DEVELOPING HIGHER ORDER THINKING SKILLS: CHINESE GRADUATE STUDENTS IN PROGRAMS OF SOCIAL SCIENCE, HUMANITIES, AND EDUCATION IN THE UNITED STATES

by

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(Under the Direction of John D. Hoge)

ABSTRACT

This qualitative interview study of Chinese graduate students in U.S. programs of social sciences, humanities, and education focuses on these students' perceptions of incongruities between their educational experiences in China and in the U.S..

Data were mainly collected through interviewing Chinese graduate students about their perceptions of incongruities between Chinese and U.S. programs of social sciences, humanities, and education, and through examining course syllabi and students' written assignments. Interviews were conducted in Chinese and English with participants, who were diverse in academic subjects.

The findings of the study fall into three areas: participants' perceptions of incongruities between Chinese and U.S. graduate programs, their perceptions of the challenges they faced, and their experiences of developing higher order thinking skills.

Four major types of incongruities are identified in general characteristics of the graduate programs, general classroom characteristics, teachers' behaviors, and students' behaviors. Regarding general characteristics, U.S. programs provided learners with opportunities to learn about social theories from multiple perspectives through thoughtful classrooms, courses requiring higher order thinking skills, and quantitative and qualitative research methods and projects. In terms of classroom characteristics, participants perceived differences mainly in the graduate seminars, which provided learners with an opportunity to freely discuss and reflect on readings they had completed. Regarding instructors' behaviors, instructors in U.S. programs prepared a detailed syllabus to communicate with students course requirements, goals and ways of assessment, facilitated rather than dominated the instruction, and provided academic assistance and treated students as colleagues and independent researchers. In terms of students' behaviors, students in U.S. programs were active learners who developed independently into researchers taking up challenging tasks.

Participants perceived five major types of challenges: unfamiliarity of U.S. graduate programs; lack of teaching or research experiences; inadequate language proficiency; disconnections between their experiences of teaching strategies and

assignments that require higher order thinking skills; and disconnection between experiences they had with different research questions.

All participants identified higher order thinking skills as a significant learning experience in their U.S. programs. They developed such skills through readings, classroom discussions, and completing written assignments and course projects.

These findings have implications for research and educational practices.

INDEX WORDS: Chinese students, graduate students, learning challenges, higher order thinking skills

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A Dissertation Submitted to the Graduate Faculty of the University of Georgia in Partial Fulfillment of the Requirements for the Degree

DOCTOR OF PHILOSOPHY

ATHENS, GEORGIA

2004

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DEDICATION

I dedicate this dissertation to all the participants in this study and other Chinese students in U.S. universities.

ACKNOWLEDGEMENTS

Writing the dissertation is like expecting a baby. In fact, I was expecting my second child when I was preparing this manuscript. However, this has not been a lonely process. I'm deeply grateful to my major professor, Dr. Hoge, and his wife. Without their guidance and countless hours on the drafts, this dissertation could not have been completed. I'm indebted to Dr. deMarrais, who helped me put the chapters into shape. I'd like to thank Dr. VanSickle, and Dr. Glynn for their insightful questions. Special thanks go to Dr. Hoge, Dr. deMarrais, Dr. VanSickle, Dr. Napier, Dr. Dinkelman, Dr. Wellington, Ms. McManus, Ms. Parham, and Ms. McFalls, who have always been caring and supportive, especially while I survived the surgery of a ruptured disk during my pregnancy.

I'm especially indebted to the International Student Outreach (ISO). My academic success could not be possible without my spiritual growth. I cannot appreciate enough the love from the families of Yali, May, Ouyang, Mingfang, and too many others to list here. I especially thank Dr. Joseph Strother and Earlene for their love and friendship. They are more than family. I could never have come to this program without them.

My deepest debt of gratitude also goes to my own little platoon, consisting of Fan, Hannah, my parents, my Grandma, and my brother. It is this little voluntary association that has produced the most intimate satisfying, and enduring bonds of human affection a woman could hope to possess in this life and whose daily nourishment makes my productivity possible.

TABLE OF CONTENTS

Page

LIST OF TABLES

Page

LIST OF FIGURES

Page

CHAPTER 1

INTRODUCTION

In today's information age, higher order thinking skills are viewed as crucial for educated persons in a rapidly changing world. Throughout history, educators and many others have been concerned with the art and science of thinking. Teaching students to become effective thinkers is increasingly recognized as an important goal of education in the United States (Cornbleth, 1985; Newmann, 1990a; Presseisen, 1986).

Research shows that undergraduate and graduate programs of higher education in the United States require higher order thinking skills (Callison, 2002; Halpern, 2001; Milson & Brantley, 1999). The evaluation report of the Higher Education Survey published by Saginaw Public Schools, MI., Department of Evaluation Services (1996) identified, among all the graduate standards, self-directed learning, complex thinking, communication skills, problem solving, collaborative working, and creative production as key goals for higher education. It is widely acknowledged that one of the stated goals shared by higher education in the United States is the development of students' integrative thinking skills (Halpern, 2001; Hativa, 2000; Sill, 1996; Tsui, 2001).

The increase of international undergraduate and graduate students in universities of the United States has profound implications for higher education policies (Feng, 1991; Parker, 1999; Wan, 2001). According to the Institute of International Education (IIE), there were 514,723 international students in the United States during the 1999-2000 academic year and 547,867 international students in the United States during the academic year of 2001-2002. More than

50% came from Asian countries. These students come with different educational backgrounds that have been formed by different cultural, political, linguistic, and academic environments. The learning styles and educational backgrounds of these groups of students often conflict with the American academic practices in graduate programs (Bennett, 1995; Guglielmino & Perkins, 1975). Bennett (1995) argued that students coming from different cultures have different cognitive and communicative styles. Bennett's view is consistent with a much earlier study by Guglielmino and Perkins (1975), who found significant differences in perceptions of problems amongst Chinese, Indian, and other international students. Chinese students were reported to perceive insufficient language proficiency as their major challenge. Students from India identified financial difficulties as their major problem. Other international students reported having difficulties adjusting to cultural differences in this U.S. setting (Guglielmino & Perkins, 1975).

Since the 1980s, one of the largest groups of international students in the U.S. are Chinese. This influx of Chinese students has resulted in a large number of cross-cultural studies. Chang (2000) states, "researching the Chinese people has become 'the flavor of the month,' amongst Western cross-cultural researchers (p.125). One of the findings of studies on Chinese students at all levels shows that they are more likely to attribute academic success primarily to effort, rather than to both effort and ability as do Western students (Watkins & Biggs, 2001). Another finding is that Chinese learners identified both intrinsic and extrinsic motivation as desirable for academic achievements in a collectivist social and school environment (Biggs & Watkins, 1996).

While these studies researched Chinese students in public school settings in China, it is worth mentioning that most of the Chinese students who come to the U.S. universities are

graduate students. When they come to the United States to pursue further studies, it takes substantial effort for them to make the transition from a culture of education that did not promote higher order thinking to the graduate programs that have such thinking skills at their very core (Fasheh, 1984). The differences between the Chinese and U.S. educational systems have an influence on their learning in the United States (Beaton et al., 1996a, 1996b; Stevenson & Stigler, 1992; Stevenson & Lee, 1996). At the center of Western misconceptions about Chinese learners, there are two major types. The first misconception is that students from China–the Confucian-heritage cultures--are taught in classroom conditions that in terms of Western standards cannot be conducive to learning: large classes, expository methods, relentless norm-referenced assessment, and harsh classroom climate (Watkins & Biggs, 2001). Yet students out-perform Western students, at least in mathematics and sciences and have deeper, meaning-oriented, approaches to learning. The second misconception is the relationship between memorizing and understanding. Students from China are perceived as passive rote learners, yet show high levels of understanding (Watkins and Biggs, 2001, p.3). The studies of the International Association for the Evaluation of Educational Achievement (IEA) found similar results (Beaton et al., 1996a, 1996b; Stevenson & Stigler, 1992; Stevenson & Lee, 1996). However, few studies have been conducted on Chinese learners to evaluate their level of understanding in social sciences. Chinese students in graduate programs of social science, humanities, and education were even more under-researched.

A variety of issues arise concerning Chinese graduate students' U.S. learning experiences. For example, how do Chinese graduate students adjust to the differences they perceive in their graduate programs? How does such a transition affect students' learning? How do they develop the required thinking skills, which they did not have opportunities to refine in their home

schooling experiences, to meet the academic requirements of the graduate programs? This study investigates the process of how Chinese graduate students meet the academic requirements in social science, humanities, and education programs of the United States. It is hoped that it will contribute to a better understanding of how Chinese graduate students can prepare for and survive their graduate education experiences in the United States.

Purpose of the Study

The purposes of this study are to identify Chinese graduate students' perceptions of incongruities between social science, humanities, and education programs they experienced in China and those they encountered in the United States, and to examine how these students develop the higher order thinking skills to meet the academic requirements of these programs in the United States. The following research questions guide this study. There are two sets of questions in this study of Chinese graduate students: (1) What are Chinese graduate students' perceptions of incongruities between Chinese and U.S. graduate programs in social science, humanities, and education? How do such incongruities affect their learning? (2) How do Chinese graduate students develop higher order thinking skills to meet the academic requirements of those programs?

Context of the Study

The number of Chinese students in American higher education has been increasing every year since the Chinese government began practicing its "open-door" policy in 1979 (Huang, 1997). It is challenging to know exactly how many Chinese students are in the United States in recent years because they come under different sponsorships and through different sources. According to the Institute of International Education (IIE), the Chinese student population remained the largest among the international student populations in the United States from 1980

to 2001, and in 2002, China had 63,211 students in the United States following India's 66,836 students (The Institute of International Education, 2002). India overtook China for the first time in 2002 as the top sending country in terms of its international student population in the United States as the United States Embassy in China tightened its control on student visa applications recently (IIE, 2002). At the graduate level, however, mainland China will remain as one of the leading countries of origin. Among all the doctorate recipients in 2001, the People's Republic of China was the country of origin for the largest number of non-U.S. doctorates with 2,670 graduate students who were awarded the doctoral degree in various subjects (Hoffer, Dugoni, Sederstrom, Welch, Guzman-Barron, & Brown, 2002).

At the research site for this study, a public university in the southeastern United States, international students from mainland China have been the largest student population among all international students on campus since 1990 (University Factbook, 1990- 2001). Most of the Chinese students were enrolled in graduate programs (University Factbook, 1990-2001). The number of Chinese graduate students enrolled in programs of social science, humanities, and education has been increasing steadily as well as at the university (University Factbook, 1990-2001). In the fall semester of 1996, 26 Chinese students were enrolled as graduate students pursuing either a master's or doctorate degree in social science, humanities, and education. In the subsequent years until 2001, the number of students enrolled each year increased to 36. The current enrollment in these programs is not significantly large, but the increasing trend should not be overlooked. It is important to note that most of the Chinese graduate students are on graduate assistantships offered by the Graduate School or their respective departments. Working as teaching or research assistants demonstrates the qualifications of Chinese graduate students

for their programs, and it provides these students with opportunities to work with faculty, staff, and other students in the programs.

It is generally perceived that once students are enrolled in their programs of study, their success is up to them. If they have been accepted, it is expected that they should have the skills and ability to succeed. Many Chinese graduate students in their U.S. graduate programs are already professionals in China, studying and working in research or teaching institutions or government agencies. They are highly motivated to succeed in order to maintain their professional positions at home, to obtain promotion, or to seek other job opportunities in the United States. For many, the time they spend in the United States is quite risky in the sense that they might lose positions that have been held for them in situations of intense competition for high-status jobs. For some of them, they may have left their families and children in uncertain circumstances, and they may not feel confident that the risk is worthwhile. For those who are younger and do not have families, there is a necessary adjustment period. For many Chinese graduate students, these factors complicate the process of their adjusting to U.S. graduate study. Their learning experiences are, to some extent, influenced and affected by such experiences. It is against such a context that the study is designed.

Significance of the Study

This study is significant for the following reasons. First, few studies have investigated the learning experiences of Chinese graduate students in U.S. graduate schools (Wan, 2001; Sun & Chen, 1997). Most studies investigating learning experiences of international students assume that learners from similar cultural backgrounds have similar learning experiences no matter how different their country of origin and disciplines (Chen, 1996; Goodwin & Nacht, 1983; Liberman, 1994; Pinheriro, 2001; Parker, 1999; Wan, Chapman & Biggs, 1992). This study

investigates how Chinese graduate students perceive the differences in U.S. social science, humanities and education programs, and how they develop higher order thinking skills to meet the academic requirements of the graduate programs. It examines how such differences enhance or hinder their learning experiences.

Second, no study has examined the incongruities between the graduate programs of social science, humanities, and education in two different educational systems using Newmann's conceptual framework of classroom thoughtfulness. The framework was used to assess the classroom thoughtfulness of social studies classrooms in public schools (Newmann, 1990). It is hoped that the framework will serve as an effective guide for classroom instruction for graduate level courses in Chinese and U.S. graduate schools.

Third, this study uses an in-depth semi-structured interview. The analysis of the interviews is complimented by an analysis of documents collected to include students' curriculum vitas, course syllabi, and course assignments. These different data sources are used for data triangulation purposes to validate the findings of the study.

Fourth, this study makes recommendations to new Chinese graduate students coming to U.S. social science, humanities, and education programs on how they could improve their ability to develop higher order thinking skills that are required by U.S. graduate programs. Effective strategies will be shared to enhance their learning in this new context. This study will make recommendations to instructors on what they could do to help this group of students meet the academic requirements in their graduate programs. The study sheds light on how graduate programs of social science, humanities, and education in China could be changed in order to turn learners into critical thinkers and more qualified researchers for an increasingly global academic community.

Last, although this study focuses on Chinese graduate students, the findings have implications for teaching other international students in U.S. graduate programs of social sciences, humanities, and education if they share in common with Chinese graduate students their perceptions of challenges in U.S. graduate programs.

This dissertation is organized in the following manner. The first chapter provides an introduction to the research purposes, research questions, and context of the study. The second chapter reviews relevant literature and consists of two sections. The first section explicates three major perspectives within which the research questions and research methodology are embedded. The three perspectives are symbolic interactionism; Anderson's cross-cultural learning process model, and Newmann's conceptual framework of classroom thoughtfulness. The second section reviews literature on different types of studies: research on international students in the higher education of the United States; research on international students' academic adjustment; and research on Chinese students and higher order thinking. A summary provides key findings from the literature and identifies missing information. This chapter ends with a discussion of the significance and possible contributions of this study. The third chapter presents the findings of the pilot study, definitions of terms, methodology used and the research design, criteria for selecting participants, subjectivity statement, and the strategies used for quality assurance in the study. Chapter Three ends with participant portraits, which are presented to set up a context to understand the participants in the study. Chapter Four present the findings of the study based on data analysis in three subsections. The first subsection discusses participants' perceptions of differences in general characteristics of the graduate programs, general classroom characteristics, teachers' behaviors, and students' behaviors between Chinese and U.S. schools. The second subsection explores participants' perceptions of challenges and discusses how their perceptions

of differences affect their learning in the U.S. settings. The third subsection examines participants' understanding of higher order thinking skills and how they develop such skills to meet the requirements of the U.S. programs. Chapter Five is the concluding chapter and discusses the findings and implications for further research and educational practices in China and the United States.

CHAPTER 2

THEORETICAL PERSPECTIVES AND REVIEW OF RESEARCH LITERATURE

The study of how Chinese graduate students in social science, humanities, and education programs of the United States develop the higher order thinking skills needed to meet the academic requirements can be examined from various perspectives. This chapter presents such perspectives and a literature review on higher order thinking and Chinese graduate students. At the theoretical level, symbolic interactionism informs my study. Anderson's cross-cultural learning process model guides the study in terms of methodological design. At a middle-range theoretical level, Fred Newmann's seventeen indicators of classroom thoughtfulness provide a conceptual framework for the study.

Symbolic Interactionism

Symbolic interaction holds that individuals develop their conceptions both of themselves and others, including the broader society, in a process of communicative interaction with other actors (Blumer, 1969). Human experience is believed to be mediated by interpretation (Blumer, 1969; Denzin, 1992). Symbolic interactionism comes in multiple varieties. The perspective I present here is the interpretive version of symbolic interactionism. (Denzin, 1992). Denzin (1992) points out that interpretive interactionism attempts to make the worlds of lived experience directly accessible to the reader. Interpretive interactionists try to capture the voices, emotions, and actions of those studied, and are concerned with studying the subjective meanings that individuals attribute to their activities and their environment (Denzin, 1992; Flick, 1998). Blumer (1969) laid out three basic premises of symbolic interactionism:

> The first premise is that human beings act toward things on the basis of the meanings that the things have for them….the second premise is that the meaning of such things is derived from, or arise out of, the social interaction that one has with one's fellows. The third premise is that these meanings are handled in, and modified through, an interpretative process used by the person in dealing with the things he encounters. (p. 2)

In their daily lives, individuals make sense of events and experiences in different ways. The three premises lead to a methodological principle in symbolic interactionism: the researcher has to see the world from the perspective of the subjects he or she studies. Based on these three premises and the methodological principle, this study examines how individual Chinese graduate students reconstruct their viewpoints of their experiences in academic programs to analyze the process of how they develop higher order thinking to meet academic requirements.

In this study, what meanings Chinese graduate students give to the process of how they meet the academic requirements and how they interpret their experiences are essential and constitutive, not secondary to what the experience is. The participants act upon symbols and signals in their new learning contexts while their prior learning experiences in Chinese social science, humanities, and education have impacts on them. They become interpreters and readers of such symbols, signals and prior experiences. At the same time, interpretation is not an autonomous act. Individuals interpret with the help of others–people from their past, and persons they meet in settings in which they study. A researcher coming from a symbolic interactionist perspective observes that if something unusual happens in a setting, people make a note of it and talk about it. Through interaction, individuals construct meaning. Chinese graduate students often develop common definitions–shared perspectives. The participants of the study share

perspectives since they regularly interact and share experiences, problems, and backgrounds. While some take "shared definitions" to indicate "truth," meaning is always subject to negotiation. The participants' interpretation can only be understood by having the researcher enter into the defining process through such ethnographic methods as interview, participant observation, and document analysis.

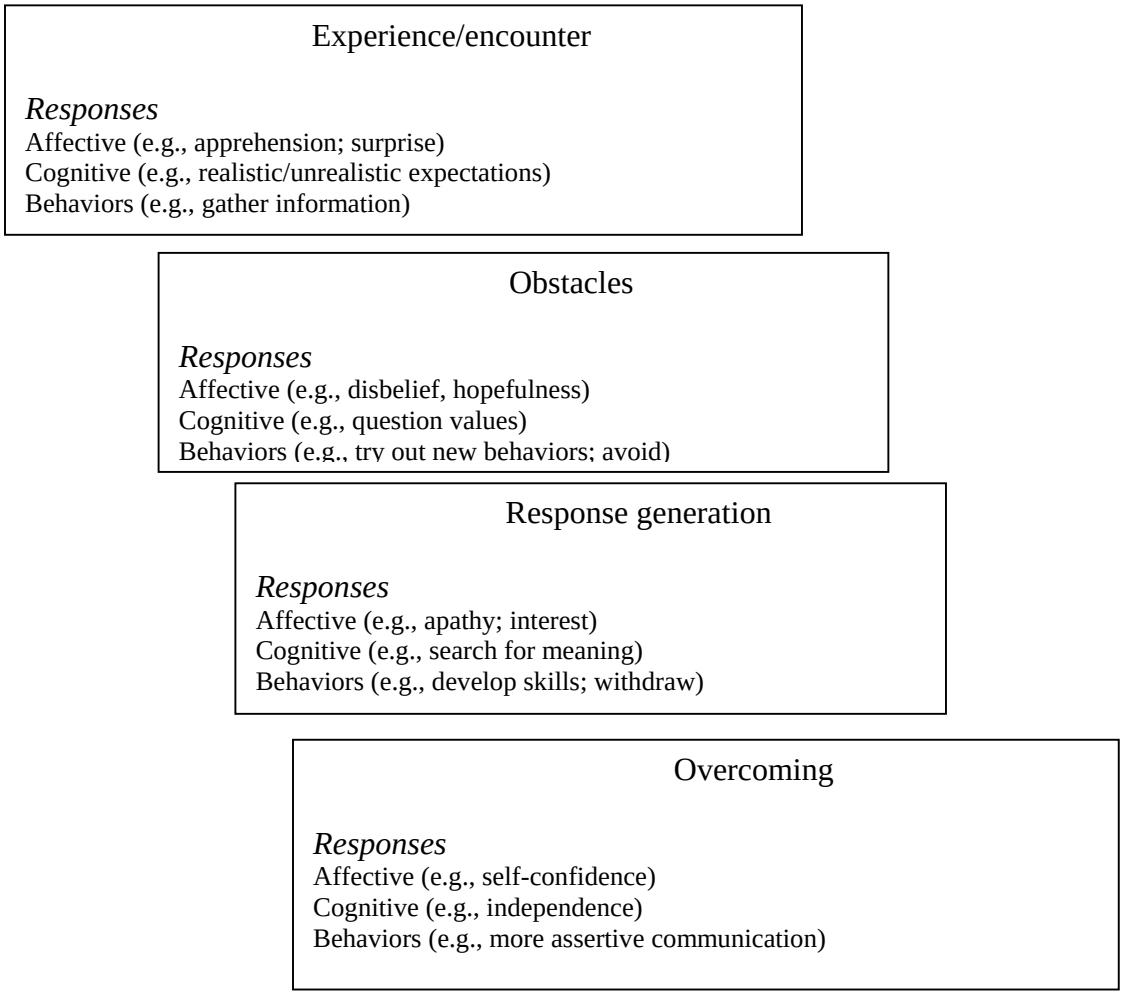
Anderson's Cross Cultural Learning Process Model

Developing higher order thinking skills to meet academic requirements is a complex and interactive learning process that takes place between learners and the environment. The process requires the interaction of the learners and environment (Anderson, 1994). "Learning process" refers to the ways in which individual learners acquire knowledge, skills, and values within the academic context (Ramsay, Barker, & Jones, 1999). While studies on learning processes typically emphasize the cognitive responses of learners, learning is a process where emotions, moods, and feelings of the learners play an important role (Boekaerts, 1993). Anderson's model of cross-cultural learning process enables the researcher to include affective domains of the learners (Ramsay et al., 1999).

In his model, Anderson (1994) describes a process in which learning occurs when learners experience the interplay between emotions and cognition, followed by actions. The model has four key stages: cultural encounter, experiencing obstacles, response generation, and overcoming. In the first stage, the learner comes to a new environment to encounter cultural characteristics of the learning context. In the second stage, the learner recognizes and experiences various obstacles that are presented either by the environment or the self. The obstacles lead to various kinds of "response generation" in the third stage. In the fourth stage, adjustment is usually reached when the learner overcomes the obstacles. It is important to notice

that affective, cognitive, and behavioral responses all occur within the model, but the focus is on cognitive responses.

Figure 2.1 Summary of Cross-cultural Learning Process Model (Anderson, 1994).



A study using this model (Ramsay et al., 1999) showed that at each stage the learner experiences emotions and feelings, which lead first to thought processes and then to particular behaviors. Therefore, this model is appropriate to the study of how Chinese graduate students develop higher order thinking skills to meet the academic requirements in their respective programs. Figure 2.1 presents Anderson's model.

Anderson argued that the second stage plays an important role in the whole model (See Figure 2.1.). Anderson defined an obstacle as "a psychological dissatisfier to be reduced or an absent satisfier to be attained" (p.302). It describes a state when learners face internal and external challenges, which require adjustment beyond the learner's resources. Obstacles can be perceived, and then evaluated, by individuals in different ways. When they occur in academic context, they could lead to stressful learning situations, which generate emotions such as anxiety, or which might lead to learners' evaluation of efforts to restore confidence to overcome the stressful learning environment (Boekaerts, 1993). The literature review in the next section supported this model and its focus on obstacles or negative experiences. While other studies are more focused on the negative experiences or events that a learner might identify and reflect on, my study looks into both negative and positive events that Chinese graduate students identify and experience. In this study, Ramsey et al. found that at each stage the learner experiences emotions and feelings, which lead first to thought processes and then to particular behaviors. Therefore, this model is appropriate to the study of how Chinese graduate students develop higher order thinking skills to meet the academic requirements in their respective programs.

The next section presents Fred Newmann's classroom thoughtfulness framework, which guides the design of this study.

Fred Newmann's Classroom Thoughtfulness Framework

Fred Newmann's (1990a, 1990b, 1991) classroom thoughtfulness framework has been mainly used in the field of social studies within the United States to assess how effective instruction is in promoting higher order thinking skills. One of the essential goals of the social studies curriculum and instruction in the United States is to foster a constellation of civic knowledge, skills, and attitudes deemed necessary to full participation in a democracy.

Achieving such a goal requires promoting higher order learning outcomes and critical thinking skills in classroom instruction. Research shows that an open, supportive, and thoughtful classroom climate is more likely to promote thinking and foster positive civic attitudes (Newmann, 1990b; 1991).

As defined by Newmann (1990a), higher order thinking "challenges the student to interpret, analyze, or manipulate information, because a question to be answered or a problem to be solved cannot be resolved through the routine application of previously learned knowledge" (p.44). Newmann (1990a) defines "thoughtfulness" in terms of four traits:

> A persistent desire that claims to be supported by reasons (and that the reasons themselves be scrutinized); a tendency to be reflective; … a curiosity to explore new questions; and …flexibility to entertain alternative and original solutions to problems (p.47).

Newmann (1990a) designed the framework following four guidelines.

a) The dimensions should be able to be observed in the teaching of a variety of subject matter and skills within social studies.
b) The dimensions should refer to teacher behavior, to student behavior, and to activities involving both teacher and student.
c) The exploratory scheme should contain many dimensions, which, on the basis of further theoretical and empirical analysis, might later be reduced to a smaller number of essential 'scales.'
d) The dimensions should be conceptualized in ways that might later be used to help teachers reflect on their practice. (p.50.)

