Towards a richer conception of vocational preparation. *Journal of Philosophy of Education, 37*(1), 1-14.

Luo, J. L., & Wendel, F. C. (1999). Preparing for college: Senior secondary school education in China. *National Association of Secondary School Principals. NASSP Bulletin, 83*(609), 57-68.

Luo, X. (2004). Farewell to idealism: Mapping China's university students of the 1990s. *Journal of Contemporary China, 13*(41), 779-799.

Ma, G. H. (2002). *China's school kids stressed, bored.* Retrieved March 22, 2007, from http://www.atimes.com/atimes/China/DH07Ad01.html

Ma, W. N. (2007). Power restriction and policy overview in educational fairness. *Frontiers of Education in China, 2*(1), 48-62.

Marshall, R. (1997). School-to-work processes in the United States. In R. Takanishi, & D. A. Hamburg (Eds.), *Preparing adolescent for the twenty-first century challenges facing Europe and the United States* (pp. 195-226). New York: Cambridge University Press.

Marton, A. M. (2006). The cultural politics of curricular reform in China: A case study of geographical education in Shanghai. *Journal of Contemporary China, 15*(47), 233-254.

Masschelein, J., & Quaghebeur, K. (2005). Participation for better or for worse? *Journal of Philosophy of Education, 39*(1), 51-65.

Maylone, N. (2004). Test think. *Phi Delta Kappan, 5*(383), 387.

Ministry of Education. (2007). *二零零六年全国教育事业发展统计公报 (Statistics of Chinese 2006 educational development).* Retrieved March, 30, 2008, from http://www.stats.edu.cn/tjdt/tjdt20070608.htm

Mooney, P. (2007). Confucius comes back. *Chronicle of Higher Education, 53*(33)

Morrow, S. L. (2005). Quality and trustworthiness in qualitative research in counseling psychology. *Journal of Counseling Psychology, 52*(2), 250-260.

Mulder, M., Weigel, T., & Collins, K. (2007). The concept of competence in the development of vocational education and training in selected EU member states: A critical analysis. *Journal of Vocational Education and Training, 59*(1), 67-88.

National Bureau of Statistics of China. (2006). *China statistical yearbook*. Beijing: China Statistic Press.

Natriello, G., & Pallas, A. M. (1999). *The development and impact of high stakes testing.* (ERIC Document Reproduction Service No. ED443871).

Nikitina, S. (2003). Stories that stayed "under the skin". *International Journal of Qualitative Studies in Education, 16*(2), 251-265.

Nova Scotia Department of Education. (2001). *Foundation for the Atlantic Canada Technology Education Curriculum: Technology education.* Nova Scotia: Department of Education, English Program Service.

Nova Scotia Department of Education. (2003). *Entrepreneurship 12 (implementation draft).* Nova Scotia: Department of Education, English Program Service.

Noy, C. (2003). The write of passage: Reflections on writing a dissertation in narrative methodology. *Forum: Qualitative Social Research, 4*(2), 1-16.

O'Leary, Z. (2004). *The essential guide to doing research*. London: Sage Publications.

Paine, L. (1991). Reforming teachers: The organization, reproduction, and transformation of teaching. In I. Epstein (Ed.), *Chinese education problems, policies, and prospects* (pp. 217-254). New York: Garland Publishing, Inc.

Paisey, C., & Paisey, N. J. (2007). Balancing the vocational and academic dimensions of accounting education: The case for a core curriculum. *Journal of Vocational Education and Training, 59*(1), 89-105.

Patton, M. Q. (2002). *Qualitative research and evaluation methods* (3rd ed.). Thousand Oaks, California: Sage Publications.

Penn, A., & Williams, D. (1996). *Integrating academic and vocational education: A model for secondary schools.* Alexandria, Virginia: Association for Supervision and Curriculum Development.

Pepper, S. (1990). *China's education reform in the 1980s: Policies, issues, and historical perspectives*. California: Institute of Ease Asian Studies University of California at Berkeley Center for Chinese Studies.

Pepper, S. (1991). Post-Mao reforms in Chinese education: Can the ghosts of the past be laid to rest? In I. Epstein (Ed.), *Chinese education problems, policies, and prospects* (pp. 1-41). New York: Garland Publishing, Inc.

Pepper, S. (1996). *Radicalism and education reform in 20th-century china. The search for an ideal development model*. Cambridge: Cambridge University Press.

Peters, R. S. (1967). What is an educational process? In R. S. Peters (Ed.), *The concept of education* (pp. 1-23). London: Routledge & Kegan Paul.