Using these guidelines, Newmann (1990) and his team of researchers then developed the framework to include seventeen observational dimensions in terms of general classroom characteristics, specific types of teacher behavior, and specific student behaviors. Figure 2.2 shows the 17-indicator framework of classroom thoughtfulness.

Figure 2.2 Newmann's Conceptual Framework of Classroom Thoughtfulness

General characteristics:

- There was sustained examination of a few topics rather than superficial coverage of many.
- The lesson displayed substantive coherence and continuity.
- Students were given an appropriate amount of time to think, that is, to prepare responses to questions.

Teacher behavior:

- The teacher asked challenging questions and/or structured challenging tasks (given the ability level and preparation of the students).
- The teacher carefully considered explanations and reasons for conclusions.
- The teacher pressed individual students to justify or to clarify their assertions in a Socratic manner.
- The teacher encouraged students to generate original and unconventional ideas, explanations, or solutions to problems.
- The teacher showed an awareness that not all assertions emanating from authoritative sources are absolute or certain.
- Students' personal experience (where relevant) was integrated into the lesson.
- The teacher was a model of thoughtfulness.

Student behavior:

- Students offered explanations and reasons for their conclusions.
- Students generated original and unconventional ideas, explanations, hypotheses or solutions to problems.
- Students assumed the roles of questioner and critic.
- Student contributions were articulate, germane to the topic and connected to prior discussion.
- What proportion of students participated verbally in the lesson?
- What proportion of time did students spend engaged in thoughtful discourse with one another?
- What proportion of students showed genuine involvement in the topics discussed?

Note. Adapted from "Higher order thinking in teaching social studies: a rationale for the assessment of classroom thoughtfulness," by F. Newmann, 1990a, *Journal of Curriculum Studies, 22(1), 41-56.*

This framework is relevant to this study in three ways. First, Newmann's seventeen indicators in the framework provided for a comprehensive tool for the researcher and participants to reflect upon and evaluate the classroom thoughtfulness in courses required by the U.S. social science, humanities, and education programs. When Chinese graduate students enter the U.S. social science, humanities, and education programs, they experience different classroom cultures in graduate programs when they are required to finish coursework before they undertake dissertation research. Using this framework, the study examines students' reflections on their observations and evaluation of classroom instructions. The indicators enable the researcher to organize the incongruities between Chinese ways and American ways of teaching social science, humanities, and education in graduate programs. Second, the framework provided a scheme for data collection for this study. To best answer the research questions, interviews of graduate students and document collection were selected as the major data sources for this study. The framework serves as an effective guide for the interview protocol (See Appendices A and B). Third, the framework provided a scheme for data analysis and representation. The three major aspects and the seventeen indicators of the framework can be used to categorize themes and sub-themes from the data. The framework sheds light on how findings could be effectively represented.

When I started to review the research literature, I found that there are few studies that focus on how Chinese graduate students in social science, humanities, and education programs develop higher order thinking skills to meet the academic requirements. Many educational researchers have investigated the cultural and academic adjustments of international students in U.S. higher education. For this reason, the literature review has three sections addressing different types of research on international students and Chinese students in particular: research

on international students in U.S. higher education, research on international students' academic adjustment, and research on higher order thinking and Chinese graduate students.

Where there is a large body of research literature on the experiences of international students in U.S. higher education, little research has focused specifically on Chinese students. Most of the studies on international students' learning experiences and their adaptations to the U.S. educational system have been conducted by considering international students as an aggregate cultural group rather than focusing on specific nationalities with distinct characteristics (Briggs & Harwood, 1983; Heikinheimo & Shute, 1986; Perkins, 1977; Pusch, 1979). In fact, there is a great deal of differences among the subgroups of the international students. Pedersen (1991) proposed that "patterns of difference among nationality and cultural groups of international students [need] careful and comprehensive research attention" (p.51). For example, the Chinese ranked language as their most serious problem while Indians ranked financial difficulty as their most serious problem in an earlier study (Guglielmino & Perkins, 1975). Studies on Chinese students in particular (Elkins, 1994; Feng, 1991; Parker, 1999; Zhang, 1992) showed that Chinese students share some experiences with other international students from Latin America, Africa, and Asia. For example, a study by Parker (1999) revealed that they all experience culture shock and find it a challenge to adjust to the academic environment. But Chinese students do have their own features as a group. Parker found that Chinese students from Taiwan had difficulty engaging in collaborative learning activities. Participants in Parker's study found informal academic settings unsettling and were uncomfortable asking repeated questions. These findings seem to support what Hull (1978) said about students from certain geographic areas of the world who had a greater tendency to have certain kinds of problems. Ross-Gordon (1991) noted the paucity of research on how specific ethnolinguistic minority groups learn in

educational settings. While these studies would indicate that students from the People's Republic of China have similar experiences as those of other international students, it is important to study this group of Chinese students rather than assuming the issues are the same.

In much of the emerging literature on U.S. higher education, it is a common assumption that students within various academic disciplinary areas exhibited somewhat differing behaviors (Hull, 1978). But the research did not attempt to distinguish international students according to their respective disciplines. Much attention is given to the cultural and social adjustment of international students. Among the studies of Chinese students, there is little research analyzing the distinctions among students from different disciplines. The academic adjustment of international students has been given some attention, but little is known about what academic challenges students from different disciplines are facing and how they meet the academic requirements despite their diverse educational backgrounds (Angelova & Riazantseva, 1999; Chen, 1996; Feng, 1991; Fu & Townsend, 1998; Huang & Sisco, 1994; Perrucci & Hu, 1995; Pinheiro, 2001; Portin, 1993).

International Students in U.S. Higher Education

Research on the cultural and academic adjustment of the international students has determined many challenges and rewards in their United States learning experiences. Four recurring themes identified by these studies are language proficiency, cultural awareness, academic stress, and coping strategies. Language proficiency was identified as a major source of stress and frustration or challenge to international students (Chen, 1996; Lin, 1998; Parker, 1999; Pinheiro, 2001; Sun & Chen, 1997; Wan, 2001). In Wan's (2001) case study of two Chinese graduate students, he discovered that they were better at reading and writing than speaking English. Chen (1996) reported that international students found it hard to keep pace with their

classmates in classroom discussions. Her participants had both difficulties in speaking and writing in English. Lin (1998)'s participants identified language as one of the major academic adjustment problems. Such language problems deterred understanding of communications with Americans both academically and socially (Parker, 1999; Sun & Chen, 1997). Certainly this body of research suggests that language plays an important part in the learning experiences for Chinese graduate students in social science, humanities, and education programs. It raises questions about how much language proficiency is needed for student success. Will a good command of English guarantee a less frustrating learning experience? Parker's study (1999) addressed this question in that he found that the acquisition of new and unfamiliar words (particularly those regarding research and research design) required extended time and patience on the part of the Chinese student and graduate faculty in the U.S. graduate schools.

The second theme identified in the literature is cultural awareness. When international students entered American colleges and universities, they reported that their experiences in classrooms and daily life in the United States brought about an awareness of cultural differences (Wan, 2001). Such a cultural awareness resulted in different degrees of difficulty and frustration in adjusting to the American culture (Lin, 1998; Pinheiro, 2001; Wan, 2001). Researchers seem to agree with each other that when there is less cultural dissonance, there is more learning taking place (Bennett, 1995; Wan, 2001). Students from different cultures learn in different ways and they differ in cognitive styles, self-expression, and communication styles (Bennett, 1995; Feng, 1991; Wan, 2001). International students indicated that different cultural values, attitudes, and beliefs affected their academic and daily life (Sun & Chen, 1997). Language barriers and lack of cultural knowledge made it hard for international students to develop intimate relationships with American students (Chen, 1996; Liberman, 1994; Lin, 1998; Sun & Chen, 1997). When they

made friends with American students, international students could only maintain superficial relationships with them. Lin (1998) found that Chinese graduate students suffered from cultural segregation. The understanding of Chinese international students' cultural backgrounds, learning experiences, and styles will thus contribute to the learning experiences of international students in graduate courses of the United States and help graduate faculty to adapt and accommodate to the needs of such students (Chen, 1996; Pinheiro, 2001; Wan, 2001).

Academic stress is the third theme identified in the literature. Several studies show that international students came to American colleges and universities mainly for professional growth (Chen, 1996; Lin, 1998; Parker 1999; Wan, 2001). Based on his study of Taiwanese students who were enrolled as a cohort in a physical education program, Parker concluded that they were more task-oriented and ignored developing reasoning styles in the learning process. Taiwanese students had difficulty in writing academic and scholarly articles and they needed further assistance in developing academic writing skills. Few of them had ever been taught learning theories and they were not familiar with such a variety of teaching styles employed in the United States (Parker, 1999). Students had difficulty adjusting to the way American professors teach, especially when course assignments required more discussion and de-emphasized memorization in favor of critical analysis. Students identified learning problems due to differences between the educational systems of China and the United States, problems concerning curriculum/program relevance, and problems in completing school work (Lin, 1998). The adjustment became more difficult when instructors expected students to develop independent creative thinking (Liberman, 1994; Parker, 1999; Pinheiro, 2001). International graduate students in both Parker and Chen's studies found it overwhelming to take research courses that required new statistical techniques they did not have in their prior experiences.

The fourth theme identified in the literature is coping strategies. Coping strategies were defined in these studies as methods adopted by international students to deal with problems they had encountered once they were in the United States (Chen, 1996; Lin, 1998; Sun & Chen, 1997; Ying & Liese, 1990; Wan, 2001). Strategies vary from those for cultural adjustment in daily lives to those for academic adjustment in graduate programs. For example, Ying and Liese (1990) noted that pre-departure programs aimed at confidence building could result in improved initial adaptation. Chen (1996) identified reflective thinking as the most significant process when her informants dealt with their problems of cultural shock. Lin (1998) provided a summary of sources of help, including students themselves, professors, friends, family, church, university office of international service, and the Internet. Other international students used opportunities in school and daily life to deal with the problem of limited English proficiency. Sun and Chen (1997) suggested further study be conducted to examine strategies international students use to deal with the problems they face in the process of intercultural and academic adjustment.

The findings of these studies showed that international students identified language difficulties, cultural differences, and academic stress as major challenges in their learning experiences on the U.S. campuses. Research showed that the international students' educational backgrounds and learning experiences in home institutions was inadequate preparation for their experiences in American schools. While international students adopted different strategies to deal with such conflicts, more studies are needed to explore the effective learning strategies that may enhance learning for these students in their academic programs.

Both qualitative and quantitative research designs were used. Six qualitative studies examined learning experiences of international students in American schools using interviewing, participant observation, and document collection as research methods. Three quantitative studies

attempted to measure differences between international students and American students by using the Minnesota Multiphasic Personality Inventory-2 (MMPI-2) (Steven & Kwan, 1993), a questionnaire (Steven & Kuan, 1993; Ying & Liese, 1990) and a survey (Wan, Chapman, & Biggs, 1992).

In terms of methodological considerations, the seven qualitative studies investigated the experiences of the international students from three different theoretical perspectives. The cross-cultural comparative perspective was adopted by most of these studies (Chen, 1996; Liberman, 1994; Lin, 1998; Parker, 1999; Stevens & Kwan, 1993; Sun & Chen, 1997; Wan, 2001; Ying & Liese, 1990). For example, Chen adopted a pair of multicultural lenses through which she conducted a qualitative interview study. She used Dolbeare and Schuman's "three-interview series" as a framework to conduct her interview research. Chen's design is the most solid one among these six qualitative studies. Among other reasons, Chen (1996) checked on her own subjectivities and reflected on her own relationship to the research. Pinheiro (2001) employed Knowles' s model of andragogy to help develop his interview protocol to assess the learning experiences of the international students. According to Knowles' model of andragogy learning theory, international students were regarded as adult learners who could approach learning tasks through self-regulation. The needs of such learners are considered integral parts of the instructional design process and their prior knowledge and experiences were taken into consideration in evaluation of the learning experiences (Knowles, 1998). Using this model, this study was able to identify three major domains to organize its research results. The three domains were the role of participation, the learner's prior experiences, and the teacher's role. Wan, Chapman and Biggs' study (1992) was grounded in a cognitive framework based on the work of Lazarus and Lazarus and Cohen (cited in Wan, Chapman & Biggs, 1992). Within this

framework, stress resulting from cross-cultural learning experiences occurs "when the environmental demands are evaluated as exceeding a person's resources for coping with them (Wan, Chapman & Biggs, 1992, p.609)."

International Students' Academic Adjustment

Baker and Siryk (1984) define academic adjustment as a process whereby students develop a positive attitude toward setting academic goals, completing academic requirements, the effectiveness of their efforts to meet these requirements, and their academic environment. The existing literature on academic adjustment of learners is largely focused on college students and does not include the international students' experiences in graduate schools (Bettencourt, Charlton, Eubanks, Kernahan & Fuller, 1999; Beyers & Goossens, 2002; Boulter, 2002; Leong & Bonz, 1997; Ramsay, Barker & Jones, 1999; Strage & Brandt, 1999). Nevertheless, a brief review of research on academic adjustment for college students sheds much light on the present study.

Typically, studies of academic adjustment combine quantitative and qualitative methodologies. However, all of these studies except one used quantitative methods to investigate predictors of college freshman academic adjustment. Predictors such as self-concept (Boulter, 2002), coping styles (Leong & Bonz, 1997), collective self-esteem among students (Bettencourt et al., 1999), parenting characteristics (Strage & Brandt, 1999), and students' scores on the Student Adaptation to College Questionnaire (SACQ) (Beyers & Goossens, 2002) were identified to help understand the academic adjustment of college students.

The one qualitative study examined the learning process of both international and domestic students when they made academic adjustments in their first year of university study (Ramsay, Barker & Jones, 1999). Ramsay et al. (1999) adopted Anderson's (1994) model of

cross-cultural adjustment and provided a useful and comprehensive approach to research in the area because it detailed the interrelationship of adjustment and learning processes. Using this model, the study indicated that students readily identified a wide variety of personally meaningful positive and negative learning incidents within their learning context. Such incidents were an integral part of the learning process of the international students (Ramsay et al., 1999). The Ramsay et al. study indicated that international students experienced more stress and anxiety than domestic graduate students and had often thought deeply about ways to overcome their problems in relation to their academic tasks. The study demonstrated that international students were motivated by the desire to increase their critical thinking abilities. Although the international students participating in the study experienced more academic stress, they commented favorably on the more open, critical approach to education in comparison with that provided in their own countries. The review of this study suggests using Anderson's model of the learning process with special attention to Chinese graduate students' academic expectations, relationship expectations, and their inclusion of positive and negative experiences in their learning processes in U.S. social science, humanities and education programs.

One might argue that the majority of graduate students all experience a period of transition as they go from college to graduate school or from work to graduate school. The learning experiences of international students invariably share some similar characteristics with those of the U.S. students. However, a special burden is placed on international students because they need to make adjustments to the requirements of a different academic culture, to access and use an unfamiliar language, to meet different expectations in the academic community, and to accommodate to different ways of teaching and learning (Angelova, & Riazantseva, 1999; Chen, 1996; Feng, 1991; Huntley, 1993; Ramsay et al, 1999). Little research has been done to

investigate the process of how the international students meet the academic requirements of graduate programs.

The number of international students participating in lectures, seminars, and discussion sections in the U.S. higher education increases each year. The academic expectations and relationship expectations of international students differ across their individual cultures. The international students in the study of Beykont and Daiute (2002) argued that the patterns of classroom interaction in higher education courses in the United States differed greatly from those in their countries of origin. For example, in their home countries, classroom instruction was dominated by large lectures with little discussion. There was a one-way presentation of information with little participation of the learners. The teachers' authority and responsibilities to transmit knowledge were not to be challenged. In terms of classroom interaction, students were not encouraged to participate as much as they are in the typical classroom setting in the United States. With teacher dominated instruction, students had little time to question and challenge professors. It was not uncommon for students to voice no differing opinions. Contradicting instructors in class was considered rude and unacceptable. Given such rigid classroom interaction, course assignments were closely related to lectures and readings. Such findings are consistent with the results of other earlier studies (Meloni, 1986; Perrrucci & Hu, 1995).

International participants in Beykonte and Daiute's study (2002) felt comfortable in classrooms when instructors guided discussions and showed interest in international students' experiences. They volunteered and enjoyed the classroom participation when all students came prepared to discuss readings and shared reflections referring to personal experiences. Participants felt less comfortable in large classes where lecture was the only context for learning and where students were not encouraged to interact with the professor and/or with fellow students. Such

views may differ across students from different ethnic, gender, social class, cultural and academic discipline backgrounds more than we have previously realized (Krupnick, 1985; Margolis, 1992). Beykont and Daiute's study was conducted from the perspectives of international students without considering their differences in terms of cultural background and academic disciplines.

Among the academic challenges identified by international students in the literature, the challenge of writing academic papers appears high on the list. While writing papers is an exhausting and time-consuming task for all graduate students, international students identified writing as a major challenge (Angelova & Riazantseva, 1999; Chen, 1996; Fu & Townsend, 1998; Yang, 1999). Angelova and Riazantseva's study explored both students' perspectives and faculty's perspectives on writing. The international students in their study attributed their writing challenges to their attitudes about writing, cognitive problems, and social problems. When students were motivated to write and had higher expectations for their writing, they had a positive attitude toward writing and they had fewer problems in writing. As far as the cognitive domain is concerned, students reported differences in rhetoric styles, topic choice, text structure and organization, academic register, and ways to express personal opinions. Social problems including personality, group orientation, reaction to feedback and evaluation, and interaction with professors affected the writing process of the international students (Angelova & Riazantseva, 1999).

Faculty's perspective was a special feature of the Angelova and Riazantseva's study (1999). Instructors of the international students in their study did not think they had the responsibility to edit students' papers. They reported that students from other countries were more likely to copy from the original text as students' reflections on reading. They noted that

international students tended to select neutral and safe topics to critique. The structure and rhetoric of the international students were different from that of the U.S. students. Most of the time international students' papers were not up to the standards of an academic paper. Such results would be greatly complimented if the study could have collected and analyzed the writing assignments of the students to identify the gap between students' papers and the writing requirements of the instructors.

Higher Order Thinking and Chinese Graduate Students

Researchers have advocated many conceptions of thinking: critical thinking, creative thinking, reflective thinking, logical reasoning, social scientific inquiry and jurisprudential reasoning, higher order thinking, problem solving, and decision making (Newmann, 1990a). Newmann's definition provides a perspective to conceptualize thinking. He categorized thinking into higher order and lower order thinking. Higher order thinking is "broadly defined as challenged and expanded use of the mind" and lower order thinking "represents routine, mechanistic application, and limited use of the mind" (Newmann, 1991b, p.325). He believed that higher order thinking occurs when a person must interpret, analyze, or manipulate information. In many ways, his definition resembled Bloom's Taxonomy, which has served as a popular categorization of thinking skills for over four decades (Anderson & Krathwohl, 2001). The last three levels in Bloom's Taxonomy (analysis, synthesis, and evaluation) are considered higher order thinking. Bloom would have agreed with Newmann's conception in that when a question gets answered or a problem gets solved, higher order thinking must be involved because answering a challenging question or solving a problem cannot be accomplished through the routine application of previously learned knowledge. Lower order thinking, on the other hand,

occurs when intellectual tasks only involve repetitive listing of previously memorized information and mechanistic collection of major points in an article.

Much of the research on higher order thinking examined the instruction of thinking for a wide range of subjects in K-12 public schools. Higher order thinking is identified in these studies as a broad term to include critical thinking, creative thinking, and other skills beyond the lower order thinking of recall and comprehension. Research indicated that, in public schools, higher order thinking is not widespread (Newmann, 1990a, 1990b, 1991a; Norris, 1985; Stevenson, 1990). Cornbleth (1985) presented a comprehensive essay summarizing current research and conceptual thinking about higher order thinking. Arguing that higher order thinking cannot be directly taught, Cornbleth stated that teachers must provide the opportunity and support for this instruction, and that the social studies curriculum provides an invaluable vehicle for this initiative. She drew heavily on research from the Pittsburgh Critical Thinking Project with which she has been associated since 1983. Likewise, research on students' performance on measures of higher order thinking ability showed a critical need for students to develop the skills and attitudes of effective thinking (Newmann, 1990a, 1991a; Stevenson, 1990).

This picture of limited teaching for higher order thinking is disheartening to educators. Despite these findings, there is more optimism in the research literature that calls for improved thinking skills instruction. However, educators tend to agree that it is possible to increase students' higher order thinking skills through instruction and practice (Newmann, 1991a). A great deal of recent research indicated that the direct teaching of higher order thinking skills can produce better, more creative thinkers. A review of literature conducted by Wilson (2000) on teaching thinking skills yielded three findings: First, brains are capable of further development; second, learning of thinking requires active learner participation in a social environment; and

third, learners must have teacher support. Such findings may be applicable to the learning process of Chinese graduate students when they develop higher order thinking skills in the U.S. graduate schools.

The description of lower order thinking instruction in public schools and higher education in the United States matches the description of most instruction provided in China. A brief overview of the history teaching guidelines for full-time standard senior high schools and middle schools in China shows that instruction in classroom focuses only on the ability to recall, retell, identify, and comprehend the important historical facts and conclusions of Chinese history. No emphasis is placed on the process of historians coming to such conclusions or on how students could develop historical thinking (State Education Commission, 1999). However, it would be naïve to believe that all colleges and universities in the United States promote higher order thinking or that higher order thinking is missing entirely in Chinese universities.

This study shares a rationale with studies that focused on Chinese students on U.S. campuses (Donovan, 1981; Feng, 1991; Huang & Sisco, 1994; Sun & Kwan, 1997; Yang, 1999; Young & Wehrly, 1990; Zhang, 1992; Zhang & Rentz, 1996). Several factors are believed to lead researchers to single out Chinese students from the whole body of international students, even from other Asian students and other Chinese students from Hong Kong and Taiwan (Zhang & Rentz, 1996). Such factors include, but are not limited to, financial problems, a lack of understanding of American society, the influences of a Communist educational system, and decision-making styles that emphasize the family and community rather than the individual. These factors are always cited to have contributed to the particular adjustment challenges faced by international students from the People's Republic of China (Donovan, 1981; Young & Wehrly, 1990; Zhang & Rentz, 1996).

The earliest study reviewed was a survey study conducted in 1980s (National Association for Foreign Students Affairs, 1980). Responses received from 133 of the 168 U.S. institutions that were sent questionnaires indicated that there were 982 mainland Chinese students and scholars on their campuses. The survey identified the main deficiency in the academic backgrounds of Chinese students and scholars as the insufficient knowledge of English language (NAFSA, 1980). This finding has been supported by many studies (Donovan, 1981; Elkins, 1994; Feng, 1992; Mau & Jepsen, 1990; Young & Wehrly, 1990; Zhang, 1992; Zhang & Rentz, 1996). Other results from this study were that engineering majors had the highest performance followed by physical science majors, then biological science majors, while social science majors had the lowest academic performance (NAFSA, 1980). This finding was correlated to the language needs of each major; a higher English language proficiency in all skill areas was necessary for study in social science (Huntley, 1993).

Over the years, English teaching has been dramatically improved in Chinese schools at all levels. Chinese graduate students in the 1990s and in the new century are different from those in the decade of the 1980s. Their English proficiency is believed to be meeting the academic standards of U.S. graduate schools. Indicators of such English proficiency are scores of TOEFL, GRE, GMAT, and TWE. With impressive GRE and TOEFL scores, Chinese graduate students are believed to be model students in U.S. graduate schools. Most of them could have never come to the U.S graduate schools if they were not offered an assistantship or scholarship. Their motivation and positive attitudes towards learning make it hard to believe that they could experience any academic challenges (Li, 2001, 2002, in press). This literature review showed that language problems seemed to be a major challenge for most Chinese graduate students. One study described three potential English literacy problem areas for Asian graduate students with

specific references to Chinese and other eastern Asian students (Wang, Martin & Martin, 2002). These three areas were the influence of cultural and personal prior knowledge, the process of education that students learned in their native schools, and the linguistic characteristics of ESL students (Wang et al., 2002). Yang's case study (1999) of two Harvard first-year Chinese graduate students in science programs explored only one aspect of the learning experiences of the participants: language problems and their reflections on their past experiences in learning English. The two participants reported that they had little difficulty in reading. Their real problems were with listening, speaking, and writing (Yang, 1999). These findings echoed the results discussed previously on the experiences of other international students. Students of social science, humanities, and education were not included in Yang's study (Yang, 1999).

The development of higher order thinking for Chinese graduate students has not been extensively studied. However, a number of studies have examined aspects of higher order thinking skills. For example, Chinese graduate students' questioning skills in classroom settings were researched by Portin (1993). Portin's study investigated difficulties encountered by Chinese graduate students in asking questions in the American classroom and concluded that classroom environment, nature and pattern of classroom interaction, and students' attitudes were major factors that influenced Chinese graduate students in asking questions. However, the study focused more on the types of questions American professors preferred rather than how Chinese graduate students could improve questioning skills.

Tsai (1996) examined the qualitative differences in problem solving procedures and thinking structures between science and non-science majors. His study found that science and non-science majors differed in their ways of solving problems. When presented a problem, non-science majors began with personal experience questions whereas science majors promptly

designed an experiment. Non-science majors tended to confirm expected answers whereas science majors tended to explore some questions with unknown answers. Influenced by their respective academic fields, science majors are more likely than non-science majors to consider the assumption and the validity of the test. Further discussion revealed that students' academic experiences and epistemology might strongly influence these problem-solving processes, thinking, and actions. The study did not explain clearly the definition of non-science majors.

In Huang and Sisco's (1994) comparative study on thinking styles of both Chinese and American graduate students, findings showed that Chinese graduate students majoring in social science and/or humanities and students of natural sciences were more idealistic than engineering students. Natural science and engineering students were more analytical than students of social science and/or humanities. Engineering majors were more realistic than those from social science and/or humanities and natural science. Their study called for more research on similar samples to verify their results.

Jin (2000) reported a quantitative study of writing abilities of Chinese graduate students. This study examined the degree of cohesiveness of the academic writing of Chinese graduate students (Jin, 2000). Definition, analysis, and research were identified as the major three genres among the eighteen papers of six Chinese graduate students who were categorized into an advanced proficiency level group and an intermediate proficiency level group. The study did not identify their respective disciplines. The result of the study supported the argument that there was a relationship between linguistic ability and writing ability. More studies on the academic writings of the Chinese graduate students were needed.

The review of literature revealed several findings important to this study. First, language proficiency was identified as the major source of stress and resulted in much frustration (Chen,

1996; Lin, 1998; Parker, 1999; Pinheiro, 2001; Sun & Chen, 1997; Wan, 2001). Four types of difficulties were noted in this aspect. They were: (a) difficulties of following discussions and participating in fast paced graduate seminars, (b) difficulties of speaking and writing in English, (c) difficulties of keeping up with readings and being critical, and (d) difficulties of writing academic papers to the accepted standard. The last two difficulties point to the lack of higher order thinking skills. Even the first two difficulties are related to the thinking process of these students. Interactive classroom discussion is one of the major features of most U.S. graduate courses. This approach to teaching requires a high level of language proficiency, application of thinking skills needed to address challenging questions posed by instructors and students, strong ability to ask challenging questions based on reading, clear justification of one's argument, and an ability to clarify one's assertions and reasoning. Routine repetitive recall of information does not help a learner be an active participant in the classroom discussion.

Second, the findings of the academic adjustment research pointed to other incongruities between Chinese and the U.S. educational settings. Such incongruities pose another set of four difficulties. The challenges Chinese and other international students identified are more likely to be relating to reasoning skills, questioning skills, problem-solving skills, and creative thinking skills required for writing academic and scholarly articles and critical analyzing abilities. All these skills and abilities are integral parts of the higher order thinking skills defined and conceptualized by Newmann and many other researchers.

Several research gaps emerged in this review of literature. First, there is little research conducted with a focus on what differences exist between the graduate level instruction and curricula of social science, humanities, and education programs in mainland China and the United States. Second, few studies examined how such differences affect the learning

experiences of Chinese graduate students in social science, humanities, and education programs in the United States. Additionally, the learning experiences of international students in academic programs has been predominantly biased toward research characterizing learners' psychological transformation as the focus of learning (Bettencourt et al., 1999; Beyers & Goossens, 2002; Boulter, 2002; Leong & Bonz, 1997; Strage & Brandt, 1999). The perspectives of learners have been largely overlooked. There is a need for research on how such learners make the successful transition from their previous educational and work experiences to the U.S. graduate programs that require higher order thinking skills.

The purposes of this study were to identify incongruities between graduate programs of social science, humanities, and education in China and those in the United States and examine how Chinese graduate students develop higher order thinking skills to meet the academic requirements of social science, humanities, and education programs in the United States. The perspectives of Chinese graduate students help in developing a better understanding of how they develop higher order thinking skills to meet the academic requirements in U.S. graduate programs of social science, humanities, and education. I now turn to an explanation of the research design used in this study.

CHAPTER 3

RESEARCH DESIGN

The study examined Chinese graduate students' perceptions of incongruities between graduate programs of social science, humanities, and education in China and those in the United States. It examined how these students develop higher order thinking skills to meet the academic requirements of these programs in the United States. To achieve these purposes, a qualitative open-ended in-depth semi-structured interview study was chosen as the major method for this study. Document analysis was a secondary data source for the study. This chapter presents nine subsections: the results of the pilot study; definitions of terms used in this study; research boundaries and limitations; selection of participants; the researcher role and subjectivity statement; data collection; data analysis; ensuring quality of this study; and participant portraits.

Pilot Study

A pilot study was conducted with three participants who were identified through emails, personal phone calls, and friends' recommendations. All three participants came from China and were enrolled in departments of economics, sociology, and political sciences respectively. They were all working on their master's degrees when the interviews were conducted. All participants agreed to have the interview conducted in English. All interviews were audio taped, transcribed, and analyzed.

Based on the inductive analysis of the three interview transcripts, it was clear that coming to a U.S. graduate program was a new learning experience to Tom, Lucy, and Taylor (pseudonyms). It was clear that when their prior knowledge was used as a resource for their

individual learning, fewer incongruities were identified and students had positive learning experiences. In addition, the incongruities identified by the three participants were used as a means to help them reflect on their individual learning experience.

Second, the incongruities these participants identified led to either challenges or rewards. The learning challenges included language proficiency in classroom discussions, lack of training in research skills, lack of exposure to current research done in the related fields, and lack of cultural knowledge or understanding. All participants acknowledged that they had encountered these learning challenges.

A positive understanding of these incongruities led to rewarding experiences. As the interview process and the data analysis process of the pilot study unfolded, the three participants all realized that there were so many new things to learn. Such an understanding enhanced rather than hindered their learning. They found great rewards in doing research in the United States. All three participants have successfully completed their master programs in this institution and are now enrolled as doctoral students in their respective social science programs of U.S. graduate schools.

Participants in the pilot study used a variety of learning strategies. First, when their respective courses all brought about a long list of reading materials, they started to read more in order to improve English reading abilities and understand the research designs in their respective field. Second, they all took necessary mathematics and statistics courses, since research methods in their social science fields are mostly quantitative. Since Chinese students generally have good math skills, they did not find it too challenging to take statistics courses. Third, they all relied on a friendly and supportive academic environment in their respective programs. They asked professors questions whenever they had problems with research methodologies or specific

problems. Faculty in their programs treated them as academic colleagues rather than subordinates. Professors were easily accessible and offered their explanations when necessary.

The pilot study showed that participant observation at graduate level seminars is hard to accomplish as students in small-sized seminars or courses might find the researcher's presence a disruptive force. Furthermore, it would be impossible for me to observe all of the participants' classes in the full study.

In the pilot study, all three participants chose to speak English. But as soon as the tape recorder was turned off, one of them added that he would have been able to share more with me if he had spoken Chinese. For him, using English to express complex ideas and emotions still remained a challenge. As a result, it was decided that the participants would be allowed to use either Chinese or English while being interviewed.

In summary, the pilot study provided new insights into the learning experiences of Chinese graduate students. It helped refine my approach to the interview and it verified the usefulness of my planned procedures. The next part of this chapter provides definitions of key terms used in the dissertation study.

Definition of Terms

Chinese Graduate Students

Chinese graduate students are defined as those who have obtained a bachelor's or master's degree in mainland China, and who are identified as international EFL or ESL students (EFL: English as a Foreign Language. ESL: English as a Second language). Participants of this study will be Chinese graduate students who are enrolled and have finished their first year or/and second year in social science, humanities, and education programs at a public research intensive

university in southeastern United States. The age range of these students varies considerably, with the majority falling between the ages of twenty-four and thirty-five.

Social Science, Humanities, and Education Programs

The term "social science, humanities, and education programs" in this study refers to any graduate program that deals with human behavior in its social and cultural aspects. Potential participants as Chinese graduate students in social science, humanities, and education programs come from departments or programs in anthropology, sociology, psychology, political sciences, public administration, history, geography, economics, linguistics, language education, reading education, adult education, occupational studies, and social work.

Incongruities

Incongruities between Chinese and the U.S. programs of social science, humanities, and education refer to differences in terms of general classroom characteristics, teachers' behavior, and students' behavior. Other differences, such as research skills, relationships among students, and relationship with instructor were explored and discussed. Many of these incongruities are related to Fred Newmann's conceptual framework of classroom thoughtfulness (Newmann, 1990).

Higher Order Thinking Skills

According to Bloom's taxonomy, cognitive objectives of teaching aim at improving learners' abilities to recall, understand and comprehend, analyze, apply, synthesize, and evaluate knowledge. Higher order thinking skills refer to abilities beyond recall and comprehension. Higher order thinking refers to abilities to analyze, apply, synthesize, and evaluate knowledge (Anderson & Krathwohl, 2001). In Newmann's framework, "higher order thinking" challenges students to interpret, analyze, or manipulate information, because a question to be answered or a

problem to be solved cannot be resolved through the routine application of previously learned knowledge" (Newmann, 1990a, p.44).

Research Boundaries and Limitations

Three boundaries were put on this study. First, the Chinese students here are narrowly defined as students coming only from mainland China. Second, I put more emphasis on studying how my sample Chinese students perceive differences in academic programs, rather than their perceptions of the whole learning experiences as they come to this culture. Their experiences of difficulties in everyday life including their personal life certainly have impacts on their perceptions of learning experiences. However, this study does not focus on those experiences. Third, the data were mainly collected through interviewing and collecting documents. I did not use participant observation as a means of studying these students' graduate school learning experiences.

There are three limitations of the study. First, this study was conducted with Chinese students in only one U.S. university. Readers are therefore cautioned about the generalization of the findings to all international students in graduate programs of other schools. Second, I assumed all participants could articulately reflect on learning experiences. However, there were a few who were not as reflective as the others in the study. Third, the decision to conduct the interviews in Chinese and then translate them into English for data analysis and reporting may have resulted in some change or loss of original meanings, but I attempted to ensure the quality of the translation by measures which will be further discussed in the section of internal and external validity.

Selection of Participants

The purpose of this study determined the sampling strategy employed. I was interested in carefully selecting a group of participants, who, due to their particular experience and competence, were able to contribute the most to the research questions under study. As Merriam (1988) explains, purposeful sampling is most appropriate when "one needs to select a sample from which one can learn the most (p.48)." As a result, a group of 10 Chinese graduate students were invited to participate in this study. I used the criterion-based selection to choose the participants (LeCompte & Preissle, 1993). I looked for those who could satisfy the following criteria: (1) participants were all registered full-time graduate students from mainland China; (2) had either obtained a BA and/or MA degree in social science, humanities, or education in a college or university in China; and (3) they had just finished their first year or second year as a full-time master's or doctoral degree students in a southeastern university in the United States. All of them but one had been awarded a graduate research or teaching assistantship, indicating that their language proficiency was up to standard in terms of their GRE, TOEFL or TWE scores. The study included one student who did not have a graduate assistantship. Interviewing this participant provided an opportunity to explore whether this factor alone influenced students' perceptions of their experiences. Participants were all located through informal networks in the local Chinese community. All of them responded with great enthusiasm to participation in this study. Some of them even said during the interview that they would have conducted a similar study if they majored in social science education or comparative education.

Among the international students who are enrolled at this southeastern university, mainland Chinese students have been the largest body of international students by country of origin since the late 1980s (University Fact Book, 1990-1999). Students who are of Chinese

origin in a cultural and ethnic sense include international students coming from Taiwan, Hong Kong, Singapore, and Malaysia. However, the differences in the educational system in those places are substantial from mainland China. Thus, for the purpose of the study, only students from mainland China were invited to participate in this study and they are believed to satisfy the foregoing criteria of sample selection.

The Researcher Role and Subjectivity Statement

I did not think of the relevance of higher order thinking skills to my own learning and teaching experience until August 2000 when I came from China to pursue a doctoral degree in Social Science Education. As an English major in college and a university instructor of English for years, I had few difficulties in communicating with students and instructors in most social settings. Nevertheless, I felt intimidated by the social science classroom instruction simply because I was not prepared for courses that required critical thinking within a wide range of content or the rigorous exercise of other research related higher order thinking skills.

It was a frustrating experience to realize that Chinese social science educators typically did not promote such higher-level thinking and research skills. It was even more frustrating to realize that the lack of such skills made me a passive participant in the learning processes. Here in American social science education classes, I found it difficult to accomplish course assignments such as journal article reviews, book reviews, research proposals, and presentations. Before long, I found out that I was not alone in this struggle. My fellow Chinese graduate students felt frustrated in the face of the large amount of reading assignments and course projects that required high level thinking skills. One of my assumptions was that Chinese graduate students who are enrolled in social science, humanities, and education programs had a greater command of English as compared to Chinese graduate students in disciplines such as science,

engineering, and computer science. In addition, I thought that programs of social science, humanities, and education required a greater command of the language and more higher order thinking than programs of science, engineering, and computer science. Upon reflection, it seemed that the source of frustration appeared to be twofold: a lack of practice in developing higher order thinking skills and insufficient training in verbalizing complex thoughts in English. I realized that this twofold problem could be a challenge to most Chinese graduate students in U.S. programs of social science, humanities, and education.

My interest in this research does not come merely from personal observation. The Department of Social Science Education engages its students at all levels to investigate the evolution of social studies curriculum and instruction in the U.S. public education. Students in the department had discussions over the essential elements of the social studies curriculum in which thinking skills are a crucial part. This experience reminded me constantly of what was missing in the curriculum and instruction of Chinese social science, humanities, and education classrooms. I acknowledged that I did not promote much higher order thinking in my own classroom as a faculty member in the English Department at Beijing Foreign Studies University.

Peshkin (1988) argued that acknowledging one's subjectivity and making assertions about it is no longer enough. He encouraged researchers to seek out their subjectivity. In this part, I discuss my subjectivities in the research progress. In this study, I see myself both as a researcher and as a participant. While I undertake this research, I am one of the Chinese graduate students of social science, humanities, and education in a U.S. university, and so, one of the very group that my study is about. Being an insider-researcher in the community can be both an advantage and a disadvantage. LeCompte (2000) asked researchers to beware of their subjectivities in collecting data. My role as an insider-researcher could help establish rapport

with my participants. As a member in this community of Chinese students, I share common social norms, cultural values, and educational experiences with my participants, who view me first as a member of the same community before they see me as a researcher. My sense of community affected my process of recruiting participants for this study. Since I came to this community, I have been participating actively in activities sponsored by the Chinese graduate student union and local churches. Many potential participants are at least acquaintances, if not friends; therefore, finding participants for this study was a smooth process.

Subjectivities of the insider-researcher, however, can play to my disadvantage. First of all, I assumed that the perceived twofold problem is a major challenge for the participants. I saw myself differently from a science major in terms of thinking skills. It is certain that the subject matters the participants are studying differ. But the thinking process and thinking skills must not be very different. Chinese students who graduated from social science, humanities, and education programs in China have typically been engaged in dualistic thinking (Perry, 1968). Most of them have been trained to believe that there are two categories: right and wrong. They believe that uncertainty about a question or problem is not acceptable. Here in U.S. graduate schools, it would be difficult for Chinese students to be successful in the majority of courses in the core curriculum of social science, humanities, and education, for example, in sociology, education, and political science, as long as the student approaches learning from a single dualistic perspective. My experiences confirmed that it is hardly ever the case that everyone agrees on one point during class discussions. Chinese students gradually come to understand that everyone's idea has potential value and should be rigorously assessed. Knowledge here is defined to be contextual. However, it is painful and time-consuming to make the transition from a dualistic perspective to a relativist perspective.

In addition, I see myself differently from my participants who are much younger than me. Some social science classrooms in China are no longer as boring and didactic, as they were when I was in college and graduate school. I might be too preoccupied with these differences to detect any other learning challenges for my participants.

A second issue concerns my potential over identification with my participants. The participants in this study might make assumptions about my prior knowledge of their educational backgrounds and learning experiences, and, therefore, omit valuable information and explanations from their stories. Conversely, I might make similar assumptions and fail to probe on relevant cues throughout the interviews. One way to watch over such subjectivities is to document the research process in a journal and make conscious efforts not to make assumptions about any of the participants and try to be a keen listener and an active learner. In this sense, I could not agree more with Kvale who warns not to identify with the interview participants too much (Kvale, 1996). If I identify with participants too much, I will be unable to retain a conceptual and critical distance from the participants' accounts (Kvale, 1996).

Third, being an insider of the participants' community, I assumed that it would be easy to get access to the participants. However, participation in this study required a time commitment and sharing of personal experiences. Graduate students from China often appeared to have a tighter schedule than their American counterparts. They were not as available as they at first appeared to be. In addition, the audio taped interviews and document collection used as inquiry methods were new to some Chinese graduate students as they are more familiar with the quantitative research methods. Some of them felt uncomfortable speaking English to express complex meanings in sharing experiences even after they chose to speak English. I anticipated

that some of the interviews might need to be conducted in Chinese and allow this to occur naturally as a part of the data collection process.

The analysis of the data collected in my pilot study that asked broad but similar research questions helped me design this study. When students reported their rewarding experiences in the pilot study, I realized that their learning in this new context was transformational. Their values, attitudes, and beliefs changed. The pilot study reminded me to keep this transformational feature of learning in mind for this group of students.

Data Collection

The decision to use a semi-structured interview design for this research resulted from several considerations. The most important was the theoretical perspective of symbolic interactionism, which requires an exploration of participants' perceptions by understanding how they interact with the learning environment and make sense of such interactions. In addition, the review of literature established that the best way to examine students' perceptions of learning experiences is to talk to them and listen to their reflections on their learning experiences. These understandings and the proposed methodology will ensure that the study does not impose any fixed models or my perspective on participants' experience. As a result, this study presents and seeks to understand how the participants view and make sense of their learning process through their own lenses.

Second, interviewing is one of the most common and powerful ways we use to try to understand our fellow human beings (Fontana & Frey, 1994). The goal of interviewing is to understand the participants' experiences and meanings from their own points of view (Bogdan & Biklen, 1992; Patton, 1990). It allows a researcher to enter the participants' frame of reference to understand their experiences, meanings, and subjective reality. Patton (1990) explains,

> We interview people to find out from them those things we cannot directly observe…. we cannot observe feelings, thoughts and intentions. We cannot observe behaviors that took place at some previous point in time. We cannot observe situations that preclude the presence of an observer. We cannot observe how people have organized the world and the meanings they attach to what goes on in the world--we have to ask people questions about those things. The purpose of interviewing, then, is to allow us to enter into the other person's perspective (p.196).

Interviewing is necessary because I cannot observe the thoughts and feelings of the Chinese graduate students participants, or how they interpret the academic requirements and their learning experiences in their academic programs. For example, when students from China feel intimidated by the fast paced classroom discussion in U.S. settings, they may choose not to participate. When they do not participate, it is hard to make a judgement on their thinking based on their non-participation. It is hard to tell, even if I am present in the same classroom, if there is any thinking going on. Interviewing is the preferred method of data collection for such situations where motivations are hidden (Kvale, 1996; Merriam, 1988; Smith, 1995).

Semi-structured interviews, in particular, have advantages because participants could more likely express their viewpoints in a relatively open interview situation than a tightly structured interview or questionnaire (Flick, 1998). As participants in the study have a large stock of knowledge about the topic, they have their own assumptions, both explicit and implicit, to express in answering open-ended questions. In order to articulate these assumptions during the initial interview, the participants will be supported by a semi-structured interview protocol (see Appendix A). Open-ended questions in the protocol are used to help the participants' reconstruct

their subjective viewpoints about the topic under study. The initial interview was complemented by follow-up interviews to help ensure that participants' statements are fully and accurately interpreted. Moreover, this approach allowed me to obtain and validate the participants' consent to the whole interview process.

Research using interviewing as a design is susceptible to criticism for individual bias. My subjectivity statement is clearly presented in an earlier section of this chapter. For this study, documents are collected to complement the interview data. Document collection in this study refers to participants' curriculum vitas/resume, their course syllabi, and written assignments. Participants' curriculum vitae provided rich information about their educational background and professional preparation before their entry into graduate school. Course syllabi illustrated the requirements of instructors and course assignments provided insights into what participants needed to do to meet the requirements of their programs.

Interviews. In-depth semi-structured interviews were conducted with each of the ten participants. These interviews were based on a semi-structured interview protocol (see Appendix A), which helped me modify open-ended questions while still maintaining the focus of the interview during the conversation. The purpose of the initial interview was to gain participants' perceptions of incongruities between their present and previous programs and to explore what they did to develop the higher order thinking skills needed to meet the academic requirements of their programs during the first year of graduate study in the United States. Here, Anderson's cross-cultural learning process model and Newmann's conceptual framework of classroom thoughtfulness guided the interview protocol. Students were invited to share their learning experiences both in China and in the United States. They were invited to comment on classroom characteristics, teachers' behavior, and students' behavior in those graduate courses. They were

encouraged to share detailed information about specific events that occurred during their learning experiences. I transcribed all the initial interviews within two weeks of the interview and shared the transcription with each participant. Most expressed great interest in reviewing the transcripts. Transcription from Chinese to English was very time consuming. Transcribing the interviews was a beginning stage of data analysis. While I was transcribing each interview, I kept notes about what could be probed more in the follow-up interviews. I critically reflected on the merits and demerits of the questions asked during the interviews. I noticed that with some participants, it was easier to solicit a natural flow of narrative. In those cases, I did not have to guide the conversation. What I had was a rich narrative description of their learning experiences.

During the interview process, I was afraid of being unable to stay focused on all the research questions if the dialogue skipped past a question in the guide. There was the dilemma between pressure of time (participants' limited time) and the researcher's interest in information (Flick, 1998). What I did with some success was to guide the interview to focus as closely as possible to the interview protocol. In cases where participants got too carried away talking about their topics of interests, I acknowledged the relevance of their conversation and diverted the talk back to the right track.

However, with some participants, it was very painful to solicit narratives. They frequently treated the open-ended questions as close-ended questions and provided short answers. As I reflected on the ways that I asked questions, I found that sometimes my questions were not as open-ended as I intended them to be. That made it hard for some participants to feel comfortable sharing their learning experiences. Such critical and timely reflections allowed me to improve the quality of my questions in the interview with the next participant.

The study used follow-up interviews after the transcripts of the initial interviews were shared with the participants (see Appendix B). The follow-up interviews focused more on some of the experiences and events that were mentioned in the first interview that required further exploration. The interviewer specifically focused on participants' experiences of courses and programs that required higher order thinking skills that participants typically lacked experience with back in China. The interview process provided all the participants with an opportunity to share and reflect on their past learning experiences. Such reflections eventually enhanced their learning in their U.S. graduate programs. During the interview process, some participants talked to me on the phone about their research projects. They considered me their academic colleague, who could discuss research projects with them. Because of this dissertation study, participants and I proposed to set up a voluntary organization of Chinese education scholars to meet on a regular basis to discuss issues concerning their learning experiences.

The initial and follow-up interviews each lasted about an hour, and not more than an hour and a half. All interviews were audio taped and transcribed. Participants were informed of the purposes and procedures of the study. No interviews were conducted without the consent of the participants (see Appendix C). Consent forms were reviewed with each participant, who was asked to select a pseudonym during the conversation. All interviews were conducted with permission of participants in my office since it is easily accessible by transportation, and the audio equipment could be easily set up and operated. Participants were asked to select either Chinese or English for the interview and all but one chose Chinese as the primary language for the initial interview. All participants but two chose Chinese as the language for the follow-up interview. However, Chinese and English were often used interchangeably during the interviews. Most participants were expected to speak fluent English to be interviewed. To ensure authentic

data, the interviews were transcribed in the language used in the interview. Portions of the interview that have been selected for the data representation were translated into English.

Document collection. As a secondary data source, participants' curriculum vitas were collected after the initial interviews were conducted. Participants' curriculum vitas provided information about their educational background and professional preparation before they were enrolled in graduate school. They provided information about their academic accomplishments since entering the university.

Course syllabi and course assignments were collected as soon as I finished the first round of interviews. The consent forms participants signed at the time of interview contained a complete list of documents that needed to be collected. To remind them, I emailed them another list of documents. Some participants collected more than I asked for. Some participants had to be reminded a few times to finish collecting all the documents. One participant did not keep copies of the course syllabi, but he suggested that I print out online syllabi of the three courses he has taken. The option was available for participants to collect course syllabi during the semester that they were interviewed. I decided that it was unnecessary to collect the syllabi of all the courses each participant had taken as doing so would have been too time-consuming. Each of the participants collected at least three course syllabi and three course assignments. Copies of the syllabi and assignments were made at my expenses and original copies were returned to participants as soon as possible. All documents were placed into a three-ring binder folder, clearly labeled and color-coded. Participants' names remained in those files only in their initials or pseudonyms. Course assignments included academic papers, journal article reviews, and group or individual projects. Some participants collected copies of their exams as well.

Collecting syllabi was not a significant burden to participants, but most had to dig into their files to provide them for the study. Their efforts were highly appreciated.

The dissertation committee approved the researcher's dissertation prospectus on April 28, 2003 and the Institutional Research Board (IRB) approved the dissertation prospectus by July 7, 2003. The first participant interview was conducted after the approval date of IRB. The first round of interviews with all ten participants was completed as planned in the prospectus. At the same time, the collection of participants' curriculum vitas, course syllabi, and written assignments from participants was in process. Based on the preliminary analysis of the initial interview transcripts and document collection, participants' review of interview transcripts, and feedback from the research advisory committee, follow-up interviews were conducted in December of 2003 and January of 2004.

Data Analysis

The data analysis of this study was based on thematic inductive analysis as well as the constant comparative analysis of both transcripts and documents (Miles & Huberman, 1994; Strauss & Corbin, 1990). Both methods are essential for data analysis of this study. Thematic inductive analysis and constant comparative analysis were both used to identify the participants' perceptions of incongruities and to examine major themes of the students' experiences of developing higher order thinking skills in their academic programs and to identify the differences between Chinese and U.S. graduate programs as perceived by Chinese graduate students.

For the interview transcripts and document collection, the first stage of the inductive analysis consisted of four steps–initial coding, selective coding (Charmaz, 2002), discovering and defining categories, and making connections among categories by writing memos (Strauss & Corbin, 1990). One cannot easily draw lines between steps since coding and discovering themes

is an integrative activity of the whole analysis. It is not unusual that connections were made while I discovered and defined categories. Huberman and Miles (1994) state that coding is analysis. I started by placing labels on the ideas and events that evoked meaning. More codes occurred as I took them from the text (Strauss & Corbin, 1990). Such “in vivo codes” (Glaser & Strauss, 1967; Ryan & Bernard, 2000) enlarged the pool of concepts and helped me identify similarities and differences among codes.