Pinnegar, S., & Daynes, J. G. (2007). Locating narrative inquiry historically: Thematics in the turn to narrative. In D. J. Clandinin (Ed.), *Handbook of narrative inquiry: Mapping a methodology* (pp. 3-34). Thousand Oaks, California: Sage Publication.

Pring, R. (1993). Liberal education and vocational preparation. In R. Barrow, & P. White (Eds.), *Beyond liberal education. essays in honor of Paul Hirst.* (pp. 49-78). New York: Routledge.

Pundt, M. E., Beiter, M., & Dolak, N. (2007). Academic standards in career and technical education. *Techniques* (October), 28-29.

Qian, H. (2001). 素质教育与考试 (Quality education and examinations). *Journal of Liaoning Business College (in Chinese), 3*, 58-59.

Reagan, T. (2005). *Non-western educational traditions. indigenous approaches to educational thought and practice.* (3rd ed.). Mahwah, New Jersey: Lawrence Erlbaum Associates, Publishers.

Reese, S. (2005). Exploring the world of work through job shadowing. *Techniques, 80*(2), 18-23.

Romanowski, M. H. (2006). A changing nation: Issues facing Chinese teachers. *Kappa Delta Pi Record, 42*, 76-81.

Ryan, P. (2003). Evaluating vocationalism. *European Journal of Education, 38*(2), 147-162.

Ryle, G. (1949). *The concept of mind.* London: Hutchinson and Co.

Ryle, G. (1967). Teaching and training. In R. S. Peters (Ed.), *The concept of education* (pp. 105-119). London: Routledge & Kegan Paul.

Sanders, M. (2001). New paradigm or old wine? the status of technology education practice in the United States. *Journal of Technology Education, 12*(2), 35-55.

Sheringham, M. (1984). Popularization policies in Chinese education from the 1950s to the 1970s. *Comparative Education, 20*(1), 73-80.

Shirk, S. L. (1977). Integrating work and study in Chinese education. *Liberal Education, LXIII*(2), 271-283.

Shriberg, D., & Kruger, L. J. (2007). Introduction and overview: High stakes testing. *Journal of Applied School Psychology, 23*(2), 1-6.

Smith, M. L., & Fey, P. (2000). Validity and accountability in high-stakes testing. *Journal of Teacher Education, 51*(5), 334-344.

Smith, P. J. (2006). Identifying learning preferences in vocational education and training classroom settings. *Journal of Vocational Education and Training, 58*(3), 257-270.

Su, Z. X. (1995). A critical evaluation of John Dewey's influence on Chinese education. *American Journal of Education, 103*(3), 302-325.

Tang, Z. L., & Zuo, B. (1996). *Maoism and Chinese culture*. New York: Nova Science Publisher, Inc.

Tian, J. G. (2002). 素质教育新视野 (New version of quality education). *Contemporary Higher Education (in Chinese), 2*, 3-10.

Tsang, M. (2000). Education and national development in China since 1949: Oscillating policies and enduring dilemmas. *China Review,* , 1-26. Retrieved March 30, 2008 from http://www.teacherscollege.edu/centers/coce/pdf_files/d1.pdf

Unger, J. (1984). Severing the links between school performance and careers: The experience of china's urban schools, 1966-1976. *Comparative Education, 20*(1), 93-106.

US Congress, Office of Technology Assessment. (1995). Does vocational education help the "forgotten half"? Short-term economic consequences of secondary school vocational education for non-college students, 1-15.

Wang, M. M. (2006). *“叫卖高考分数”背后的体制漏洞(From selling gaokao scores to reveal the systematic defect of education).* Retrieved April 23, 2008, from http://edu.people.com.cn/BIG5/1053/4563534.html

Wang, Y. X., & Ke, X. L. (2003). A research note on China's higher education. *Journal of Contemporary China, 12*(36), 587-596.

Warhurst, C. (2008). The knowledge economy, skills and government labor market intervention. *Policy Studies, 29*(1), 71-86.

Waterkamp, D. (2002). *Disadvantaged school leavers at the threshold of school to vocational training transition, or school to work transition: Strategies in Austria, Switzerland and Germany*. (ERIC Document Reproduction Service No. ED473584)

Weigel, T., Mulder, M., & Collins, K. (2007). The concept of competence in the development of vocational education and training in selected EU member states. *Journal of Vocational Education and Training, 59*(1), 53-66.

White, J. P. (1973). *Towards a compulsory curriculum*. London: Routledge & Kegan Paul.

Whitehead, A. N. (1929). *The aims of education and other essays*. New York: The First Press.

Winchester, I. (1988). Introduction - educational reform in China and the west. *Interchange, 19*(3/4), 1-5.