The second stage of the analysis focused on collapsing the codes and categories under themes that emerged from the data. Data analysis of this study continued with identifying concepts and discovering their characteristics and properties in the transcript text (Strauss & Corbin, 1990). Any missing data chunks that participants and I overlooked or ignored were identified and further examined (LeCompte, 2000). To facilitate the data analysis for the next step, I grouped all the initial codes into more explanatory terms, which became categories and provided definitions (Strauss & Corbin, 1990).

The next analytic step involved a close examination of data for both differences and similarities among codes so as to form categories (Strauss & Corbin, 1990). As such focused coding continued (Charmaz, 2002), the constant comparison method was adopted to compare and contrast between categories and across interview transcript of one participant to another. Similar concepts or codes were grouped into categories. Then the large set of codes emerging from the text got further collapsed into a smaller number of categories.

For the next stage of the data analysis, I defined categories and asked questions of the data. Now the data that first appeared to be in large amounts became smaller in size and more manageable (Strauss & Corbin, 1990). Further reading the data, I wrote statements to describe

relationships among categories that shared some common characteristics or identify differences among categories that contrasted each other.

Memo writing facilitated this process by telling me what I learned from the data. The data analysis process forced me to read the entire text several times until I felt the urge to write down my thoughts into detailed memos (Bogdan & Biklen, 1992; Strauss & Corbin, 1990).

After the preliminary analysis of the transcripts was finished, I contacted each participant for his or her comments on the preliminary analysis. The purpose of asking for feedback from participants was not to replicate the individual interviews, but to see if they had any comments on the preliminary analysis. The informal advisory committee was invited to review the transcripts and the preliminary data analysis. Their suggestions helped me identify a few themes that were overlooked during the preliminary data analysis.

Ensuring Quality of the Study

As validity and reliability are important concerns of all research, the qualitative researcher must attempt to produce valid and reliable knowledge in an ethical manner (Merriam, 2001). Existing literature on qualitative research recommended a set of techniques to ensure the reliability and validity of qualitative studies (Firestone, 1987; Merriam, 2001; Stake, 1994; Yin, 1993). Merriam (2001) even suggests a different discourse and vocabulary for discussion of reliability and validity of qualitative studies. Guba and Lincoln (1981) proposed a different set of criteria to verify qualitative research findings. Since all research must have “truth value,” “applicability,” “consistency,” and “neutrality” in order to be considered worthwhile, qualitative research use paradigm that requires specific criteria for addressing “trustworthiness,” a parallel term for qualitative “rigor.” The specific criteria refer to the credibility, transferability, dependability, and confirmability of the research findings (Lincoln & Guba, 1985).

The first important question is to what extent the findings of this study revealed the reality of Chinese graduate students' learning experiences in social science, humanities, and education programs. Internal validity dealt with the question of how much others could trust the research findings. A synthesis of literature concerning this issue provided me with the following techniques: triangulation, member checks, long-term on-site stay, peer examination, dissertation committee members' advice, and bracketing interviews to better understand and articulate subjectivities.

This qualitative study required a data set that was composed of multiple types of data collected from different sources (Merriam, 2001; Stake, 1994; Yin, 1994, 1995). Triangulation was used as a way to ensure internal validity, and I used multiple sources of data and multiple analysis methods to confirm the emerging findings (Denzin, 1970; Merriam, 2001; Stake, 1994). The major purpose of triangulating data is "to get a holistic understanding" of the situation of Chinese graduate students in social science, humanities, and education programs and make plausible explanations about the learning challenges and learning strategies for this group of students on U.S. campuses.

Throughout this study, I continuously used member checks (Merriam, 2001; Stake, 1994; Yin, 1994). When I completed a transcription of a recorded interview, I provided a copy for the participant for his or her review and comments. I exchanged ideas and asked for the feedback from my participants based on my tentative interpretations of the data. A continuous exchange of understanding and interpretations between participants and me helped refine the research design and make the findings more valid and trustworthy. In addition, since most of the interviews were conducted in Chinese, to ensure the quality of the translation and verify themes in the transcripts, an informal advisory team of Chinese graduate students and other community friends who are

not participants in this study were invited to review the transcripts, share their insights, comment on my analysis and interpretation, and provide critical suggestions for my study.

Long-term stay on the research site helps guarantee the trustworthiness of a study (Merriam, 2001). Ever since I entered the social science education doctoral program, I have been reading about and observing the learning experiences of international students. I have been reflecting on the differences between Chinese and U.S. social science, humanities, and education courses, learning activities, and learning strategies. Information and reflections gathered this way influenced the design of this study. However, the researcher's observations and daily contact with the potential participants guided the research questions of the study. For this study, I spent about two years reviewing relevant literature, designing the study, interviewing participants, collecting documents, and analyzing data. Interviews were conducted at least two times with each of the participants. Participants' curriculum vitas, course syllabi, and assignments were collected, discussed with participants during interviews, and analyzed. Such extended long-term study certainly increased internal validity of my research.

Peer examination is another indispensable technique to ensure internal validity. Here peer refers to research colleagues I met in the research method courses and other graduate students in my department. As I analyzed data and came up with categories, I shared my work with colleagues and asked for their comments. As I developed models of findings or made interpretations, I consulted peer researchers to see if they agreed or disagreed.

As a graduate student, I found it beneficial to seek dissertation committee members' advice, another technique for doctoral students to ensure internal validity. Starting from the research design, the committee members were involved in this process of ensuring internal validity. Their advice along the way helped me stay focused on the research questions. Their

challenging questions about the researcher's way of selecting samples, data collection, data analysis, and the structure of the data representation helped me reconsider key decisions in the research process. This advice was often used to enhance internal validity. In the process of data analysis and writing up the dissertation, I obtained tremendous assistance from my major professor, other committee members, and the professors who taught me qualitative research techniques.

"Reliability refers to the extent to which research findings can be replicated (Merriam, 2001, p.205)." In qualitative interview research, reliability, if only understood in such a strict sense of the definition, becomes problematic because human behavior is forever changing and unpredictable. Therefore, Lincoln and Guba (1985) suggested "thinking about the 'dependability' or 'consistency' of the results obtained from the data" (p. 288 as cited in Merriam, 2001, p.206). Hence I was more concerned with whether the results were consistent with the data collected than whether findings would be found again (Merriam, 2001). In this study, I did the following things to ensure consistency.

The first technique is related to the instrument. Here in this qualitative interview study, I was the major instrument. With the hope that this "human instrument can become more reliable through training and practice," I wrote up the subjectivity statement to explicitly explain the assumptions and theory behind the study, and my relationship with the participants (Merriam, 2001, p.207). I explained the criteria I applied to select participants, described them in detail, and conceptualized the social context from which data were collected (LeCompte & Preissle, 1993, as cited in Merriam, 2001, p.206).

Although triangulation is used to increase a study's internal validity, it increases reliability (Merriam, 2001; Stake, 1994; & Yin, 1994). I collected data using multiple methods

and analyzed the data set using different approaches in order to increase the reliability of my research. For example, my study used documents such as participants' curriculum vitas, instructors' syllabi and students' written assignments. The reliability of such documents can be assessed through various techniques of analysis and triangulation and they served as focus during the interviews (Merriam, 2001).

The third technique I used to ensure dependable results is an audit trail (Guba & Lincoln, 1981; Merriam, 2001; Yin, 1994). Documenting the research procedures helps later investigators follow the same procedures and conduct the study over again. Since the major concern for the reliability of a qualitative study is whether there is sufficient clarity needed to do the same study over again, I invited others to see clearly how I came up with the findings. To ensure the consistency, I described and explained how I collected the data, what methods I used for analysis, how coding and categories emerged, what decisions I made throughout the inquiry, and what helped me make such decisions (Merriam, 2001; Yin, 1994).

Yin (1994) suggests developing an interview protocol to ensure the reliability of an interview study. The interview protocol (see Appendix A) included an overview of the study stating the research questions and presenting the interview questions that guided the researcher during interview data collection (Yin, 1994).

External validity for a qualitative interview study deals with knowing whether the results are generalizable beyond the context of the study (Merriam, 2001; Tellis, 1997). Qualitative research is often criticized for lacking external validity since it is hard to generalize findings of Chinese graduate students in one school to those in other settings (Merriam, 2001; Stake, 1994; Yin, 1994). Other qualitative researchers provide an array of notions to replace generalizability and they suggest viewing external validity in various different ways (Creswell, 1998; Denzin &

Lincoln, 1994; Erickson, 1986; Stake, 1995). For Erickson (1986), "the general lies in the particular; that is, what we learn in a particular situation we can transfer or generalize to similar situations subsequently encountered" (Merriam, 2001, p.210). In this qualitative interview study, I selected a group of participants because I believed they each had "the particular" in them in depth and they shared something in common at the same time (Merriam, 2001). Individual participants were not selected as in random sampling to find out what is generally true of the many. To help investigate the learning experiences of Chinese graduate students in social science, humanities, and education programs, I invited several participants from the selected programs to take part in the study (Merriam, 2001; Miles & Huberman, 1994; Yin, 1994). Through an inductive analysis, I believed the research questions, interview questions, and the specific procedures for coding and analysis enhanced the generalizability of findings with other similar populations in other situations.

In this study, I attempted to enhance external validity by using the following strategies: rich and thick description, typicality or modal categories, and initial and follow-up interview design of multiple participants (Merriam, 2001).

A rich and thick description of the research situation provides readers with a detailed and clear picture so that they can decide how similar their own situations are as compared to the research situation (Clifford, 1990; Wolcott, 1994). Readers should be able to determine if their programs are similar to the characteristics featured in detail in this study. Without a thick description, readers would not be able to make such judgments. Therefore, it is impossible for any findings of one study in one setting to get transferred to other settings.

A thorough and thick description of the participants in this study helped enhance external validity. My description of the participants in this study was shared with readers along with the

rationale and criteria I applied in selecting them. My expositions of the participants' educational background, previous academic and work experiences, and the learning experiences in the U.S. context may help other Chinese students as well as other international students to relate to their own learning experiences. The multiple stories of the participants provided an example or a model for further understanding of the experience as each of them lived it.

A third technique to enhance external validity is to conduct a semi-structured interview design of multiple participants that involves initial and follow-up interviews. I selected multiple participants from several social sciences, humanities, and education programs to best represent the Chinese graduate students. Interviewing individual participant offered me a golden opportunity to gather data. The research design that involved an initial interview and potential follow-up interviews offered me a chance to go back to the field and fill in missing data or data that should be explored more. I compared and contrasted the data sources, which allowed for triangulation, to enhance reliability and validity in the study. For example, I conducted initial interviews with individual students. At the same time, students' curriculum vitas, instructors' syllabi, and students' written assignments were collected. Follow-up interviews were conducted to further probe on relevant information. Merriam (2001) encouraged such practices as they would "allow the results to be applied to a greater range of other situations (p. 212)."

Ethical issues may occur in the course of the interview study and they might directly affect the validity of the study. Most importantly, there exists the researcher-participant relationship. Since I had more participants who volunteered for the study than I needed, I selected participants who best fit the criteria. Whatever decision I made, the research ethics requires me to be honest and accurate to document every key decision I made in the whole research process. Merriam (2001) states, "ethical dilemmas are likely to emerge with regard to

the collection of data and in the dissemination of findings (p.213).” In fact, ethical issues are likely to occur at every stage of the research process (Kvale, 1996). For example, given the purposes of my study, I attended to potential and emerging problems as they surfaced in the process of data collection, believing they offered a chance for participants to share their learning experiences with me would help them reflect on their academic life in this U.S. context. Such reflections empowered learners and enhanced learning. However, I was careful in dealing with the potential risks participants had to take. For example, during interviews and document collection, participants often had to discuss private topics or reveal weak points in their written assignments. The interviews with the participants led to issues concerning unpleasant teacher-student relationships. Again, I tried to be honest and accurate. To deal with such issues, I considered such possibilities before undertaking this research, and I attempted to present sensitive findings without distortion. Finally, I systematically documented and reflected on the potential issues that surfaced in the research process (Merriam, 2001).

This study presented an additional challenge for me to validate its findings because I used Chinese to interview my participants, and then transcribed the interviews in Chinese. Actually there are a growing number of studies conducted in the English-speaking academic community with people who speak little or no English, or who speak English as a foreign language. Few researchers working in this way have reflected on the effects of having to interpret a study conducted mainly in another language. Temple (1997) pointed out that reports of research that involve the use of more than one language need to include a thorough description of translation-related issues, problems, and decisions.

Collecting data in Chinese and presenting the findings in English involves the researcher’s making translation-related decisions that have a direct impact on the validity of the

research report (Birbili, 2000). When I translated parts of the interviews for data representation, I came across many interpretive challenges. My prior training in translation between Chinese and English taught me not to literally translate what the person said or wrote, but what he or she meant. Issues of representation, agency and power, and subjectivity raised by DiGiacomo (2003) and Temple (1997) in their experiences as translators and ethnographers arose in this study.

Issues of representation

Translation requires a faithful interpretation of original intent. There are many layers of meanings at play in any linguistic expression. One layer is semantics and involves the interplay of denotations and connotations (Tihanyi, 2002). There are often no exact equivalencies between words of different languages. Those of us who speak both Chinese and English are familiar with examples such as biscuits being a kind of crackers in Chinese but a different form of bread baked in a small shape in American English.

Examining the Chinese transcripts, I noticed there were phrases or words that could hardly be translated. For example, “higher order thinking skills” could be interpreted and understood by different participants in many different ways. Another example, in Chinese language, “ben ke,” meaning “undergraduate education,” has different connotations in China and the U.S. contexts. The question was whether I should keep using the English version or translate it to the closest equivalent in Chinese. I decided to use both approaches in the interviews.

Importantly, participants in this study were fluently bilingual and they easily slipped between Chinese and English. For example, participants used “seminar” a great deal as a major format of instruction in the U.S. graduate school and they did not bother to translate it into Chinese. By the same token, words such as “peer activity,” “research project,” and “syllabus,” were used in English even when participants chose to be interviewed in Chinese.

The next concern is how I should select representative data for presentation. The question became whether I should translate every word literally or go for a "free" translation of the transcripts. A literal translation, meaning word-by-word translation, may appear to do more justice to what participants have said (Birbili, 2000). However, a literal translation might affect the readability of the text and readers might end up having a hard time making sense of the dialogue. A "free" translation often sounds more elegant to readers, but it risks misrepresenting participants' meanings (Birbili, 2000; Rubin & Rubin, 1995). In this study, I chose to translate meanings of the participants to make sure that participants' voices were best represented.

The transcripts of two participants who chose to be interviewed in English led me argue that all researchers "translate" the experience of others (Bauman, 1987; Temple, 1997). The issue of representation exists even if researchers are conducting the interview research in the same language of the participants. For example, a native English-speaking researcher interviewing American students about their understanding of higher order thinking might find that participants interpreted the phrase in different ways. One way to be mindful of such an issue is to constantly reflect on the research process.

Issues of agency and power

In the process of conducting this research project, I realized for the first time that research could be a powerful influence on people's lives, both the participants and the researcher's. The purpose of my dissertation was not to help Chinese graduate students succeed in their U.S. graduate programs learning experiences, but several participants and I decided to start an organization to help participants achieve success in their learning experiences. As a result, they established Association of Chinese Education Scholars (ACES), a voluntary organization for all Chinese graduate students who major in education and other social sciences programs. As

findings of the study suggest that Chinese graduate students find it beneficial to have a support group that could help them with editing papers, one of the sub-committees was formed for that purpose. The sub-committee consists of a few doctoral candidates from different programs, all of whom volunteered their time to help other fellow students review papers.

There are always difficult decisions for the researcher to make concerning what to include and what to leave out in data representation. In this study that involves language translation, there is increased potential for misinterpretations. It is therefore important to work closely with participants to preserve their voices, perspectives, and power in the process.

Issues of subjectivity

When I collected data, I was in fact collecting details about participants' lives (Temple, 1997). For the participants in this study these interviews are accounts of their lives, experiences, and interpretations. The relationship between participants and me is not a one-way process. My subjectivity influences what I know, and what I know and my experiences influence what I write, which in turn influences my relationship with the participants (Temple, 1997). The hats I was wearing in this process are hats as an interviewer, transcriber, translator, and interpreter. Reflecting on these roles is a useful way to engage with the perspectives of participants. The participants and I debated many issues and meanings in the process of initial interviews, follow-up interviews, and informal contacts. I came to understand that this was a productive methodological exercise (Temple, 1997).

Like any other research design, this qualitative interview research design has strengths and limitations. If the study is the best design for answering the research questions, then it will offer a means of investigating how Chinese graduate students develop higher order thinking skills. This complex phenomenon consists of multiple variables of potential importance in

understanding the phenomena (Merriam, 2001). This study allowed me to have an in-depth, rich, and holistic account of the phenomena. I used Chinese and English to facilitate conversations with participants and allowed them to share emotions, feelings, and perceptions of their learning experiences in graduate programs of the U.S. universities. The findings of the study brought about understanding that in turn can affect and even perhaps improve the practice of other Chinese graduate students as well as that of other international graduate students.

A study report with rich and thick description might turn policy makers away as they do not have time to read such a lengthy report (Merriam, 2001). Guba and Lincoln (1981) note another limitation of a qualitative study. They warn against a study that might either "oversimplify" or "exaggerate a situation." They remind readers that findings of one qualitative study are just a cross-section of the real life. The findings of the study are not an account of the whole.

In a qualitative study, the researcher is the primary instrument of data collection and analysis. Inadequate training to conduct interviews, and lack of consideration of ethical issues involved in the process might compromise the findings of a study (Merriam, 2001). Biases of the researcher could play into the whole process of the research. I was fully aware of my subjectivities and discussed them in an ongoing process of self-reflection.

In the remaining part of this chapter, I present participants portraits to set up a context of the study so that the readers have a picture of who are the participants in this study.

Participant Portraits

The participants' portraits, which are told in the voice of the researcher, were based upon the initial and follow-up interview transcripts, informal contacts via emails, and telephone conversations. These narratives were intended to present who the participants are in this study

and how they described their learning experiences. The participants' portraits help us understand their learning experiences both in China and the United States from their perspectives.

Each participant's learning experience is considered unique. Knowing who the participants are helps explain why they perceive the incongruities in two learning environments so differently from others in the following chapter. Table 3.1 presents a demographic data sheet of all the participants.

Table 3.1

Demographic Characteristics of Participants in This Study

NAME	MAJOR	M/F	AGE	PREVIOUS DEGREE	PREVIOUS WORK EXPERIENCE (years)
Zoe	Geography	F	30	B.A./M.A. Economics	3
Xing	Anthropology	F	27	B.A./M.A. Archaeology	NONE
Harry	Adult Education	M	31	B.A./M.A. Education Psychology	6
Feng	Education Leadership	M	30	B.A. English MA Linguistics	4
Helen	Language Education	F	25	B.A. English	NONE
Jason	Linguistics	M	36	B.A. English M.A. Linguistics	10
Yan	Linguistics	M	36	B.A. English	12
Heather	Linguistics	F	25	B.A. English	NONE
Renee	Journalism	F	30	B.A. Political Education	5
Maurice	History	M	27	B.A./M.A. History	PART-TIME ONLY

Note. All names are pseudonyms chosen by the participants. Renee is the participant without a graduate assistantship.

The first two participants in Table 3.1 are Zoe and Xing. The social science subjects they are studying in their U.S. programs are not exactly the same as their subjects in their Chinese graduate programs. However, they finished their master's degree programs in China and had more research experiences in their respective field of social sciences than the other participants in this study.

Zoe

Zoe, a Ph.D. candidate in the Department of Geography, has already completed her comprehensive exams and was admitted to the doctoral candidacy in her program. With excitement, she called me and wanted to talk about her reflections over the years. Talking to her is always a learning experience. Zoe went to the Institute of Finance and Economics in Hebei from 1990 to 1994. As economics major, she identified herself as a student of social sciences. She continued to pursue a master's degree in economics in Beijing Institute of Finance and Economics. Upon graduation in 1997, she was assigned to work for the Journal of the Chinese Academy of Social Sciences. She is the only student among all the participants who had such an extensive experience with the publication process in China. In addition, she had published quite a number of influential journal articles in her field before she came to the United States.

When she studied economics in China, she learned only about Marxist political economics and heard little about other Western economic theories and practice. When she came here, she began to enjoy doing research in this new environment. In less than three years, Zoe said, "I have learned what I could not have learned in China for ten years." With a clear focus on research in her program, Zoe did not care much about grades when she took the required courses. She has been all the more concerned with doing research and writing for publication.

The first year of graduate school was difficult for Zoe. Although she thought her English was good in China, she realized how insufficient it was when the U.S. instructors spoke quickly in class. Reading became a challenge. Her husband, who came to visit Zoe three months after she came to her program, commented that Zoe was crazy trying to keep up with the readings in her first semester. To her, reading is a real challenge for researchers who are doing research on topics of human geography.

Zoe liked the academic community in her department. Her major professor and the committee members have been a great support in many aspects. There was a time when Zoe was so frustrated and depressed that she did not think she could complete the program. When Zoe received denials for her research grant applications, her major professor comforted her by suggesting that Zoe should not take it personally. Zoe was encouraged to persist in what she has been doing, and she is now doing well in her program. One of her grant proposals for research has been approved. With this grant, she has free access to the data set she needs for her dissertation study.

What Zoe liked best about this overseas learning experience is that her intellectual capacity was greatly challenged and strengthened. When she found out that one has to have six to eight papers written in a year in order for two out of that set to be reviewed as journal articles before they could be accepted and go to press, Zoe was “amazed” and “overwhelmed.” She did not think it was possible for international students like her to have accomplished that.

Xing

When Xing arrived on campus, her major advisor told her that she was the first ever student in the Department of Anthropology and that she might be the only one in the history of the department. Xing majored in archaeology in her undergraduate and graduate programs in

Wuhan University from 1996 to 2002. Her memory of undergraduate courses was best described as lectures only. Students, she recalled, were busy taking notes. Before exams, everyone stayed up learning by heart the notes from lessons.

Her graduate courses required more higher order thinking skills than undergraduate years. Professors encouraged students to think, but they were not strict with them. She participated in a few research projects with her Chinese graduate advisor. When she came to her graduate program in the United States, she was flabbergasted to find out that archaeology was listed as a sub-field under anthropology. In China she studied archaeology in the History Department. Here the anthropology program requires students to have a general knowledge in all the four areas of anthropology, which are the four major themes of the department. Much of what Xing had learned in China had little relevance to what she was doing now.

A brief look at her graduate transcript could reveal the diversity of the courses she has taken since the fall of 2002. No wonder she felt greatly challenged during the first semester. Taking three courses kept Xing busy enough. She had to work hard in order not to be left behind. Readings became the first challenge. She spent hours on them, but still could not finish all of them before class. Each of the courses required the completion of at least three papers, which required her not only to summarize the readings, but also to synthesize the main ideas in all the readings and make her own comments. In addition, she found it intimidating to make presentations, which were a crucial component of all the graduate-level courses she has taken. The first time when she made a presentation, she recalled that her feet were cold and her heart stopped beating. With the help of her study partner and the instructor, she gradually learned the techniques of making an impressive presentation.

Last summer Xing participated in the field research with undergraduate students on an off-campus campsite. She was amazed at the willingness of these students to pay out of their own pockets to study archaeology. In China very few people would be interested in studying archaeology, let alone paying their own tuition for it. She was amazed at the advanced techniques that researchers employed to record and categorize the items they unearthed on the site. Participating in the whole process is a very exciting experience for Xing. She said that she learned ten times more in one year than she had within three years in China.

As she entered her second year of the program, her major advisor encouraged her to start building up a bibliography for her dissertation. Compared to other graduate students, Xing thought it seemed too early, but she appreciated such a timely preparation. Her major professor supported and sponsored her to go to conferences in the field even when she did not have papers to present. There is no doubt that Xing will soon become a successful researcher in anthropology and archaeology.

The next three participants following Zoe and Xing in Table 3.1 are Harry, Feng, and Helen who are students of education in their U.S. programs. In terms of previous work and research experiences, Harry should have been grouped together with Zoe and Xing, but he was not because he is grouped with other education majors. Harry's previous experiences of research are outstanding among the participants.

Harry

Harry, a second-year Ph.D. student in the Department of Adult Education, wanted to become an expert in adult education in China. When he talked about research, his eyes glowed with wisdom and confidence. Currently, he was busy working on a draft of his research proposal for a research course that he was taking. As for such an early preparation of the research

proposal, he explained that he did not want to waste the opportunity to build up on his dissertation research project.

He entered Hebei Normal University in Baoding, Hebei Province in 1989 and majored in educational psychology. With much uncertainty about the discipline at the beginning of his undergraduate program, he became increasingly interested in psychology. He summed up his college courses as note taking and note cramming before exams. In retrospect, he thought that classroom instruction in his Chinese college years was too childish. He did not let his four-year college go wasted, though. In his spare time, he read extensively in many areas, such as psychology, philosophy, and history.

He moved on to pursue further study in educational psychology at the graduate school of the Capital Normal University in Beijing upon graduation. Among all his peers, Harry was the top student in the graduate school entrance examination. In the following three years, he made great efforts to experience the whole process of research. Under the direction of his helpful and influential advisors and professors, he conducted several research projects. His master thesis was about kindergarten children's development of 3-D perspectives in painting. He acquainted himself with what a research project normally entails: research questions, literature review, research design, data collection, data analysis, and write up. His thesis was highly praised in his program. He considered it a pity that he never had a chance to publish it after he began working with the China State Testing Authority upon graduation in 1996.

The following six years of working at the Testing Authority provided Harry with more opportunities to practice using statistical methods in testing research. He had chances to travel overseas to have academic exchanges with scholars in the field of adult education and open education. The deeper he delved into the field, the more he realized that China was far behind

other countries in research and theory development. He was determined to pursue a Ph.D. degree in a U.S. graduate school.

He spent about a year preparing for and taking GRE and TOEFL. The application process was long but successful. With his impressive test scores and a more impressive list of publications in academic journals, he made it into the high-ranking adult education program in a U.S. university.

After making many adjustments in life and in his academic program, Harry began to enjoy his new life as a student after being "out of the grooves" for so long. Since he has never really stopped learning, he did not find the life as a doctoral student too challenging. However, he recognized some differences. He particularly liked it when instructors emphasized students' independent learning. Group activities and joint research projects are new concepts to Harry. He thinks that China needs to learn more from such more effective teaching strategies. He is full of praises about the sound academic research community here in the United States. As a researcher, he believes he is now a "fish back in its pond."

Harry's previous research and work experiences enabled him to make a successful transition to his U.S. learning environment. However, Feng and Helen, who are education majors in their U.S. graduate programs, found it difficult to adjust to the requirements of their U.S. programs when they first came here. They did not have much previous experience of research in education. Nor did they have appropriate perceptions about the U.S. programs they are in.

Feng

Feng, a Ph.D. student in the Department of Educational Leadership at College of Education, is the only participant who chose to be interviewed in English. He began to learn English in a poor village school where there were no qualified English teachers. Therefore when

Feng entered Teachers' College in Yangzhou University, Jiangsu Province, a southeast region of China in 1990, his pronunciation was problematic and he could not understand much English. To improve listening comprehension, he listened to programs broadcasted from VOA and BBC with great enthusiasm. This greatly improved his ability and within a semester, Feng became one of the top students in his class. He achieved substantial cultural understanding by listening to the radio programs and noted that this had been lacking in his regular college courses.

During the early 1990s, Chinese universities still practiced the job assignment system. Under this system, most university graduates should be assigned a permanent job in the place where they came from. Feng had two choices at that time. He could go to graduate school to avoid returning to the village he came from. If he failed, he would go back and become a village teacher. The second option was not a choice he would consider. He had to make it to a graduate program. At that time, linguistics and literature were the most selected subjects for graduates of English language if they considered pursuing further studies in a graduate school. Feng, a lover of British literature, had to choose linguistics as his major when he entered the graduate school of Jilin University of Science and Technology. Feng thought that linguistics was dry and boring, but the required readings for the graduate school entrance exam were limited and easier as compared to the wide selection of readings in literature. Feng became one of the three students in his graduating class to enter graduate school in 1994 upon college graduation.

The next three years in graduate school, Feng did not have a very pleasant experience. Linguistics was not his favorite subject after all. Now that he avoided going back and did not have to face the tough choice of teaching in a poor village, nevertheless, he felt that he had lost his goal in life. After completing a master thesis without putting much effort into it, in 1997, he was offered a teaching position in the Department of English at Nanjing University of Post-

Telecommunications. The first year passed well when Feng taught with much excitement as a new teacher. Then the next two years Feng had to prepare his students to pass the Bend 4 and Bend 6, the standardized tests that were required for all non-English majors across Chinese universities. Such a curriculum strongly restricted his freedom of instruction in the classroom, dampened his enthusiasm, and completely disillusioned him. Then he decided to "go the extra mile"--going abroad to pursue further studies.

Again he was faced with choosing a major in a U.S. graduate school. He was all the more interested in university-level administration, believing that educational leadership is the right program for him given his teaching background. Therefore he was offered a graduate assistantship by the Department of Education Leadership and became a doctoral student in 2000.

It did not take him long to realize with shock that his perception of the nature of the program did not quite match reality. The education leadership program focuses exclusively on K-12 public schools and has little relevance to higher education issues. The program is practice-oriented and requires previous relevant experience in the field. Without such experiences, Feng found out that he became a passive learner. He managed to get straight A's for the courses he took, but he did not learn much since he was not completely immersed in his field.

It was until the third year in his program that Feng began to overcome this frustrating experience. Under the pressure to focus on a topic for his dissertation, he began to delve into the research in his field. For the first time, he understood that education is a social science, and it could be researched from many different perspectives. He finally set his heart on a specific topic in his field and began to make much progress. Now he has passed both the written and oral comprehensive exams. He has completed his dissertation proposal and became a doctoral candidate in November, 2003.

Helen

Helen is a master student in Reading Education at College of Education. At the time of the initial interview, she had just started her second year in the program. She graduated from Beijing Second Foreign Language Institute in 2001. As English major, she attributed her English proficiency to personal efforts and teachers' help she had in college. She said that, if she used to be a good student in college, now she was a "bad" student in her U.S. program. Her first goal in her Chinese college was to learn to speak English. She was well motivated and studied very hard. Now in her master's degree program in reading education, course assignments came in the form of reading assignments and papers. She felt sorry that she was not as highly motivated as she used to be in China, but she felt all the more pressured and depressed by the enormous amount of reading and writing assignments.

When she was in her Chinese college, she took quite a number of courses per week and still did not feel so pressured or depressed. Now she had only three courses in her academic program, but each course kept her busy for the whole week. There were so many readings, papers, and research projects to complete. With very little background in reading education, Helen was not familiar with the new learning environment.

Helen chose to major in reading education because she believed this program would help her learn ways to improve the reading comprehension for her future students. During her first semester, to her amazement, she realized that reading education is concerned with how young learners practice reading aloud. The focus is not only on comprehension, but also on phonics. It focuses on young learners' awareness of phonics and pronunciation.

With this misconception, Helen felt greatly challenged in her program. Her lack of experience in teaching reading to young learners posed a challenge. When fellow students shared

ideas in class discussion, Helen found it hard for her to make contributions. For the first year in her program, she was not interested in research at all; she considered all the research articles boring. It wasn't until the time when she started her master thesis that she began to really enjoy conducting research.

Helen observed that it is a more difficult job to teach in North American schools than in Chinese schools. Students here enjoyed challenging teachers in class. This requires teachers to stay current with the latest development of knowledge and research in their fields.

Getting over the frustrating experience, Helen was grateful that the instructors and professors she had worked with were nice and helpful. They understood that she lacked teaching experience in reading. Many times they were willing to adjust their requirements to Helen's needs and challenges. Gradually, Helen became more confident. This semester when she got the new syllabi for new courses, she did not feel as overwhelmed as she had been before. She now had a schema and a structure in her mind about what to expect of each of the courses.

Jason, Yan, and Heather are in the same U.S. graduate programs of linguistics. They took many courses in education. Therefore some of their experiences share in common with Feng and Helen.

Jason

Jason is a second-year doctoral student in the Department of Linguistics. Jason entered Chengdu Normal College in southwestern China in 1994 as English major. As far as he could recall, he survived the college life pretty easily by reading the textbooks that his teachers assigned. As long as he read them, he passed all the exams without difficulty and had very little experience of writing papers. He became a graduate student of linguistics in 1997 at Sichuan

University of International Studies. Upon graduation, he joined the faculty at Sichuan University of International Studies and worked there from 1999 to 2002.

Jason concluded that he had indirect learning experiences in China and direct learning experiences in the United States. By indirect learning, Jason meant that students just read the assigned textbooks and wrote about their reflections based on their comprehension of the text. Whereas in the United States, students are more encouraged to conduct hands-on activities and to experience direct learning. They not only read, but also they come to conclusions through practice in the form of field work, questionnaire development, observation, and interviews.

Jason lost 20 pounds in the first semester of his graduate school program here in the United States. The intimidating list of reading assignments remains a nightmare to him. For the first six weeks of the U.S. program of linguistics, he got up every day at 5 am and started his daily reading in his apartment. Such a ritual was kept on weekends since he had to spend extra hours keeping up with the readings. He read until noon and continued after lunch until dinner. After dinner, he would take a short walk before he came back for more reading until 10 o'clock at night. Jason was disappointed to realize that he was a slow reader despite his three-year work experience as an English teacher in China. Jason described that his life for the first six weeks in Athens was no different from his life in the southwestern Chinese town as he had no time even to appreciate the sky and birds.

Jason is a very conscientious learner. He documented his learning experiences well by sharing specific incidents in his learning experiences. At about the tenth week in this new learning environment, to his delight, Jason realized that now his reading speed had at least doubled. He realized, too, that now he could have time for sports activities and shopping with friends.

Jason is grateful that he had an Australian instructor who volunteered many hours to help him improve English when he was in college. Compared to other Chinese graduate students in their U.S. graduate programs, Jason learned to be an independent learner many years ago. He appreciates instruction from his professors and advisors here, but he knows that he has to make decisions about his own learning. Self-directed learning benefits him a great deal. Last summer, while his fellow students were busy taking required courses, Jason decided to stay home and reread the readings that he thought he did not completely understand. He felt that this independent reading benefited him a lot by making up the things that he missed in the first two semesters of his graduate program.

Yan

Yan graduated from Beijing Foreign Studies University as English major in 1989. He had worked as a businessman in an import/export corporation for twelve years in Zhengding, Hebei, China. Being a successful English-speaking businessman, however, did not quench his thirst for more language learning. He decided to pursue further studies in linguistics in the United States even at the expense of quitting his lucrative job in China.

The first semester to Yan was an adjustment period. Back in China, so long as one could memorize what the teacher has been cramming into one's head, one would pass exams. But since he came here, Yan soon discovered that teachers require more than recall and comprehension. They aim at students' skills in analyzing, generalizing, and making conclusions and evaluation. Through assignments of research projects, professors in academic programs are determined to train students to become independent researchers.

Yan identified a challenging course, which had many new words for him. It used a lot of examples in languages other than English. Even his North American classmates found the course

to be challenging. Yan managed to make it through the course by carefully following the guidelines set by the instructor in the course syllabus. He closely focused on the instructor's comments and suggestions and was willing to change his own way of thinking and writing. He felt these efforts eventually very much improved his writing.

Yan still found it challenging to speak English in his academic program despite the fact that he majored in English in China. Presentation, which is part of most graduate-level courses, requires a high level of proficiency in spoken English. As far as readings are concerned, Yan read slowly. He spent hours on readings to keep up with the assignments in different courses.

On the whole, Yan has enjoyed his learning experiences in his U.S. graduate program. He particularly likes the way North American instructors conduct their classes. For example, North American teachers encouraged students to ask questions even during the lecture. When teachers were asked questions that were hard to answer on the spot, they acknowledged the challenge and promised to research further for a more adequate response rather than "brushing it away." Yan is fond of such two-way communication in classroom and greatly values the exchange of ideas on issues and topics.

He observed that the North American graduate programs required multiple skills, among which higher order thinking skills are the most important. In addition, North American instructors made this very clear in their course syllabus. To Yan, attending the North American graduate school is an enriching experience.

Heather

Heather is a master's degree student in the Department of Linguistics. As English major, she speaks fluent and beautiful English. Credit, she said, should go to her Chinese professors of English in her college years. In her sophomore year, Heather's English took big strides forward.

She benefited from taking a course entitled “Oral Interpretation.” Her Chinese instructors of English used many creative ways to help build up a conducive environment so that students could learn English in a quasi-realistic situation. Heather was lucky to have an instructor who shared with students basic research methods in linguistics.

Heather waited a year after her graduation from China People’s University in Beijing in 2001 to enter the master’s degree program of linguistics in the U.S. With her high proficiency in English, Heather did not expect that she could have encountered any difficulties in her academic program in this new environment. However, when she took her first course, she dared not speak or participate in the fast-going discussion.

Heather described herself as an introverted person who must take a long time to adapt to a new environment. “Everything was new” to Heather. She felt frustrated when she had little to contribute when discussion turned to focus on teaching experiences of students in terms of language instruction. It took her a long time to get used to speaking in discussion. Heather motivated herself to speak more as each class went on. She realized that language remains a problem for many Chinese students who pursue degrees in programs of social sciences, humanities, and education. Although she had no difficulty expressing herself in social settings, Heather found that, when it came to academic discussion on theories and technical terms in linguistics, it was hard for her to catch up with North American classmates.

Writing was a challenge for Heather. Most courses require writing papers to synthesize ideas based on readings. With little experience of writing academic papers, Heather sought assistance from people around her. She was told to try out the first paper simply by following the guidelines set up by the instructor. While most teachers provided a structure for students to write

up a paper, Heather felt uncertain about the requirements for each paper. She described the experience as “feeling the rocks to cross the river.”

With every course Heather took, she started by trying to keep up with all the readings. When she could not take notes, she borrowed them from her classmates. When teachers required projects as term assignments, Heather had a hard time focusing on a topic. With the help of the instructor, Heather eventually set her heart on a specific topic and began the whole process of doing research on her own.

Heather was very impressed with the ways that North American teachers invited students to participate in the evaluation of students’ performance. When students knew of their responsibilities, they were more willing to be responsible for their learning. This was an enlightening experience for Heather. When Heather started the program, she felt as if she directly entered graduate school from high school since she had virtually no background in theory and practice in the field of linguistics. Now she had overcome her psychological barriers and began to learn with confidence in her program.

The next participant presented in Table 3.1 is Renee, who was invited to participate in this study as a representative of the Chinese graduate students who were not on an assistantship of any type.

Renee

Renee is the only participant who was not a graduate assistant or research assistant. She came along with her husband, who was working as a post-doctorate fellow in the Department of Life Science in a U.S. university. Renee took TOEFL and GRE tests after her arrival and became a student of the master’s program in the Department of Journalism in 2002.

Renee went to China Youth College in Beijing from 1992 to 1996. She majored in political ideological education. According to her description, she did not study hard in college. Her Chinese college was formally known as the Central Youth League School and was not upgraded to its current position until the 1990s. The main purpose of the school was to train students to become leaders of the Youth League, which was the umbrella organization of the Communist Party, and which was mainly for the young people across the country. Therefore the school was not academically oriented. Graduating from that college in 1996, Renee went to work in the Union Medical School in Beijing and was responsible for the administration and supervision of graduate students in that school.

During her college years, Renee recalled that she had many boring classroom experiences. Teachers talked most of the time and students could not care less. When exams came, everyone worked hard and recited lecture notes. All of the students survived the exams without difficulties. She did not have any experience of writing academic papers before she came here.

While she was in college, Renee had opportunities to get involved in making TV program productions with the China Central Television. She found herself interested in that and wanted to pursue further studies in journalism. When she came to the School of Journalism, she found out, with surprise, that she was bound to be disappointed if she was interested in learning practical skills of shooting films and editing programs. The master's degree program of journalism is more research oriented than what Renee had expected. Renee dreaded the research seminar courses at the start, as she could not figure out the differences between quantitative and qualitative studies. Language was one of her challenges. She had to spend hours on the weekly

readings. Renee was ill prepared to write academic papers. She learned this skill through trial and error.

With the support of her instructors and her persistent efforts, Renee benefited from doing research projects with other students. Renee recalled her first experience of doing a survey by asking passers-by in front of the school library to complete a questionnaire for her group project. Step by step, Renee found her way in the program. She told me that her "learning experience is worth every minute of it." What is more important, the learning experience in the past year changed her way of thinking. Renee believed that all she has learned about the theories and methodologies of doing social science research apply to all subjects in social sciences. She enjoyed using statistical methods to research a topic near and dear to her heart. So far Renee has not done any projects on her own, but she has learned much from group projects. She preferred the cooperative learning experiences when she participated in group research projects.

Maurice, the last participant in Table 3.1, is presented as a discrepant case of this study because his learning experience in China was different from those of the other participants. He is the only participant who had extensive training of knowledge and skills in his undergraduate and graduate programs of humanities in China. He felt that he was well prepared for the challenges in his Department of History here.

Maurice

Maurice is a second-year M.A. student in the Department of History. He was born in February 25, 1977 in Qingdao, a seaside city in Shandong, east of China. Because of his excellent academic records all the way through high school, he was recommended to enter Beijing University in 1995 without taking the nation-wide college entrance examination. At that time, the Ministry of Education launched a plan of establishing quality programs of social

sciences and humanities in a few selected universities. Beijing University, the most well known higher education institution in China, became one of first selected schools. Maurice became one of the students to have this new and unique experience in an experimental program of liberal arts, humanities, and social sciences.

For his first two undergraduate years, Maurice took all the required courses in humanities, history, and philosophy. In his junior year, he chose to major in history. At the same time, he had a minor in law. With his excellent academic records, Maurice again entered the graduate school of Beijing University with a waiver of exams. He majored in Contemporary and Modern European History. During the following three years, Maurice read many books. Such an early experience of heavy readings benefited him a great deal when he came to study in the History Department here. His master thesis is about a British science fiction novelist, H.T. Wells. It focused on Well's works from the perspective of the development of science and was published in 2002 in the Journal of Historical Studies by the Beijing University Press.

During his undergraduate and graduate years, Maurice studied French and German and took courses in economics. Even with such accomplishments, Maurice's interests went beyond textbooks. In his junior year, he realized the importance of "social practice," which is a form of voluntary community services. To get acquainted with the social reality of the rural areas in China, he participated in the investigation field trips sponsored by his Department of History during the summers of 1996 and 1997 to visit places in northwest and southeast of China. This experience taught him much about China that he could never have learned from books. During these same years, Maurice worked off campus. He designed web pages for a local business, but his most lasting job was as a part-time reporter for the China Youth Daily. All these work

experiences provided Maurice insights into the society and he became a mature young man with social consciousness and excellent communication skills.

Maurice impressed me most with his critical thinking skills. He was reflecting on his learning experience during the whole interview. Not only did he share his critique on the Ministry of Education establishing the experimental program at that time, but also he cautioned me not to jump to any conclusions based on his unique experience. He did say that his experiences represented quite a number of people who had gone through those trial periods of that program.

Maurice is the only student among the participants in this study who had similar classroom experiences in China as he has now in the United States. Teachers he had in China assigned books and articles for students to read, and required students to participate in class discussions and write academic papers. Evaluations of students' performance were conducted based on the quality of these papers and the level of their thinking skills. But Maurice told me that his Chinese teachers never assigned as much readings as instructors do here. Most of the time, his Chinese teachers dominated classroom instruction. The assignments and requirements he had could never compare with the degree of involvement and commitment required here. He did emphasize that, as far as thinking is concerned, Beijing University required as much critical thinking and higher order thinking as his U.S. program of history does. To Maurice, most of the differences lie in degrees of requirements in terms of readings, discussion, and paper writing. The history program at Beijing University required the same critical thinking and higher order thinking skills, but his Chinese instructors and professors seldom enforced such requirements in their daily instruction. Students therefore had to develop such skills on their own. Maurice's

independence and his ability to manage his own learning have helped earn him the reputation of being a very critical thinker in his present master's degree program now.

The following chapter presents the findings of the study.

CHAPTER 4

PARTICIPANTS' PERCEPTIONS OF INCONGRUITIES, THEIR LEARNING CHALLENGES, AND THEIR DEVELOPMENT OF HIGHER ORDER THINKING

The study identified Chinese graduate students' perceptions of incongruities between graduate programs of social science, humanities, and education in China and those in the United States. It examined how these students develop higher order thinking skills to meet the academic requirements of these U.S. programs. This chapter is organized into three sections. The first section presents participants' perceptions of incongruities between their Chinese and U.S. graduate programs in four aspects. The second section presents participants' perceptions of learning challenges, perceptions of previous research experiences in China, and their goals upon arrival in U.S. graduate programs. The third section discusses participants' understanding of higher order thinking skills and how they developed such skills in their U.S. programs.

As previously stated, the participants in this study were all enrolled at a public university in the southeastern United States. Nevertheless, I drew claims and generalizations about U.S graduate schools rather than only about this university, based on participants' perceptions of their learning experiences in one university, which is representative of other U.S. graduate schools in Research I universities.

Participants' Perceptions of Incongruities between Chinese and the U.S. Programs

Participants' perceptions of incongruities are presented through four major themes: general characteristics of the graduate programs, general classroom characteristics, teachers' behaviors, and students' behaviors.

Perceptions of Incongruities in General Characteristics of Graduate Programs

Participants stated that the American educational system is more conducive to human development and learning. The U.S. system is more reasonable than the Chinese educational system because it is more focused on promoting human thinking. U.S. graduate programs make efforts in four ways to achieve this goal. First, U.S. graduate programs establish a structure of curriculum that encompasses key concepts and theories in each discipline. Second, they build thoughtful classrooms and require higher order thinking skills. Third, they provide students with research training opportunities via seminars, readings, presentations, and papers. Fourth, they familiarize students with both quantitative and qualitative research methods through course and research projects. The following paragraphs present these characteristics in more details.

U.S. Graduate Programs Having Curriculum That Encompasses Key Concepts and Multiple Theories

Participants recalled that Marxism, as the sole ideology, dominated the curriculum structure in their educational experiences in China. All other theories were excluded or overlooked. Even when Marxism was studied, it was researched with a narrow focus on political economy and the political aspects of the theory. Few participants had experienced an in-depth study of the theory. When participants studied Marxism in their political education courses in China, they considered it a great burden and failed to see any relevance between theory and practice. Participants reported that, in their U.S. graduate courses on social theories, they never dared to acknowledge that they learned Marxism in China. They did learn about the theory, but they could not understand the theory well enough to critique and compare it with other theories. Zoe shared that,

> In the field of economics, we attached too much importance to political economics. When we talked about political economics, we only focused on Marxist political economics. We seldom discussed the Western economics. We knew so little about Marxism even if we were supposed to understand much about it since we were made to study it so much in China. (Zoe)

Zoe continued to recount that students never paid serious attention to courses that taught Marxism. In her memory, neither instructors nor students were actively engaged in teaching and learning about Marxism.

> In my college years, classes on Marxism were known as "homework class," "sleep class," "exam preparation class," in which students could do whatever they wanted since they failed to realize how valuable it was [to study the theory]. Instructors delivered lectures without caring much about students' understanding. (Zoe)

Renee, who studied in a college where political ideology courses were very much emphasized, had similar experiences with courses on Marxism taught in a perfunctory manner.

> In China, especially students like me who majored in political ideological education, all I learned was about Marxism. We were not instructed to understand why Marxism is right or wrong. No analysis was conducted. Marxism was the only thing they taught in school. (Renee)

Since the participants began to take courses in their U.S. graduate programs, they began to reflect critically on their previous experiences of learning Marxism. Zoe shared,

> In China, Marxism was studied from a purely political perspective. Here any theory is studied from the perspective of research. Why couldn't Marxism be

studied together with other theories? It might be more interesting to study it with other theories. We might then have a deeper understanding of Marxism. (Zoe)

Xing shared her experiences of learning Marxism. She believed that Marxism was taught in China in a problematic way.

> We have studied Marxism for so long, but how many of us could discuss the key issues of Marxism as a scholar? When class discussion came to Marxist theories, I realized that I knew so little about it to make any invaluable contribution to the discussion. We studied the ideas of Hegel and Kant, but when we need to reflect on those ideas, I found my knowledge too limited and superficial to make any comments. The way Marxism was taught in China was very problematic. Very few instructors ever inspired us to think. What they had taught in class had always been crammed into our minds without any effective digestion or reflection. We were so ill prepared in theories. In China, Marxism dominated the field of academic research excluding all other theories that are in fact interconnected in social sciences. (Xing)

With such an insufficient training in theories in China, participants experienced difficulties when they were first introduced to social theories in their respective graduate programs. Feng's experiences in qualitative research methods courses sounded similar to those of other students in their theory-oriented courses. The qualitative research courses Feng took assigned both readings on theory and empirical studies. He commented,

> Theories were hard to understand because there are so many different theoretical ideas that we had no knowledge. And sometimes I was trying to read the theory books. I tried to read it several times, but if I still had no knowledge of it, if I still

> can't understand it, sometimes I just give it up and try to get the idea from the class. (Feng)

Realizing the nature of education as a social science, Feng understood that such a perception places high demands on people. Since education is such an interdisciplinary subject, one "*must know a lot of things, not jut things in education"* (Feng). Then he realized in this regard that he was poorly prepared.

Another participant reported a positive learning experience in one of her theory-oriented courses. In that course, each student was required to make a presentation on one major theory in the field. She presented Margaret Mead's theories while her classmates introduced other major theories. By the end of the semester, every student had two or three opportunities to make presentations on a theory.

> When it is my turn, I read like crazy the works of Margaret Mead. I read so much about her that by the time of the presentation, I felt pretty confident that I could make a good presentation. I did. (Xing)

Learning about key concepts and multiple theories in one's research field requires a different classroom atmosphere so that learners and instructors could learn through interactions. Participants identified thoughtful classrooms as the second feature of their U.S. graduate programs.

U.S. Graduate Programs Building Thoughtful Classrooms and Requiring Higher Order Thinking Skills

Most courses taken and described by the participants have characteristics that match the indicators identified by Newmann (1990) in his framework of thoughtful classrooms. Both interview and document analyses support the view that graduate courses focused on a few topics

rather than the superficial coverage of many. Instructors designed each course to display substantive coherence and continuity. In the graduate courses, students had ample time to read, think and reflect on the readings, and prepare responses to the questions put forward either by the instructors or the readings themselves. In such courses, teachers often take a participant role and require that students lead and carry on the discussion of the seminar. For example, Jason shared, "*each student will at least have one turn to host the discussion in a semester. The student read the materials, put forward questions, and led the discussion. Teacher would remain only as one of the participants.*" This theme will be further illustrated in terms of participants' perceptions of differences in general classroom characteristics in the following section.

The courses at the graduate level in the U.S. focus more on promoting abilities beyond comprehension and recall. Yan told me, "*each course we take here required a variety of higher order thinking. One could tell by examining the evaluation rubrics in the course syllabus.*" With abilities limited to memorizing and understanding things, one would never be able to meet the requirements of such courses here. This perception seemed to be shared by other participants.