Woodhead, C. (2002). *Class war*. London: Little, Brown.

Wu, J. G., & Singh, M. (2004). 'Wishing for dragon children': Ironies and contradictions in china's education reform and the Chinese Diaspora's disappointments with Australian education. *The Australian Educational Researcher, 31*(2), 29-44.

Wu, Y. H. (2002). 浅谈素质与素质教育 (On *suzhi* and *suzhi* education). *Journal of Liaoning Economic Vocational Technological Institute (in Chinese), 1*, 48-49.

Xiao, X. H. (2008) 农村教学点：一个被遗忘的角落 (Countryside educational spot: a forgotten corner). *China Society Periodical*, *10*, 26-27.

Xiao, Z. C. (2003). 当前素质教育的误区及对策 (Misunderstanding of quality education and suggestions of correction). *China's Adult Education, 2*, 28-29.

Yan, C. Q. (2007). 浅谈素质教育 (On quality education). *Science Square (in Chinese), 4*, 221-223.

Yang, D. P. (2005). China's education in 2003: From growth to reform. *Chinese Education and Society, 38*(4), 11-45.

Yang, D. P. (2006). Pursuing harmony and fairness in education. *Chinese Education and Society, 39*(6), 3-44.

Yang, D. T. (2002). What has caused regional inequality in China? *China Economic Review, 13*, 331-334.

Yao, Y. (2002). The making of a national hero: Tao Xingzhi's legacies in the people's republic of China. *The Review of Education, Pedagogy, and Cultural Studies, 24*, 251-281.

Yi, B. C., Yang, W., & Huang, Y. J. (2006). 用素质教育培养 21 世纪新人 (Foster the 21st century new generation through quality education). *Sun Yatsen University Forumen (in Chinese), 5*(163), 166.

Young, F. M. (1998). *Curriculum of the future: From the new sociology of education to a critical theory of learning*. London: Falmer.

Young, M. (1993a). Bridging the academic/vocational divide: Two Nordic case studies. *European Journal of Education, 28*(2), 209-214.

Young, M. (1993b). A curriculum for the 21st century? Towards a new basis for overcoming academic/vocational divisions. *British Journal of Educational Studies,* 41(3), 203-222.

Young, M. (1999). Knowledge, learning and the curriculum of the future. *British Educational Research Journal, 25*(4), 463-477.

Young, M. (2004). An old problem in a new context: Rethinking the relationship between sociology and educational policy. *International Studies in Sociology of Education, 14*(1), 3-20.

Young, M. (2007). Durkheim and Vygotsky's theories of knowledge and their implications for a critical educational theory. *Critical Studies in Education, 48*(1), 43-62.

Zeng, Z. (1988). A Chinese view of the educational ideas of John Dewey. *Interchange, 19*(3/4), 85-91.

Zhang, K. H., & Song, S. (2003). Rural-urban migration and urbanization in China: Evidence from time-series and cross-section analyses. *China Economic Review, 14*, 386-400.

Zhang, R. W., & Shi, X. B. (2006). Points of view at the two Congress: National people's congress deputies and Chinese people's political consultative conference members discuss education (excerpts). *Chinese Education and Society, 39*(1), 14-20.

Zhang, W., & Deng, X. Y. (2006). 城市外来民工子女义务教育问题与对策研究 - 广州市外来民工子女义务教育个案研究 (Research on compulsory education for children of migrant workers – a case study in city Guangzhou). *Journal of Yanbei Normal University, 22*(2), 105-108.

Zhou, N. Z. (1988). Historical contexts of educational reforms in present-day China. *Interchange, 19*(3/4), 8-18.

Zhu, J. J. (2004). 关于素质教育的探讨与实践 (Exploration and practice of quality education). *Journal of Xi'an University of Architecture and Technology (Social Science Edition), in Chinese, 23*(3), 69-72.

Zhu, Y. (2006). The voice of online (www.edu.cn) teachers. How much is known about the problems of Chinese education? *Chinese Education and Society, 39*(1), 51-64.

Zirkle, C. (2004). Integrating occupational and academic skills across the curriculum. *Techniques, September*, 24-26.

Zuga, K. F. (1992). Social reconstruction curriculum and technology education. *Journal of Technology Education, 3*(2), 48-58.

Zuga, K. F. (1994). *Implementing technology education: A review and synthesis of the research literature*. Columbus, Ohio: Eric Clearinghouse on Adult, Career, and Vocational Education Center on Education and Training for Employment, College of Education, the Ohio State University. (ERIC Document Reproduction Service No. ED372305)