> Instructors assigned papers that require skills of synthesizing. For example, I took a course that required a weekly review essay on the reading assignments of the week. One can't simply just sum up the main ideas of one article or two. One has to synthesize and evaluate. Students' ideas and comments should be added to it. (Heather)

> Higher order thinking skills, to me, refer to skills to make generalizations and induction based on some materials. In China, instruction centered too much on memorization. Students left schools with some basic knowledge. But students'

> creativity might be left untapped. Here in the United States, graduate programs focus on training students to develop their independent thinking. Students' ideas are always valued and encouraged. Instructors do not care how much you could remember, but they do care how much you could understand and be able to put into practice. (Renee)

> Looking back, I think it is these three years studying in the United States that contributed the most to the development of my higher order thinking. And all these courses I have taken in the last three years, especially the doctoral research courses this year, really helped me to, you know, to tackle problems and to come up with meaningful strategies and solutions. So I think my higher order thinking in China is really minimal, because in China it is never such a heavy focus….there were not many opportunities to develop higher order thinking in China. So as I said, the development of higher order thinking skills for me personally [has] is really come to fruition in the United States. (Feng)

An analysis of the 30 course syllabi collected from the participants supports the view that the instructors of all courses required higher order thinking skills. Assignments on the collected syllabi included such tasks as reviewing research articles, critiquing books or book chapters, synthesizing research articles, designing research projects, and conducting a variety of research projects. In order to more carefully examine these syllabi, I analyzed the terminology instructors used to describe assignments (see Table 4.1). Sorting these assignments into six levels of thinking skills defined by Bloom's Taxonomy (Anderson & Krathwohl, 2001), I calculated the frequency of such terms across all 30 syllabi.

Table 4.1 Higher Order Thinking Skills Required by Graduate Course Syllabi (N=30)

Bloom's Taxonomy	Sample Phrases from Course Assignments	Percentage of the 30 Syllabi that Require This Level of Bloom's Taxonomy					
		Knowledge	Comprehen-sion	Application	Analysis	Synthesis	Evaluation
Knowledge	To memorize the concepts; to recall definitions;	10					
Comprehension	To summarize; to understand; to explain; to discuss; to develop an understanding and knowledge of …;		40				
Application	To investigate; to use; to apply knowledge to facilitate practice; to implement; to practice; to conduct a questionnaire;			50			
Analysis	To describe relationship between; to compare and contrast; to review books; to review research articles; to collect and analyze; to critically interpret;				60		
Synthesis	To evaluate; to compare and contrast; to assess; to critique; to reflect on practices;					66	
Evaluation	To develop research projects; to write papers; to synthesize; to design; to create a chart; to put together a list of; to complete; to write a report;						90

As we could see from Table 4.1, the development of higher order thinking skills is a shared goal of all graduate-level courses. Having taken these courses, participants in this study

perceived that the U.S. graduate programs made conscious efforts to enhance the development of such skills by providing students with research opportunities via seminars, readings, presentations, and academic papers.

U.S. Graduate Programs Providing Research Opportunities through Graduate-level Seminars, Readings, Presentations, and Papers

Most participants reported that research opportunities were few and resources for research were scarce in China, even for the participants who had relatively more extensive research experiences. Zoe, a participant who had more extensive research experiences in China recalled,

> In my undergraduate years, I was preoccupied with getting as many credits as possible so that I could be awarded a scholarship. There was little motivation to conduct research. It wasn't until the time of writing the thesis to graduate that we started to conduct some research. Before that there was very little research….in [my Chinese] graduate program, there were requirements for research and publications, but the requirements were neither high nor 'required.' There were very few opportunities to conduct research. To accomplish my master thesis, I had to conduct a research project and collect data. There was very little research in a real sense on the part of the students. (Zoe)

Another participant was engaged in collaborative research projects with his professors in China. But he commented that the professors initiated those projects without external funding. *"Most of the projects were small scale and couldn't go in-depth on a certain topic,"* Harry recalled. His research experience in his Chinese graduate school was obtained through writing his master thesis. He spent a whole year conducting a quantitative study. During that year, he

sought research assistance from scholars who were doing research in the same field on and off campus. He realized how difficult it was to conduct research when researchers could not even review the latest literature. Looking for resources for his master's thesis was a nightmare. It was so difficult to find what he wanted. He recalled,

> I spent so much time and energy in finding existing literature of my topic. I felt that it was so tough to conduct research back in China at that time. Most of the journal articles published in Chinese journals were not research oriented. They lacked solid practice or evidence. Most of them could only be considered papers of authors' opinions. Most people took up research projects that were not relevant to their experiences. They conducted them only because such topics were fashionable. No wonder most research you could find was unrealistic and had no practical value for education. (Harry)

A key difference of doing research in China and in the United States is that here students are more likely encouraged to conduct a research related to their own interests. Participants' experiences of doing research in both countries show that without interests or passion, one would not devote much time or energy into the research. As an example of conducing research close to the researcher's heart, one participant shared with me one of his latest experiences of conducting a survey research project in his U.S. program. In this aspect, Harry had a lot to share,

> This summer I took a course and learned to design a survey study, which I vaguely heard about, but never ever had the opportunity to do an actual survey. The course required us to structure the survey, find relevant items in existing literature, brainstorm ideas with classmates, and design the survey. With the teacher's helpful guidance, I decided to conduct survey research to examine the

> main reasons why adult learners use the Internet, which means different things for different people. The purpose is to see how many different models of Internet surfing were there among adult learners. I would also like to see how my own way of using the Internet differed from the ways of others. (Harry)

Conducting such a successful survey as a project for that course, Harry got acquainted with the whole process of conducting survey research. He not only discovered his own interests, but also he learned the research method.

Participants with moderate research experiences in China enjoyed their research opportunities in their U.S. programs. Feng, for example, was very impressed by "*how research can be done in such an innovative fashion*." One of his two most important lessons from his learning experience was that education could be approached as a social science. He began to understand the true meaning of research. The second most important lesson was that education is more often researched using an interdisciplinary approach. "*I realized that every subject in social science and humanities is interconnected,"* Feng reflected.

The field research another participant was involved in impressed her a great deal. "*I went to the field school with my advisor and his undergraduate students. I witnessed and experienced the whole research process*," shared Xing. She made three important observations. First, the field research here used advanced and effective methods while manual labor would have to be employed in China. Second, in the process of fieldwork, the instructor made conscious efforts to help students put theories and thoughts into practice. They reflected on the research process while they were doing the research. Third, data management and analysis were greatly enhanced by the use of computers and other equipment.

Like Xing's field experience, research training here was provided for students through many modes of instructions and assignments. First of all, participants all mentioned graduate level seminar courses, from which they particularly benefited a great deal in their graduate programs. Zoe warned, though,

> It would be a waste of time to take seminar courses if you haven't achieved a certain level of expertise in your field. It requires considerable theoretical knowledge and focused research interests as well. At seminars, there is a natural flow of opinions, comments, thoughts, and ideas between instructor and students. The seminars I took were so helpful to me to come to the topic I'm working on for my dissertation. In fact, my research topic came as a result of a few research projects and the reading assignments I completed in those seminars. (Zoe)

Xing agreed with Zoe as she realized that "*most seminars required a greater degree of participation on the part of the students*." Instructors have great expectations of students in seminars. Requirements were usually higher than those in other courses. For example, Zoe shared,

> Each student is supposed to lead the discussion based on the weekly reading assignments. If you happen to lead the discussion, you would have to develop a comprehensive understanding of the reading materials. You have to learn to synthesize and ask questions. Then you take those questions to the discussion. While you are leading the discussion, you might also comment on others' opinions. Timely reaction is necessary to keep the discussion going. Then you write up a paper. Instructors require that your papers could be published in a journal of the field. We might not be able to publish each paper, but each paper

should be meeting the requirements of publishable journal articles. I have never had such high requirements in my graduate programs in China. (Zoe)

Intensive training in such courses aimed at helping graduate students develop into independent researchers who could conduct field projects on their own. This kind of training was lacking in the learning experiences of most participants when they were in China. In addition, participants benefited from seminar courses by learning how others interpreted theories in their academic field. Through discussion, they learned to reflect on the thoughts of the authors of their readings and other students in the class.

All participants mentioned that the readings assigned in their courses were useful and fundamental to their development of knowledge and skills in their research fields. Their experiences in Chinese schools were very different as far as readings were concerned.

> In China you would be free from reading as soon as you stepped out of classroom. Even if there were reading assignments, it would be a matter of minutes to finish them. But here the readings for the seminar courses could keep you busy for the whole semester. If you keep up with the readings, you will certainly benefit a great deal. I learned so much from seminars about theoretical frameworks and methodologies. (Zoe)

Since the readings participants had in their Chinese graduate programs failed to compare to what was required here, they reported that they all felt challenged at the beginning of the semester to complete the reading assignments for each course they took. For example, Yan realized that, "*it takes a lot of readings to understand the content of the courses [here].*" Zoe shared,

> The reading assignments almost drove me crazy. The literature section in my research proposal is so enormous that I have to spend hours reading in the field to collect relevant literature….I just read and read. My husband, at his arrival, commented that I was almost like crazy. I didn't go home very often. You won't see me at home either. I came to office early and returned home very late at midnight. I took my lunch box to the office. Some of my friends even brought dinner as well. (Zoe)

Reading assignments came from journals and chapters in the books. Some of the articles about theories could be dated as early as the 1920s. Reading the articles published that early was a challenge to Chinese students, but necessary as they are classic readings in the field. For example, one participant took a course that required voluminous readings in theories including humanism, Marxism, modernism, and postmodernism and the like. Xing shared,

> The syllabus of each course provides a minimum list of readings required for students who take the course. But reading these materials is not enough. One has to find other related books to read. My impression is that readings here come in a large amount. (Xing)

Jason, a doctoral student in linguistics, had similar experiences with reading assignments in his first year of the program.

> I could barely breathe. I had to get up at about 5 a.m. every day. I didn't take many courses. After I came back from the courses, I stayed in my apartment doing nothing but reading. I didn't have a car at that time, so I didn't go out a lot on weekends. I spent all weekends on readings as well. I got up with the sunrise, turned on the light, and started reading. At noon, I had some bread for lunch and

> continued reading till dark. At sunset, I went out for a walk and came back to continue reading until 10 p.m. I read slowly. Even though I worked as an English teacher back in China, my reading speed is still slow. (Jason)

Such intensive training through readings helped improve participants' knowledge of the theories and research methodologies in their respective fields. The experiences of Zoe and Xing supported this claim.

> I learned "what is knowledge," "what is science," "what is research," "what is Darwinism," and "what is social Darwinism." They are not directly related to my field, but they are basic theories of social sciences. I have to review all these theories and geographical thoughts when I prepared for my comprehensive exam this summer. They were so many of them. I had to spend hours each day reading and reviewing them. (Zoe)

Through readings, Xing realized that instructors tried to build up a learning environment for her to become familiar with the field and key issues in the field.

> Even though I can't finish reading all the assignments, I know there was a lot of stuff in there. What the instructors listed there is classic stuff that you must read if you want to get established in the field, and that something you will eventually find useful at a later date. (Xing)

Participants gradually learned to deal with the large amount of reading assignments in their courses. Feng learned to "*choose what to read and what not to read.*" He heard his friends who complained about heavy readings they have in sociology and political sciences. But he had not had such experiences with heavy readings because his program was more practice-oriented.

Through readings, Jason's instructors required students to grasp the main ideas of each article and critique the ideas and thoughts of the author. One has to understand the article first in order to critique it.

> Because I spent so much time reading, I could talk about my ideas in classroom discussions. My classmates who are from China and Korea can't participate in discussion. One reason is that they can't speak well in English. The other reason is that they do not understand the text well enough to discuss it. The three-hour seminar could be very painful for them. (Jason)

Participants reported having difficulties finishing all the readings even after they had been in the programs for two years. They each learned effective strategies to deal with the readings. Following her American classmates' suggestions, Xing learned to scan and skim the readings.

> I would not read the articles the way I read them at the beginning. I read them word by word at that time. Then I could never finish reading them. Now I learned to read the introduction, conclusion and then I look for the outline of the article. I look for pictures, tables, and examples. I feel so much better reading this way to get at least a general idea of the articles. Of course, if a paper is required, I would have to read the articles in more detail than just skimming and scanning. (Xing)

Not only through readings, but also through classroom interaction with instructors and other students, participants reported they have developed better understanding of their research fields. For example, Feng realized,

> Education is a social science, but in China I have no idea what is the difference between humanities and social sciences. I know then, as social science, it is like,

> you have to be scientific and rigorous, be rigid to make assumptions, to make hypothesis, to focus on methodology, to data collection, data analysis, which, these kinds of things I have never encountered in Chinese education system. I regard myself as an education major, but in China for education major, they just give you some basic teaching methodology, like instructional skills. And we never focus on education as a social science. (Feng)

In China education is still considered a humanities subject. Education is not a very developed subject in China. When Feng began the program of educational leadership, he discovered that the discipline is very interconnected with other disciplines in social sciences, such as political science, psychology, and sociology. He discovered that every subject in social sciences can be applied in education major. For Feng,

> This is an eye-opening experience because here educational leadership is such an interdisciplinary approach. [This is] what I have really learned in these three years of study [here]. (Feng)

When seminar courses discussed topics about China, participants reported having positive experiences. Xing related one of these experiences.

> I could always participate when the class discussion is about China. I also noticed that other students in class knew little about China. Perhaps we remained closed for too long to the outside world. There were also very few Chinese scholars who could communicate freely with them before. (Xing)

What the participants learned in readings and discussions are then reinforced by a more challenging task, writing. Participants perceived that seminar courses they took required students to write their reflections on discussions and reading assignments. Writing papers is one of the

most effective and dominant techniques through which U.S. graduate programs aim to improve students' higher order thinking. Academic writing becomes a challenge for the participants in their U.S. graduate programs. They reported having difficulty writing papers for seminar courses as well as for other purposes. Participants reported that they had experiences of writing many different types of academic papers, such as book reviews or article reviews, research report based on an investigation in the fieldwork, and reflection journals.

At both master and doctoral level, seminar courses required papers in which students had to critique, review, and synthesize what they learned and thought based on the readings and discussions. Participants shared,

> For each of the reading assignments, students are required to write a critique or review essay. It might not be formal. Each essay is about 300 to 500 words. If we read three articles, then we wrote three essays of synthesis. (Heather)

> Synthesis is not summary. You can't just pull together main ideas of several articles. Your paper won't be graded high if you just did that. The teacher requires you to express your opinions and find evidence in the readings to support your argument. Sometimes we need to put our daily observation and reflections into the paper. (Jason)

> The synthesis paper requires us to critique the articles we have read for the week. Usually the weekly readings come from similar chapters from three or four books. When you finish reading all these chapters, you could select a subject and then write your paper centering on the subject. This is a synthesis paper. I have never

had such an experience of writing synthesis papers. In China during my undergraduate years, I seldom wrote papers. Even if we did, it was not the same type at all. Such synthesis papers require thinking and reading beyond the assigned readings. You will have to make your own reflections and share your own comments. Another challenging requirement is that such synthesis papers have page limits. You can't write more than two pages. In this case, you could easily miss something important in one of the readings. If you fail to mention it, then you fail to meet the requirements. (Yan)

In their U.S. graduate programs, participants observed that students were encouraged to select topics related to their own interests. This can be a challenge to Chinese students, who typically came from a learning environment where they did not have the right to decide on a topic. Xing, for example, described herself as an excellent student in China. At that time, it was easy for her to write a paper in response to one specific question in the assignment. Her experiences here were quite different.

For example, if I conducted a research project, then it is not that difficult for me to write it up into a report.…here I have to finish reading assignments first. It seems to require you to write about your personal comments. But it is not exactly the case. You will have to start with the main ideas in each reading assignment. Then you have to synthesize all the ideas in several articles. It is more than a summary. While you analyze the ideas and synthesize the paper, you gain a training to think through the process. The instructor is more interested in how you think about the topics. He would like to inspire you to think and synthesize the ideas of the reading materials. (Xing)

In addition to the papers required at the seminar courses, Chinese students were encouraged to publish papers in the academic journals in their respective fields. On other more important occasions, students write to pass their comprehensive exams and dissertation proposals. Participants reported that they were not familiar with the structure, nature, writing standards, and style of these academic papers. Even the frequency of writing academic papers could frustrate many of the participants.

> In terms of quality and methodology of writing papers, there are big gaps between Chinese ways of writing papers and American ways of writing papers….reaction papers are required in many courses I have taken. Sometimes it contains only three or five pages. You write to react to the topics in today's class discussion. You have to comment on the multiple aspects of the topics. (Zoe)

> Each week we write a critique paper based on our understanding of the readings. Each week we at least read three to five research articles. You can't simply sum up main ideas. You have to synthesize with your own thoughts into a paper of about 500 words. (Heather)

Participants' previous experiences of writing academic papers, if any, were different from those in the U.S. graduate programs. Zoe recalled,

> We seldom see the review of literature as a part of the journal articles [in China]. Writers usually started by saying what kind of research they designed to conduct without talking about the progress in that field. No one cared about the ongoing discussion in the research field. (Zoe)

In her U.S. program, Zoe appreciated the opportunity and challenges for her to develop higher order thinking through writing journal articles for publications and preparing for comprehensive exams required in her doctoral program.

> Longer papers require critical evaluation of several readings and discussion. One question in my recent qualifying exam almost killed me. It asked me to discuss all the relevant theories and theoretical perspectives in urban geography. What I could do was to comment on the theoretical positions and epistemological commitment of each of these theories and then talk about how these theories would contribute to designing a study to answer my research questions and what methodology each theory would propose to use for my study. That's not all. The next question was for me to critically evaluate each of these theories in their relationship to my study. And finally discuss my own approach and the rationale for the approach….the major purpose of such a question is to see how far I have come in the field. There is no fixed answer. What they asked for is my opinions. They encouraged me to come up with my own ideas. (Zoe)

Besides readings, discussions, and writing tasks, participants reported having experienced a learning activity they did not usually have in China, presentations. Presentations seem to be another indispensable component of participants' graduate study here in the United States. Many shared that they started the program panicking at the idea of making presentations in class. They all reported that they were no longer as panicked as they were after they have successfully presented a few times in class and at local and national conferences. Participants shared,

> We had little experience of making presentations in China. My American instructor of English class [in China] once asked us to make a presentation of the

> speech we each wrote. But here, we have to conduct a research project first. We add in our own ideas and comments. During the presentation, other students would ask you questions. To some extent, it models a thesis defense. (Xing)

> In the theory-oriented course, each of the students is responsible for the works of one theorist and is required to present the main ideas within limited time. One has to share with the class the major contributions of the theorist, provide constructive questions, and lead the discussion. (Xing)

> Making presentations is challenging to Chinese students, especially because of their spoken English proficiency. If your English is not good enough, or if you could speak well, but you do not feel like participating, you will certainly feel pressured. And if you do not participate or present as required, your final grade will suffer when your participation and presentation grades are low. (Yan)

Participants gradually came to terms with the requirement of making presentations as they began to understand that presentations were just another way to share one's research findings with others in the field. In their graduate programs, training academic scholars starts in the classroom. Instructors encourage students to make presentations on their projects, in which the participants are expected to set up a topic, carry out fieldwork, use either quantitative or qualitative methods to collect data, conduct data analysis, and write up a paper. Xing came to understand,

> Presentation is a miniature version of your research project, sharing with others highlights of the project. When participants present, they can't just lecture. They

could prepare handouts, or PowerPoint slides. They also need humor to enliven the presentation. (Xing)

U.S. Graduate Programs Familiarizing Students with Various Research Methods through Projects

Except for the few participants who had comparatively more research experiences in China, most reported that they had little exposure to research methods. For those who had more extensive experiences, they learned mainly about the quantitative research methods in China. Harry shared the following about his research experiences in China.

> I participated in a few research projects. I conducted the quantitative measurement for those projects….researchers did not pay attention to using such [quantitative] methods to solve particular problems. They were too preoccupied with manipulating the data using specific methods. Very few people would study a certain topic with enthusiasm. They designed studies for the convenience of data collection. (Harry)

In addition, when statistical courses were offered in Chinese graduate schools, participants recalled that those courses were limited and did not use practical examples to help students understand the relevance of such research methods to solving practical research problems.

> I learned about statistics in China. Now I'm still learning statistics here. I prefer the way it is taught here. Here we learn statistics in different stages. But back in China, undergraduate and graduate programs offered statistics using the same textbook for years. In China, statistical courses seldom cited practical examples to help solve problems in reality. (Harry)

Another participant pointed out that quantitative methods were neglected in the research of economics and other social sciences in China when she was in graduate school in the late 1990s.

> In China, statistics are basic, remaining at the level of theoretical discussion. It seldom employed a model to solve a real problem in practice. I thought statistics was hard during those years. But in retrospect, everything we learned in statistics was very simple and basic. We only learned the basic concepts. There was no discussion of a regression model. Assumptions were seldom made. I have never learned how to make an assumption, employ a model, run the model and then interpret the whole process.…statistics enjoys a different reputation here than in China. In China, if you majored in statistics, it would not be easy for you to find a job. No one wanted to work as a statistician. But here statistics is the basic method for science and social science research. One cannot conduct any research without an adequate knowledge of statistics. (Zoe)

She felt that her training as an economics major was far from adequate in China. She continued to share,

> When I was in college studying economics, there were not quantitative research methods used in the field. It was purely political economics. Discussions were solely focused on the production process. There were very few quantitative studies. (Zoe)

Zoe did not remember that "*models were ever used for in-depth study*." Most of the time, descriptive statistics were used to describe the data. She shared that she did not learn quantitative research methods until she came to her U.S. program.

> I had never learned Western economics in a systematic way. Most of the books we had about Western economics were translations. I never learned any models of the Western economics. What I have learned in terms of methods in the past three years [here] is more than what I had learned for so many years in China. I learned all the statistical methods here. I am not exaggerating. (Zoe)

Participants in other graduate programs of social sciences and education reported that they learned the majority of what they understand about research methods here in the U.S. Reflecting on her experiences back in China, one participant in the department of anthropology reported that she welcomed her training here in statistical methods.

> I think statistics is widely used here in social science research. But in China, archaeology is pure humanities. We used very little statistics methods in research. Even when we did, we used only the very basic methods, nothing at this advanced and pervasive level here. Here, I also learned many statistics methods used in geography. My advisor suggested that I take a few courses in geography, which has research methods that could be adopted in our field. These methods are very specific and could be used to research problems in our field. I had never had such experiences in China. I would like to adopt all of what I learned here in my future research. (Xing)

One participant in education took statistical research method classes outside his department. In those research classes, Feng met with people from different majors. Across the College of Education, students from different departments or programs took quantitative research methods together.

Renee had never had any research experience in China. But according to what she heard from others and what she has observed since she came, she believed there was a big gap between China and the United States in terms of research methods. She shared,

> Here, research, even in social sciences, aims at getting scientific. Research requires substantiation and verification. Research articles present adequate evidence to support their arguments. The research methodology here is very systematic. No matter whether you major in social sciences, or if you major in social work or education, you could apply the similar research methods to solve different problems in all fields. The research methods we learned here are very applicable. The whole sphere of social sciences becomes interconnected because of such scientific methods. But I doubt if China's social sciences are as interconnected. I felt that research in China read more like novels. They didn't even seem to care to collect evidence to support their arguments. Whatever they say is considered right. Here research values empirical data. (Renee)

With no background in statistics, Renee took some basic statistical courses here. She did not find statistical courses very challenging, as she commented that good mathematics background helped most Chinese students perform well in statistical courses.

> I learned some basic concepts in statistical methods, which are adequate to conduct simple calculations to solve problems in research.…the research seminar course in my program offers a course that provides a higher level of statistics methods….I noticed that American students seemed to have more difficulties taking statistical courses. Luckily, I didn't have as many difficulties taking such courses as I have with other research seminar courses. (Renee)

Two participants shared their experiences of taking qualitative research methods courses. One participant liked the qualitative research class he took. He was especially impressed by the professor's way of handling instruction.

> The instructor achieved a balance between lecture and activities. Everyday we had activities and also talked about the research from her experiences. That course is very good. (Feng)

Harry, who has had experiences of conducting quantitative studies, liked his first qualitative research method class. He shared,

> In our field [of adult education], scholars are open-minded to both ways of conducting research. I find it interesting to conduct qualitative research by talking to, observing, and collecting documents from people. The [qualitative] paradigm provides you with a new perspective to look at the world. (Harry)

With all these perceptions of the graduate program they are in, participants, at the point of the follow-up interview, reported that they had made much progress in their programs. The learning experience in their U.S. graduate school has been "*revolutionary*" and "*transformational*" for many of them. One participant described this progress as follows:

> Now, I could tell why a research article is good. At the beginning, I couldn't tell the merits or demerits of a research paper. Now when I re-read them, I could tell a lot of good things. It requires more for one to critique on the problems of the paper. Now I learn how to critique and evaluate research papers….when I was in China, I was a perfectionist. Now I learn to care less about things that are not at all that important. Instead I learn to focus on research and really enjoying doing it. (Zoe)

Renee, who had experienced challenges in the first two semesters, shared her excitement of overcoming some of the learning difficulties.

> I have improved so much since I came here. Not only have I made academic progress, but also my attitudes towards learning changed. When I was in China, I studied for a practical purpose. So long as I could get a passing grade, I didn't care. Here, I find myself enjoying what I'm doing. I also came to realize that they [the U.S. programs] encourage you to make efforts. If you do, you will certainly gain a lot. (Renee)

In summary, participants perceived incongruities between their U.S. and Chinese programs in the following aspects. U.S. programs established a different curriculum to inform students of multiple social theories rather than focusing on one theory. Classrooms in U.S. graduate programs focused more on promoting thinking than transmitting information. U.S. graduate programs provided students with opportunities to conduct independent research using both quantitative and qualitative methods. In addition to participants' perceptions of incongruities in terms of the nature of the programs, the next section discusses participants' perceptions of incongruities in general characteristics of classrooms.

Perceptions of Incongruities in General Characteristics of Classrooms

Chinese undergraduate classrooms have long been characterized as lecture-oriented with little students' participation. Yan, who graduated from a Chinese language institute, described his undergraduate classes as ones dominated by "*imitation, repetition, recall, and memorization as major modes of learning."* Other participants who were language majors had similar experiences. It is reasonable that language learning requires rote learning and memorizing skills.

Basically, in those classrooms, teachers lectured while students listened attentively and quietly took notes.

Harry, who was not a language major in China, reported similar experience in his undergraduate classrooms "*in class, we took notes, trying to remember the notes at exams*." Another participant echoed, "*in class, teachers dominate the instruction. Students are passive listeners*."

In China as in the United States, while most undergraduate courses did not focus on research, Heather had some research experiences with one course called "Introduction to Linguistics." The instructor, who had obtained a doctoral degree from a U.S. graduate program, shared many research methods and required a term paper from the students. But Heather's research experiences were limited to this single assignment in one undergraduate class.

During the 1990s, Chinese universities were preoccupied with improving their English instruction. But instruction was not often conducted using a conversational approach. Most of the English language curriculum focused on how to prepare students to pass the standardized tests that were known as Bend Four and Bend Six in Chinese colleges and universities. Teachers taught to the tests, and students learned the language simply to pass the exams. There was no room for instructors to teach about Western culture and help students improve their oral English. When Bend Four and Bend Six were used as the central criteria for students' and instructors' performance, the practice greatly dampened the enthusiasm of both learners and instructors. Feng, who served as an English instructor during those years, reflected on his three-year working experiences,

> Preparing for exams like that was very, very exhausting not only for students, but for teachers, because it makes no sense that every day just A, B, C and D and

things like that. And after you complete 10 tests, you pretty much know the pattern of the exams. It really narrows people's mind. (Feng)

The experiences of other participants supported Feng's experiences as an instructor. For example, during Jason's undergraduate years, he remembered that they did not have much to read besides textbooks assigned by teachers.

Besides textbooks, teachers seldom assigned additional materials. After we read the textbooks, we took exams. We didn't have any paper assignments except the graduation thesis. (Jason)

Harry's learning experiences in undergraduate years in China were typical of many college students in China.

During my undergraduate years, in class I took notes and tried to memorize these notes for exams. Teachers were not strict with us at that time. They did not assign much homework. The courses I took in social sciences and humanities did not assign any homework. We just took notes at lectures, put them in good shape after class, and memorized the notes to pass exams. It was painful when exams were approaching, but we didn't work under much pressure on a regular basis. In retrospect, we only learned the framework of the subject. We did not retain much knowledge that we obtained by rote learning. (Harry)

Harry thought that most instructors he had in his undergraduate years only used monotonous teaching techniques.

[In China], good teachers would be those who could present their lectures in a well-organized way. Their lecture notes would be clearly written with titles, subtitles, major points and supporting details. It would be easier for us students to

> arrange our notes in a systemic way as well. However, not all teachers could have done that. Basically, what we had learned in social sciences and humanities was through rote memorization. As soon as we were done with the courses, we returned everything we learned to the instructors. Since I came to the United States, I reflected on those teaching techniques and concluded that they were too outdated. (Harry)

Participants commented that in China most of what they learned was indirect knowledge, which means that they obtained knowledge mainly from books. While they are here in the U.S. programs, they learned both indirect and direct knowledge, which means that they obtained knowledge through fieldwork and hands-on activities beyond books. One participant described these experiences.

> In China, social sciences focused on indirect knowledge, which came mainly from books. Instructors lectured and assigned books for you to read and read again. After you understood what you read, you wrote about your reflections. This is learning. In the United States, learning could also take this form, but it is more than that. Besides indirect knowledge, we also learned direct knowledge. It requires one to lay his or her hands on. It requires one to practice. For example, if you want to come to a conclusion, this conclusion should not just come from books or your own ideas. It should also come from practical fieldwork in the form of questionnaires, survey, and observation. (Jason)

Among all the types of courses participants took and described in their U.S. graduate program, two major types were identified: big classes and small classes. Big classes are not very different from the classes the participants had in China, in which

> Instructors lecture most of the time while students listen and take notes. The difference, though, is that Chinese students did not actively participate in discussion for fear that their ideas could be in conflict with those of the teachers. They did not want to challenge the teachers. But here in the United States, students ask questions when they are not sure about a topic. Overall, differences are not a lot. Mostly teachers play the central role. (Yan)

Not all participants had positive impressions about such big classes in their graduate programs. One participant complained about the courses, which required students to have previous background on certain topics and which used large or small group discussion as their major mode of instruction,

> Classes in my [U.S.] program are very crowded because we always have such a huge pool of students. And we usually would sit as groups. The courses in my department are so practice-oriented. So people usually, they just come to the classroom and talk about issues in the schools. And all our professors have been teachers, even principals. They also know what's going on in the schools. And, of course, that is not a heavy concentration on lecture. (Feng)

Small classes were often graduate level topical seminar courses. Most participants reported having positive experiences with such classes even though they might feel frustrated in the beginning.

> At seminar courses, teacher's participation reduced a great deal. Students carried on the discussion of the seminar. Each student would at least have one turn to host the discussion throughout the semester. The students read the materials, put

> forward questions, and led the discussion. The instructor would remain only as one of the participants. (Helen)

These seminars provide an opportunity for students to be exposed to the latest development in their research fields. The interaction between the speaker and the audience stimulated the mind. However, not all participants welcome such discussion-oriented classes. For example, Feng became very critical about the characteristics of the classes he has attended in the past three years.

> Classes [here] are practice-oriented and activities-oriented. We have a lot of activities going on, like, so for me, for the first time, it is refreshing experience, because in China it is a lecture-centered approach. Doing all these activities was very interesting to me. And then I realize when everyday in classroom there are so many activities, I seriously doubt what I can learn from these classes. Because to be honest, most of these activities are so childish, I mean, it is so easy, so childish. I mean it doesn't require much intellectual thinking. (Feng)

This participant found "*a big void*" in his learning when he reflected on the courses he has taken.

> Your impression of such an activity-packed classroom is very interesting, interactive. There are so many interactions between professors and students. But at the end of class, when you reflect on the class, what have you learned today? Sometimes there is just a big void, you know. (Feng)

He thought that some of the classes should strike a certain balance between lecture and activities. To Feng, the classes he has taken in his department were so shallow, so lacking in depth and breadth. Instructors and students just talked too much about personal experiences.

Feng dreamed of going back to the lecture-oriented classes sometimes just to get some systematic learning of a topic.

Not all the other participants agreed with what Feng reported. For example, Harry shared his positive experiences of taking such classes.

> In one course, at first I thought we had too many games and activities. I didn't quite like such courses, which appeared too messy and lacked a structure to me. But gradually I realize that the games were in fact designed based on learning theories. If you only sit in lecture-oriented classes, you will not be fully engaged in the instruction. You won't be effectively affected by the instruction. You have to participate actively. The game is played to remind you at a later time of what you learned in class. When you recall the game, you recall all the things you learned related to the game. [Here] instructors used behaviors to reinforce your learning outcomes. This is what we didn't have in China. (Harry)

What Harry experienced in the course that has games to stimulate students' thinking is a kind of experiential learning activity. Such teaching techniques have long been proven to be effective in educational practices in Western schools. In China, researchers are still talking about these practices on the level of theory. Very few instructors apply them in their daily instruction.

In summary, participants perceived incongruities in terms of general classroom characteristics. Courses offered in U.S. graduate programs focused more on promoting students' thinking skills. The next section continues to discuss participants' perceptions of incongruities in terms of instructor's behaviors.

Perceptions of Incongruities in Instructors' Behaviors

In terms of instructors' behaviors, participants identified three characteristics. First, in U.S. graduate programs, instructors prepared a detailed syllabus to communicate with students the course requirements, goals, and methods of assessment. Second, instructors facilitated, rather than dominated, the instruction in classrooms through a variety of learning activities. Third, instructors' attitudes towards students were different from those of Chinese instructors. Instructors provided academic assistance and support to graduate students and treated them as colleagues.

Course Syllabi

Participants commented that their Chinese instructors didn't usually have a syllabus for students, who were not considered an active part in the learning process. For participants who had syllabi from their instructors in China, they recalled that the syllabi were different in nature. Heather shared,

> Even if they had a syllabus, it wouldn't be as detailed as it is here. For example, here the syllabus tells you when to finish what assignments, and when the papers are due. (Heather)

Being provided with a more detailed and specific syllabus, Heather, though feeling quite intimidated and overwhelmed at the beginning, knew what to expect out of the course. Yan agreed as well that providing students with a detailed syllabus at the very beginning of each course was very helpful. He had never had a teacher in China who did this.

> The instructor here would share with students the first thing in class his requirements and ways to evaluate performance. Everything was shared with students openly. This is very different from the situation in China, where

> instructors wouldn't mention about midterm exams or finals until later into the semester. Here in the United States, the instructors lay everything on the table as early as possible. For example, you will understand that your class performance might consist of participation in discussion, presentation, and paper. (Yan)

Helen liked the fact that instructors communicated their assessment strategies through their course syllabi. She commented,

> The syllabus has a set of objectives for the students. One could achieve these objectives through reading, exams, writing papers, and conducting projects. Exams are not the only way to evaluate students' performance. In China, instructors taught in order to help students pass the exams. Exams were considered the only way to make sure that students achieve objectives of the course. (Helen)

The experiences of Yan and Helen were well supported by Xing's comments. She particularly liked to be informed of how the instructor was going to assess students' performance. She shared,

> For example, one course requires students' participation in the form of discussion as well as the completion of several papers. In China, teachers wouldn't share with students how they were going to evaluate students' performance. Here the rubrics are clearly provided in the syllabus. You know what to expect. (Xing)

Participants perceived that U.S. graduate courses used different systems to evaluate students' performances. Back in China, undergraduate courses were dominated by exams as a major form of assessment. Only in some graduate programs did participants experience different forms of assessment. For example, during Jason's graduate years in China, his instructors didn't

have as many exams for the students. Instead, they had a mid-term paper and a final paper assignment. However,

> There was nothing substantial. Basically, you read the books that the teachers assigned and then wrote your reflections. (Jason)

In terms of assessment, the graduate courses participants had taken here fell into two types. One type required students to take quizzes and exams in order to tell how well the students have learned. For this type, basically, the instructors wanted to test the abilities of students to recall, understand, and express themselves. Even using exams, instructors focused on students' abilities beyond recall and understanding. For example, Helen had exams with a couple of courses. She commented,

> Even at exams, the instructors allowed you much freedom to express your own ideas and find your answers. So long as you could make sense and reason for your argument, the instructor would understand and give you credit. In China, there was only one correct answer to each question. You have to come up with the correct one. I prefer the practice here and I think it makes more sense in social science to have more than one correct answer. (Helen)

The other type is to evaluate students' performance through discussion, review essays, group projects, and research paper assignments. Certainly, the second type required higher level thinking skills. For example, Yan shared,

> Requirements for papers are obviously more challenging than those for exams. Students need to demonstrate abilities to analyze, to generalize, and to make conclusions and induction. Besides these abilities, students should also be able to find resources in the library according to a list of topics provided by the

> instructor. Teachers might not give you a detailed list of books and journal articles. It's up to the student to search for studies that are relevant to his or her own interests. (Yan)

In China, teachers tended to instruct students to pay attention to facts and specific details. Here instructors only give you a general idea. Xing noted,

> When I studied history in China, instructors asked students to take notes and memorize historical facts. Once exams are over, I can't remember any of the facts. Here instructors used a different approach. They provide you with a general idea, a general structure of the topic. It is not necessary to remember all the details. I might not be able to recall any of the details at the end of a course, but I could retain some knowledge by thinking about the main idea and the general structure. The instructor here used a variety of techniques to help students retain the knowledge. There is a very different focus. (Xing)

Apart from the observation that the instructors here provide students with syllabi, the participants believed that U.S. instructors take a facilitator role in classrooms.

Instructors As Facilitators

In China, participants experienced teacher-centered and content-oriented instruction (Kember, 1997). The undergraduate classes they had taken were large in size, lecture-oriented, and examination-dominated. All participants shared similar descriptions provided by Renee and Harry.

> As far as I could recall, teachers did most of the talking in my undergraduate classes. It would not have been necessary for us to go to the classes. However, we invariably went and didn't care much to listen. Teachers talked throughout the

> whole class period. They did not assign much homework after class….there would be a mid-term and a final exam. The content of the examination was in the textbook. What we needed to do was to memorize them. (Renee)

> My college life could be summarized as taking notes, and learning the notes by heart to pass exams. Instructors were not strict with us. They did not assign much homework for courses in social sciences and humanities….teachers used monotonous teaching strategies. Most of the teachers lectured most of the time in classroom. Good teachers would lecture and provide students with an organized outline so that it would be easier for students to take notes. (Harry)

By comparison, participants described their instructors in U.S. graduate programs as facilitators. Their facilitating roles were characterized in two ways. First, they facilitated teaching and learning through a variety of techniques including lectures, big-group and small-group discussions based on reading assignments, question and answer opportunities, group projects, and many other activities. Second, they facilitated classroom instruction by asking challenging questions, inspiring students to think independently, encouraging different opinions, structuring challenging tasks, and modeling thoughtfulness.

Participants described that most instructors here as employing a variety of teaching techniques in classroom instruction. Lecture no longer dominated instruction. Zoe was obviously not satisfied with her instructors in China. She was quite impressed by the instructors here who used a variety of teaching techniques.

> Instructors pay great attention to motivate and inspire students to study as active learners. They do not cram students. I was not saying with a sweeping conclusion

> that all Chinese teachers crammed their students. In my graduate years, instructors did not cram too much. But their teaching strategies were monotonous. But here instructors use a variety of teaching techniques. (Zoe)

Harry shared his experiences working with instructors in both Chinese and U.S. classrooms. He considered it important for instructors to provide students with opportunities to become active learners in their learning experiences.

> Instructors [here] assigned a lot of readings. Students finish the readings and present their ideas in class discussions. Instructors participated in discussions as well. Such a communication is lacking in Chinese classrooms. Back there, instructors taught most of the time while students were busy taking notes. Here in most of the courses, I seldom take notes. When I read the assignments or other books, I take a lot of notes. (Harry)

Unlike Chinese instructors who assigned a major textbook at the beginning of the semester, instructors here assigned weekly readings with a clear focus and purpose. They usually specified the requirements. For example, participants had taken courses that required synthesis papers based on the weekly readings. It seems to be a common practice here that instructors would list three or five articles for students to read before coming to class. It is commonplace that students are facilitated to organize in-class discussions based on these required readings. Harry shared,

> One day, the instructor assigned us weekly readings and told us that next week we would conduct a telephone interview with the authors of these readings. The next week, we gathered in the conference room with a telephone set in the middle of the class. The instructor dialed the numbers and got us through. We got to talk to

> the authors of the readings. We asked a variety of questions and tried to understand the motives, purposes and research agenda of these authors. On the other hand, our questions and discussions over the phone could also be a valuable source of ideas for the authors if they wanted to write another book or article. (Harry)

Such a highly interactive classroom atmosphere is certainly more conducive to learning. Besides discussion, instructors here used a variety of teaching strategies to facilitate learning. The participants all agreed that the courses they have taken here are more interesting than the courses they had in China. At lecture-oriented classes in China, students did nothing but take notes. Here, even when instructors lectured, they accompanied their lectures with various teaching aids.

> Lectures like that cannot motivate students as much as lectures accompanied with visuals. Here instructors use visuals to stimulate all senses of the students so that they could remember clearly. One of my instructors took students on a field trip to a research site. During instruction, he showed them photos, relics, books, and slides. Using visuals makes the class relaxing and students have deep impression of the instruction. For example, when the instructor talked about the cliff house, he showed them the picture. But in China, students wouldn't make sense of it by taking lecture notes. (Xing)

Participants in this study noted that instructors here used presentations as one of the teaching methods. Participants liked the project assignments, which usually had a presentation component. Participants considered such classroom activities as interactive modes of learning. For example, participants pointed out that instructors used PowerPoint presentations in

delivering information and they required students to make such presentations. Both instructors and students learned to make their presentations interesting by means of textual, visual, and audio materials.

In China, instructors had to prepare lectures and many other instructional materials. Each class session the instructor dominated the instruction. There was discussion, but students had minimal opportunities to express their own ideas. Here students could lead the discussion on any topic in relation to the readings.

> Students [here] are encouraged to talk, talk, and talk until the instructor has little time left to conclude a session. In China such occasions were very rare. Most probably discussions centered on a specified topic put forward by the instructor and they took the form of group discussion. Here students could pop in the discussion at any time if they like. Sometimes it seems that discussion goes astray, but later on when you reflect, you could always benefit from such 'runaway' discussions. (Heather)

In China, learners were usually evaluated as individual learners in the learning process. Here, participants were impressed with the group work assigned by instructors. In research method courses, for example, many research projects were assigned as group work. Peer activities were believed to facilitate learning. Participants reported having positive experiences with cooperative learning projects.

> As a final project, students formed into groups and designed a survey. The instructor first assigned us to do a literature review and understand the background of the research that we are going to conduct. Then he formed us into groups. One group would design the survey. Other groups would conduct the

> survey and collect the data. Another group would code the data. The instructor tries to help students get acquainted with the research process….if each of us is doing an independent research project, we might not have time and energy. If we conduct a research project as a group, we learn how to cooperate with each other and each of us gets to do the part that we are interested in doing. I think it is a great idea. (Renee)

Having been engaged in group activities, Helen realized that such activities enable students to learn from each other. She shared that she had no such experiences in China.

> They pay special attention to enhance students' critical thinking and creative thinking. In classroom, we often do group activities. A research project normally requires a group of two or three students to complete. Students could learn from each other. I didn't see such group activities in my Chinese classrooms. (Helen)

Harry liked the group projects he has participated as well. He saw it as a valuable experience to work with other learners and share the responsibilities in finishing the projects.

> Teachers have project assignments, but they seldom limit students to a set of topics. Students could work in groups, each taking up a part of the project. They discuss about the project on a regular basis and make a class presentation together in the end. For projects like this, students could select a topic of their interests. If they are interested in the topic, they would devote time and efforts to make the project successful. Each member of the group takes up certain responsibilities and the group members share the learning experience. (Harry)

Obviously, Harry felt encouraged to interact and learn in groups. This relates to and reinforces Jean Piaget's cognitive development theory that learners need to construct or

reconstruct knowledge through interaction with the physical world and with their peers (Barbian, 2003). Compared to his learning experiences in China, Harry recalled with regret that,

> Instructors in China seldom employed such methods. Usually the instructors set the topic for the class. Everyone worked on his or her own. The papers we came up with would look very much the same. Instructors did not allow individuals to give their creative potential to a full play. (Harry)

Harry continued to share a group project he had just finished in one of his courses. His group conducted a comparative research project of the development of adult education in Japan and India. Through the project, with great enthusiasm, Harry and his group learned a great deal about the adult education programs in these two Asian countries.

Another reason Harry liked this kind of group learning is that he appreciated the timely feedback he could get from team members.

> Students take up different responsibilities of the project. Each would find resources, and all would sit together and discuss how to accomplish the project. We employ emails and phones to remain in touch about the progress in the process. More importantly, team members serve as supervisors for each other. It makes you feel like that there is someone always there to share your learning results. You could easily develop a sense of achievement. In a group learning experience, we create a learning environment that is different from that when one studies on one's own. You feel stimulated by the timely feedback you get from the group. Moreover, learning goes beyond classrooms. We meet more often outside class. Communication through phones and emails is learning. (Harry)

During instruction, as perceived by participants, instructors here made conscious efforts to enhance classroom thoughtfulness by asking challenging questions, inspiring students to think independently, encouraging different opinions, structuring challenging tasks, and modeling thoughtfulness.

> Instructors in the United States are more likely to encourage students to ask questions in classroom. It has become their second nature to ask questions and to encourage students to ask and answer questions. As soon as the instructor finishes on a topic, he will ask us if we have any questions. (Yan)

Yan observed that instructors did not usually answer questions in a direct way. They would first ask other students about their thoughts of the question. Then he would guide an improvised discussion to encourage students to share their thoughts.

> One student asks a question. The instructor would not start answering the question like most Chinese instructors would do in that situation. It is possible that the instructor does not know the answer. Or he knows the answer, but he would prefer students to share their opinions first. He would pass the ball to other students in class in the hope that students would keep the ball rolling by sharing their own ideas, They do not just brush it away if they do not happen to know the answer. (Yan)

Another observation by participants was that when instructors were really challenged by students' questions, they were not offended. This was demonstrated by Yan's comment.

> If the instructor cannot provide an answer, he would acknowledge it up front that he would look for references and share the answers next time. No one would feel embarrassed. This is the appropriate way to pursue knowledge. (Yan)

When students challenged instructors with difficult questions, instructors seldom brush away the challenging questions. In one of the courses Helen took, students challenged the instructor. Rather than being offended, the instructors would always encourage different thoughts.

> The instructor provided a few methods for teaching reading. One student would say, 'I used a certain method.' Obviously, the instructor had little information about this method. But the instructor would respect the student's opinion. If he has never used this method, he would say something like, 'well, that's a new method,' or he would say, 'that's a way to do it.' The instructors will not be offended. (Helen)

Instructors of seminar courses never dominated the instruction. Instructors used the seminar courses to train graduate students to lead discussions. Yet, instructors did not lose their control of the classroom in case discussions went off track. They continued to play their roles as facilitators in classrooms.

> When instructors assigned students to lead discussions, they usually initiated the discussion by making some general comments on the readings or major topics. Then the discussion leader would take over. If the discussion went off the point, the instructor would interrupt and divert the talk back to track. (Xing)

Instructors encouraged students to conduct research independently. They inspired students to come up with creative and original ideas. After Feng came to terms with the nature of his program, he began to better understand the topics in his field. He was very impressed by the class. Teachers allowed so many different focuses and encouraged students to come up with evidence for their claims.

When instructors taught new concepts, they motivated students to learn more for themselves. For example, one participant reported that he learned the new concept of corporate university through his independent readings.

> In class, the instructor cannot talk about each topic in depth. If you are interested in a particular topic, you could find readings on your own about the new concept. I'm interested in the corporate university concept and go about finding more articles to explore the field. As I read and reflect on the readings, I learn a lot about the concept. It became my knowledge. (Harry)

Participants believed that teachers here were different from those in China in that instructors modeled thoughtfulness for students in classroom. Students looked up to instructors, not as authoritative sources for certain answers, but as colleagues who explored and sought answers with students. For example, Feng shared that he was challenged by instructors, who always say "*show me the data."* He learned to use evidence to support his arguments because his instructors taught him that "*whenever you try to make a claim, [you should] always show me the data*." That the instructors here modeled thinking is supported by Xing's comments.

> Back in China, we expect our teachers to know everything. We expect our teachers to teach a lot to us in class. But here, teachers would more likely listen to students' ideas and share opinions with each other. Instructors would provide students several perspectives or share their own thoughts. In China, we simply cannot doubt the credibility of the teachers. Whatever they said was considered right. But here we could freely express our minds. If I have ideas different from

> the instructor, it is perfectly proper to say so. This is a significant difference. (Xing)

Participants observed that instructors here modeled thinking through their own professional development. Faculty members in U.S. graduate schools keep up with their own research agenda. The statement "publish or perish" runs true here in this academic community. Renee observed,

> Professors here are both qualified in teaching and research. They can't fish in the troubled water like professors in Chinese universities. They really have to demonstrate excellence both in teaching and research. (Renee)

Professors in Harry's program are famous scholars in the field. Harry was very impressed with them. He shared,

> I didn't know how high my program was ranked in the United States until I attended academic conferences. I was told that my program is a highly ranked program in this country. We have 12 full professors…in their forties and fifties…and they are all prolific writers, whose writing greatly influences the field. (Harry)

Participants perceived that instructors in U.S. programs were highly motivated to make academic achievements. As researchers, instructors conducted research projects and published profusely. As teachers, they provided assistance for their students. In addition, participants commented that the instructors' attitudes were different from those of instructors they had in China.

Instructors Treating Students as Colleagues

While participants agreed that their instructors encouraged independent thinking in courses and research projects, they commented on instructors' attitudes towards students. In most graduate courses, instructors were participants in class. They talked in the discussion and learned new things with students on an equal basis. Participants reported that their instructors treated them as colleagues. The relaxed relationship between teachers and students was conducive to learning. Xing had instructors who participated in classroom discussion just like students.

> My instructor in class became a participant. He participated in discussions on an equal basis with students. In addition, I don't think instructors are like teachers in my Chinese mindset. They just sit together with students and chat. There is this casual but friendly relationship between instructors and students. Most instructors are very humorous. They do not put on airs. They can make the classroom atmosphere relax. (Xing)

Helen commented that "*instructors at the graduate level are very nice*." She believed that most of the instructors were more considerate than those of hers in China as far as their attitudes towards students are concerned. They respected students and their opinions. They helped with students to reason for or against an argument. However, being more helpful does not mean instructors here are more indulgent. On the contrary, participants thought that professors here were stricter with students than teachers in their Chinese programs. Renee shared that,

> It was much easier to get a passing grade with exams in China. But here your final evaluation depends on your daily performance. There is tons of homework and assignments. (Renee)

In terms of academic assistance, most participants are grateful that their instructors and advisors provided so much assistance. For example, Xing's major professor sponsored her to attend academic conferences.

> In the spring semester of 2003, my major professor sponsored me to attend the most important academic conference in our field. (Xing)

Instructors in other programs did the same thing. For example, this was the practice in Zoe's department.

> My department encouraged graduate students to make presentations at conferences and write publishable papers. They provided you with funding. For example, the last time we attended a regional conference, our department sponsored the graduate students with a van and a hotel room. Professors encouraged us to establish research academic networks with experts in our field. I enjoy working with such pressure around me. (Zoe)

Participants perceived that instructors offered other types of assistance when needed. For example, Zoe's major professor provided her with support when she felt frustrated with the rejection of her grant applications. She shared,

> Last semester, I was nominated to compete for the Dean's Support Grant in our program. Very few people failed to get it. I didn't get it. My major professor said it might be because that I had a Chinese name. Well, it is hard to say that it is a kind of discrimination. It might be a subconscious human feeling. Everyone could make decisions based on his or her liking. My major professor has been trying her best to comfort me. Every time my application for something gets denied, I would go and talk to her. She can always understand me. (Zoe)

Here instructors treated graduate students as equal colleagues. They appreciated students' ideas and encouraged them to thrive into promising researchers. Xing's instructors were aware of her challenges at the beginning of the program. "*The instructor would stop to ask me if I have any questions. I had a lot, but it would be embarrassing for me to interrupt the instruction with questions*," recalled Xing.

Xing's advisor was a very organized person. He suggested Xing start building up a bibliography since she entered the second year of the program, given the intensity of comprehensive exams and proposal approval meeting in her department. Her instructor informed her of the annual review for each graduate student in the department. All faculty members would sit together and talk to each of the graduate students individually about his or her progress in each academic year and project more progress in the coming year.

> They train their graduate students according to students' career goal. The training I have had in the program provided me theoretical background, basic knowledge of the field, and other possibilities for me to conduct research. (Xing)

Feng and Renee agreed with other participants about this aspect of their learning experiences. They were grateful that they had very supportive professors to work with in their programs.

> My major professor has been very helpful. Sometimes he just called me and asked me "how is your study." Sometimes I felt that is something. Somebody out there is caring for your study. Sometimes it is a very motivating experience. (Feng)

> One instructor even corrected every grammar mistake I made in the papers. They are very encouraging to us international students. (Renee)

Renee observed that American professors are fair to students in academic issues. They could be very friendly with students, but they could still be very strict with them in the graduate program.

Among the participants, the doctoral students commented that it is important to select a major professor to work with as early as possible in the program. They reported that they looked for certain traits in instructors as they selected a major professor to work with. Zoe, for example, was cautious about selecting a major professor. She thought about the research focuses of the professor, grant possibilities, length of residence as professor on campus, personality, and relationship with other faculty members. She came to realize that,

> Everyone is independent researcher here. There is no relational benefits attached to the relationship between instructors and students. So long as you have academic achievement, you could be recognized as a good researcher. This makes me all hopeful and spurs me on when I feel depressed in my program. (Zoe)

In summary, participants perceived that U.S. instructors demonstrated different behaviors by providing course syllabi, facilitating classroom instruction, and treating graduate students as colleagues. The next section discusses participants' perceptions of incongruities in terms of students' behaviors.

Perceptions of Incongruities in Students' Behaviors

Reflecting on their learning experiences in China, participants concluded that they were passive learners. Their passivity was promoted in three ways. First, students were not given many choices about taking courses and their learning process. For example, most of them had to take courses regulated by the curriculum in their Chinese programs. Even electives were required and limited to a few options in China. Second, students were not encouraged to be critical

learners. Critical thinking and other higher order thinking skills were not the focus in the Chinese curriculum of social sciences, humanities, and education. As participants recalled, students took notes in class and seldom challenged either the textbooks or the instructors. Third, they depended too much on instructors in the learning process. They seldom got involved in challenging tasks.

By comparison, participants preferred U.S. graduate programs that encouraged independent self-directed learning. Participants perceived American classmates as active learners. First of all, in the classroom, students offered explanations and reasons for their conclusions in class. Second, students generated original and unconventional ideas, explanations, hypotheses or solutions to problems. Third, students assumed the roles of questioners and critics. Fourth, students made germane contributions to the topic and made connections to prior discussions. Evidence for such claims could be found in participants' remarks as follows.

> In China, teachers proposed topics for graduate students. You read papers, express your opinions, collect simple data, and write it up. (Zoe)

> [Here in the United States], teachers are supportive of students. They provide you with a general direction. They do not care too much about whether you are following the direction or not. Taken at face value, teachers do not seem to be responsible. But they aim at cultivating students' independent thinking and learning. (Jason)

Jason enjoyed independent learning. Last summer he decided not to take any courses. Instead, he reread all the reading assignments of the courses he had taken in the previous year. "*By doing this, I hope to make up for the things I missed out in those courses*," Jason said.

Participant thought that the greatest difference of their learning experiences in China and in U.S. graduate schools is the self-directed and independent learning. Harry commented,

> Each course of the semester assigned students a huge pile of readings for students to read and digest. Once you read them, you come to class and participate in discussion. The benefit of having such a large amount of reading assignments is that you get acquainted with many aspects of the course. You learn so much through reading. No matter how knowledgeable the instructor is, what he could lecture and share with students is limited. He reads what interests him. It is impossible that he gets to read everything in the field. But if students could start reading many articles in the field, they could think from different perspectives. (Harry)

Yan shared that he experienced becoming an active learner when he had to make decisions on finding resources for his academic paper writing.

> To write a paper, I have to go to the library to search for relevant resources. The instructor will only assign a broad topic. I have to look for books or journal articles that are related to the topic of my research interests. There is no set goal. I have to make decisions about what topic to focus on, and what books and journal articles I select as references. With all the books located, I still have to decide which books are the main references for this particular paper. (Yan)

Other participants thought that American instructors assumed that they knew where to find the research papers. American students have, perhaps, been trained to be independent learners along the way. Renee and Helen shared their experiences.

But I was clueless at the beginning. The instructor understood the situation later and narrowed down the topics for us. For example, he would assign us to look for an article using focus group interview method. It would be so much easier for me after I understand what focus group interview is. (Renee)

I have to design my own papers and projects. It was much easier for my classmates who are in-service teachers to complete a project that involves instruction in the classroom. They could find participants in their classrooms or schools to finish their projects. I cannot do that. I have to rely on my imagination. (Helen)

Xing described in detail how she learned to write an academic paper and how she reflected on the whole process.

I took a split-level course, which was for both undergraduate and graduate students. As graduate students, we were required to write a paper of about 20 pages. I was clueless. The instructor thus recommended a book to me. He asked me to read it first before I came back to talk to him. I read it and had a general idea. When I talked to him about the topic, he confirmed that, in fact, I was still confused, not knowing where to go from that point. My instructor was a very organized professor. He asked me to write an abstract first. I then asked a few questions centering on the main idea. After I had a general map in mind, I went to look for references to support the ideas. Everything in this process is different from what I have learned in China. This is also a process of independent research. After I'm done with the process, I sit down and write it up. My first draft would

> be reviewed by the instructor and returned to me for further improvement. My instructor purposely trained me to become an independent researcher (Xing).

Xing's Chinese professor never had trained her in this way. Xing good-naturedly telephoned her professor back in China one day and asked him why he did not train her this way. Xing told me, "*I asked him, why you always allowed me to depend on you when I get confused in a research project?*" Her professor answered that it was not the practice in China. Here in the United States, Xing's professor asked her to fend for herself. Of course the professor always provided some suggestions, but most of them were constructive and general. One still has to think for the specific details.

In terms of students' behaviors in classrooms, Chinese students all commented that their American classmates are more active in classroom discussions. Renee described her classmates as being "*good at speaking and writing.*" Observing American students' behaviors in classrooms, Heather described Chinese students' behavior this way,

> Chinese students share one weakness. We do not participate much in class. Partly it is due to language proficiency. But I think there is another aspect of the problem. The training we had in China didn't encourage classroom participation. I find it hard to critique the readings. It's hard for me to ask questions based on the readings, even after I read the same stuff for many times. I can't go in-depth on a certain issue. (Heather)

Heather continued by citing a specific example in her learning experiences when she observed different behavior of her American classmates.

> This semester I took a course that assigned a lot of advanced readings. Two students formed into a pair and led the discussion. We had to put forward

> questions for the discussion. Later on I noticed that Chinese and other Asian students asked questions that are closely related to the articles themselves. For example, their questions centered on the concepts explained in the articles, or why the authors prefer such concepts. Questions put forward by American classmates might seem far-fetched, but you will soon realize that they have given the articles much thought to come up with these questions. (Heather)

Compared to students in China, here students have more choices. They do not only have the right to choose what courses to take within certain parameters, but also they could choose what assignment to finish for the course. Instructors usually have several options available for students. Heather remembered,

> In one course, we made a choice of a course assignment between a book review and an investigation project. Once we made the choice of our own, we claimed ownership to the project. Therefore we made efforts to do it well. (Heather)

In China students could seldom negotiate with instructors as far as evaluation is concerned. Students here could participate in teachers' evaluation of their performance.

> The instructor of one course gave us a general framework of his way of evaluation. Then he let us discuss if the rubrics are all right. We therefore make suggestions. The instructor listened to our ideas and synthesized the final rubrics to evaluate students' performance in the course. (Heather)

Participants noticed that students here are more casual and informal even in classrooms. Heather and Helen shared,

> At the beginning, it struck me as strange when they just addressed our professors by their first names. (Heather)

> They come to class as active learners. They are good at talking in class. I believe Americans are a talkative people. They could relate the discussion topics to their experience. (Helen)

Different from our stereotypes of American students, most students Heather has encountered since she came here are hard working.

> They are not as idling as we thought they were when we were back in China. They are in fact paying great attention to their learning here. They treat course projects with utmost enthusiasm and concentration. For example, there was a course last semester that required a final project with a presentation component. American students made extra efforts to incorporate visuals and audio video multi-media materials to enrich and enliven their presentation. (Heather)

Most U.S. students participated actively in the discussion. They seized the opportunity in class and expressed their opinions. Sometimes they might not have convincing ideas, they shared them anyway. Because of such active participation, participants observed differences in terms of students' behavior in classroom. For example, Yan observed that students' behavior differed greatly from those in China.

> Classroom atmosphere is more relaxed here. There is no barrier between instructor and students to make possible the two-way communication. Students would ask questions any time during the instruction. (Yan)

In Xing's class, she noticed that her classmates came to class with questions about the reading assignments. They did not just read the articles; they had a conversation with the authors of the articles.

> For those students who study very hard, they would make notes in the margin of the research papers. They asked questions to engage in a conversation with the author. For those who did not finish all the readings, they could still ask questions on the spot. They participate actively in discussion. Of course their discussion won't be as focused. (Xing)

Xing's classmates were considerate of her passive participation at the beginning of her program. Xing recalled,

> They noticed that I didn't talk much at the beginning, so they would start the discussion and put forward a question for me to answer. They would say, Xing, what do you think of this issue? They encouraged me to participate. They asked me to express my opinions and I would have to speak. I enjoyed chances like this, for, you know, I seldom could have opportunities to participate in the fast-going discussion. (Xing)

As far as classroom participation is concerned, Harry thought one could still "play dumb" at seminar courses, but it wouldn't be as beneficial as if one reads the readings thoroughly and participated actively in the discussion. He realized,

> Even if I can't speak as fluently as American students, I could still participate and find the discussion interesting and fruitful. (Harry)

Most classmates in Harry's program were part-time students. Harry was inspired by their active participation and gradually learned to share his thoughts.

> They have full-time jobs or they have had a lot of working experience. When they participate with enthusiasm in class discussion, they could contribute much about hot issues. Most of them are hardworking and active learners. They make extra

> efforts to finish reading and find other articles and books to read while they work at the same time. But I don't think they could develop a deep understanding about all issues. As an international student, even though I cannot speak as fluently, I can always share my thoughts, especially my reflections relating to Chinese situation. Instructors and students appreciate such contributions as they are interested in knowing more about China. (Harry)

In summary, participants perceived that students in their U.S. programs are active learners who contribute to discussions, take roles as questioners and critics, and share their own thoughts. The following section presents participants' perceptions of challenges and difficulties in their graduate programs.

Participants' Perceptions of Learning Challenges in Graduate Programs

Each of the participants in this study has a unique learning experience, however, they all perceive similar challenges and difficulties in their graduate programs. This section presents participants' perceptions of five major kinds of challenges and difficulties encountered in their graduate programs. The challenges are: unfamiliarity of the U.S. graduate programs; lack of teaching or research experiences; inadequate language proficiency; disconnections between their experiences of teaching strategies and assignments that require higher order thinking skills; and disconnection between experiences they had with different research questions.

First, participants shared that they were unfamiliar with their U.S. graduate programs when they first came here. They reported that they did not know the system well enough to start right away with research and publications, which were required in most graduate programs. Zoe acknowledged this challenge by saying "*I am not familiar with the system*." Heather shared her experience this way.

> Everything is new. I didn't know how to write papers, and how to go about it. This is the greatest pressure. For example, I had an assignment that required us to conduct a textbook analysis. I have never done a textbook analysis before. Nor did I even know what a textbook analysis is. The instructor provided a general structure for you, but those were too basic. The instructor required a paper with parts such as introduction, method section, etc.. I knew of them, but I had no clue how to go about writing the textbook analysis….there was no linguistics program in the undergraduate curriculum in Chinese colleges and universities. When I came here, I felt as though I entered the graduate school directly from high school. Without adequate background, I found it challenging to study in my program. (Heather)

Feng, a participant in educational leadership, shared, *"I have totally no knowledge of North American education system, higher education or K-12."* He continued,

> I have never studied sociology very formally. All my previous background is English language, which is nothing in North American settings, you know. (Feng)

Second, such unfamiliarity with U.S. programs is closely related with participants' lack of previous teaching or research experiences. Feng foresaw the difficulties of being a professional researcher in the U.S. academic community without solid foundation in his subject and previous experiences.

> If I want to choose research as a career, then I believe you have to work really, much harder than North American counterparts, because in this regard you are really lagging behind. Our preparation in China is so narrow that it ill-equipped us with any knowledge base for doing meaningful research in America. When I think

about this, you really realize your weakness and how hard it is to try to overcome this weakness. (Feng)

Like Feng, Heather shared her frustration of lacking previous experiences. She noticed that students in her class contributed more to discussion because they could share their teaching experiences in U.S. publish schools. She recalled,

> I did not have language teaching experience as compared to other students in my class. When class discussion featured students' teaching experience in language instruction, I felt at a loss. I did not know what to say. (Heather)

Like Feng and Heather, others believed that their lack of previous experiences brought about more challenges. When participants had little research experiences, they reported to have undergone challenges in courses that require the completion of research projects. When participants had little experiences with graduate-level courses that require challenging tasks, they reported to have more difficulties in their learning. Renee and Helen shared,

> When the instructor assigned the class to look up research articles that represent quantitative, qualitative study or focus group study, I was completely clueless. (Renee)

> I lack experience in education. I had worked as a part-time English instructor, but I did not have enough teaching experience to make contributions to class discussions. (Helen)

Third, all participants perceive language as a challenge in their graduate program. It is not surprising that participants shared this perception. When they came to their U.S. graduate programs, one of the first challenges is language. For example, Yan said, "*to start with, language*

is the greatest barrier." Language became a huge challenge for students in graduate programs of social sciences, humanities, and education. Heather shared, "as English major, I have no difficulty talking to people in social settings, but when it comes to classroom discussion, I still feel challenged." Zoe had similar experiences.

> My focus is on human geography, which is challenging for international students. It is so hard for international students to do that. First the language requirements are higher for us than for those who focus on physical geography and technology….It is particularly challenging for Chinese students who enrolled in graduate programs of social sciences. Language, which was not a problem for me at all in China, became a major barrier here. Instructors talked so fast in class. I couldn't participate in the class discussion. (Zoe)

To be specific, inadequate language proficiency becomes the major challenge for participants in reading, participating in discussion, and writing. Almost all participants identified the large amount of reading assignments as a challenge when they entered their respective graduate program. Furthermore, most readings require students to ask questions based on readings, think in-depth about the questions, and critique ideas presented in the readings. Many participants shared,

> I had little exposure to such theories and ideas. Even if I had, I would not be able to remember all those authors' names. (Heather)

> For me, reading is very challenging. Sometimes I could spend hours reading an article of over 20 pages still not able to make sense of it. (Renee)

> The instructor assigned so many reading assignments that I could hardly complete them. When I share with you the course syllabus, you will know what I'm talking about. The weekly reading is too much and I do not think I could finish them at all. (Xing)

> I read English journal articles very slowly. Although I taught in a Chinese college for years as an English instructor, I still read slowly.…I felt very much pressured [in this U.S. graduate program]. (Jason)

Language difficulties arose in connection with class discussions, where participants reported that they looked like passive learners in classroom. They often feared that their comparative silence could easily impress others as an unwillingness or inability to participate. For Zoe, she found it hard to keep up with the speed of instructors in class and the readings before and after class. She shared,

> In class, instructors talk so fast. I can't participant in class discussion. It takes hours for me to finish reading before class. Even after I finished all the readings, I was still unable to answer the questions in a timely fashion. (Zoe)

Xing's problems were with difficult words in readings and discussions. The courses she took in anthropology gave her a hard time. She shared,

> I have so many difficult words in readings and discussions. I understood those words in Chinese. But when people said these words in English, I couldn't understand some of them. I could only stutter before I could start talking with some fluency. Usually before my thinking caught up with one train of thoughts, the discussion might jump to another topic.…sometimes when I heard others'

questions, I blamed myself for not speaking first, for I had similar thoughts about that question. (Xing)

Such difficulties are more likely to occur in the first semester for most participants. For example, Heather and Harry shared their challenges at the beginning of their programs and reflected on how they overcame them.

> I felt pressured and anxious starting from the first class of the first semester. It took me quite a while to pluck up courage to write a note to the instructor of that course, asking for extra help. The instructor was very encouraging and supportive. Gradually I forced myself to ask a question or participate in discussion a bit more as each class went by. (Heather)

> I couldn't understand the lectures. I could not make sense of what the instructor said. The instructors spoke so fast. I used a tape-recorder to record the lecture at first, but once I brought the tape home, I realized that I still couldn't make sense of the lecture without the context and the non-verbal language. I decided to stop recording. (Harry)

Writing could be even more challenging than discussions. An analysis of the collected writing assignments shows that when writing assignments require a good command of English language and comprehensive abilities to analyze, evaluate, and synthesize the readings, students were frustrated. Renee and Zoe commented,

> Writing is more challenging for me. When the instructor assigned a paper of 20 or 30 pages, I was about to faint. How could I ever write a paper of that length in English? Now, reading research articles is no longer painful to me, but writing a

long paper still makes me panic. I have to spend more hours on it than my fellow North American students. (Renee)

I read an article on the Internet about writing for publication. It said that you have to have six to eight articles under review in order to publish one or two journal articles. I was amazed. I was amazed! I had to work my tail off to even finish one paper. It is simply impossible for me to have those many papers under review….it is an enormous challenge to a foreigner like me. (Zoe)

Xing described one of her challenging experiences with a WebCT course. She was not prepared for the demanding requirements of that course.

One of the most challenging courses for me was a WebCT course that required weekly comments to be posted online.…it is so challenging to me.…once I made the comments, other students would respond to my comments. That requires my prompt responses again. There could be dozens of comments on WebCT each week. Each of us had to contribute quite a few. It would almost kill me to even write just once, let alone a few times. I contributed the least in that class, I think. (Xing)

Based on her personal learning experiences, Xing believed that writing is one of the most important skills she needed to develop in the graduate program. She looked up to instructors to help her improve her writing skill.

It is necessary for instructors to help Chinese students with their writing skills. When I took courses, instructors did not usually review my papers carefully. But

when I came further into the program, writing counts as the most important skill. (Xing)

Fourth, participants reported experiencing a disconnection when they had different teaching strategies. As far as teaching techniques are concerned, participants enjoyed the new challenges, but reported having difficulties getting adjusted to them and adjusting took time. Describing one of his courses, Yan recalled having challenges adjusting to a teaching technique.

> On the day when synthesis papers are due, the instructor would ask students to form into groups of four or five students. In each group, members exchange papers to read and help one another to critique the papers in about ten minutes. I think this is a very good exercise. But as a non-native speaker, I find it hard to finish reading even one paper, let alone four other papers in the group. It's impossible to provide criticism for me. (Yan)

Similarly, Heather shared one of her challenges with a course. When the instructor required students to focus on methods rather than the factual information, Heather found it challenging.

> I felt greatly challenged by one course in which the professor didn't seem to have a systematic combination of readings, instructions, exams, and research projects. I asked my boyfriend for help. He shared with me that that methods are more important than facts, which could be located in many sources. It is the methods that matter. (Heather)

The participants experienced challenges when the courses they took required understanding beyond the readings and when courses required higher order thinking skills. In China, instructors did not usually share a detailed syllabus with learners. Their courses often

dealt with an array of issues that were covered superficially in a lecture format. This form of teacher-centered instruction usually relied on a required textbook with supplementary materials. Here in the U.S., instructors communicate through a detailed course syllabus that informs students of the course focus on specific issues or theories. Instruction depends on a variety of reading assignments besides textbooks. Participants reported having difficulties dealing with the contents of some courses. Heather and Xing shared,

> [Here] the teacher's instruction did not have much to do with the readings he assigned. He assigned many readings for students to finish. But he invariably would add new stuff in class instruction. In terms of assessment, he would design tests that require knowledge and understanding beyond the readings. However, the theories in the readings would have to be applied to the final research project. It was too challenging for me. (Heather)

> Such intensive exercise of making comments aims at improving students' ability to think fast and react timely. It is part of higher order thinking. One needs to have the ability to synthesize the readings and comments. This requires a wide range of knowledge. Students could go in depth on one topic and connect to other topics as well. This is a real challenge to me. (Xing)

Participants reported experiencing a disconnection when considering research questions from two different cultural perspectives. Participants realized that since they were in graduate programs of social sciences, humanities, and education in the United States, it is natural that problems in which this research community is interested are relevant only to this society or this

system. The difference in research questions caused challenges. Xing talked about this during the interviews,

> In China social scientists explore social problems that are unique to China. In the United States, social scientists examine issues that are special to the United States. We have to make a huge adjustment. Besides, pedagogy in education varies from one culture to another culture as well. Students in science programs would not feel the same way as we do in social sciences. This makes me scared sometimes. (Xing)

Zoe, who had more experience in research, learned that the graduate programs valued publications more than excellent grades in graduate courses. Therefore her frustration came from her inability to publish in her field.

> It caused me much suffering to realize that you end up empty-handed with no publications after you make extra efforts for such a long time. I even thought of changing to follow professors who do research using technology as their focus. But I still remain in the field of human geography. (Zoe)

Zoe continued to discuss her feelings as an underachiever simply because she couldn't publish on the journals in her field.

> Even if you have straight A's for all courses, you still feel like an underachiever since here you are valued by your publications and how much the field recognized you as a scholar. (Zoe)

These challenges brought about feelings of frustration, dissatisfaction, disappointment, and anxiety. However, as soon as the participants got over them, they reported that they had

rewarding experiences in their U.S. graduate programs. Yan described a transitional period that most participants have undergone in their first semester in the graduate programs.

> I felt frustrated at the beginning of my first semester here. In fact, I felt frustrated at the beginning of every semester. But the first semester was a special transitional period, during which I have to make a lot of adjustments Together with the frustration, I felt immensely pressured during the first term….I have to lower my expectations about the most difficult course. I aimed at getting a B instead of an A for that particular course. Throughout the course, I was confused. I couldn't get a good grasp of the essence of that course. If I still aimed at getting an "A," I wouldn't be too disappointed at the end of the semester. I did get a B in the end. (Yan)

Once participants overcame frustration and depression through their successful experiences of using effective learning strategies, they reported having rewarding experiences in their U.S. graduate programs. Zoe, Heather, and Renee shared their experiences.

> I find it rewarding to have made academic progress here. While you have nothing to support you here, one values one's own academic achievements the most….here instructors encouraged your own thoughts and ideas. I'm very grateful for the spiritual, intellectual and financial support I got from [this school]. (Zoe)

> At the start, I couldn't find a topic. When I did, I realized it was too broad. But time is limited and I couldn't waste much time finding other topics. Therefore I stuck with the first one. It turned out well. In the whole process of conducting this

> research project, I learned so much and made so much sense of the research process. (Heather)
>
> I think it is worthwhile. The learning experience enhanced my self-esteem in many ways. First of all, it changed my way of thinking. When I was in China, I don't think I have any training in thinking skills or logical thinking. As a student of social sciences, what I learned in school was just shoveled in front of me and required me to accept it. Here the social sciences programs focus more on research. There is nothing absolutely true in the eyes of researchers. You could propose your theory, and I could propose mine. We could both find evidence to support our arguments. What I learned here in one year is worth more than what I had learned for many years in China. (Renee)

The ten participants in the study are ten very different individuals with different learning experiences. Their perceptions of experiences and their personality influence how they share their experiences. While the participant portrait presented in Chapter 3 enables readers to get an idea of each as learners and to understand how they experience the new learning environment at this stage of their life. It is difficult to make sense of their individual experience in relation to all the other Chinese graduate students in U.S. graduate programs of social sciences, humanities, and education. Therefore, I decided to develop a continuum, which illustrates how participants experienced different degrees of frustration and challenges in their U.S. graduate programs. I examined the school, work, and research experiences of the participants, and determined if the participant had a clear goal or purpose as he or she came to the U.S. graduate program. Their perceptions of the nature of the U.S. graduate programs were taken into consideration. Based on

participants' perceptions, three key criteria were used to rank the participants along a continuum: previous research experiences, goals upon arrival, and perceptions of the nature of their respective U.S. academic programs.

The continuum is illustrated in Table 4.2. Data analysis showed that the ten participants fall into three categories as far as their perceptions of challenges, perceptions of previous research experiences, goals upon arrivals at U.S. programs, and their perceptions of the nature of their graduate programs are concerned.

The first category features participants who had comparatively more extensive experiences in knowledge and research of social sciences, humanities, and education. These participants perceived fewer challenges as compared to other groups. Participants in this category obtained their master's degrees in China and had previous training in knowledge, skills, and research in school-related and work-related research projects. One of the participants thus noted,

> At that time, the Ministry of Education in China decided to initiate a new plan to strengthen the social science education in higher education institutions. It was known as the "Great Program of Humanities and Social Sciences." Beijing University was one of the selected schools to be the first to try out this plan. The University set up a special class as an experimental project. For this class, the school allocated the best team of teachers who were well known in the fields of Chinese literature, history, philosophy, psychology, economics, and languages. I was lucky to be placed in this class. The main purposes of the experimental class were to train students to be learners who have extensive knowledge in humanities

and social sciences and to prepare them to be qualified citizens for the challenges in the 21st century. (Maurice)

Table 4.2. A Continuum of Chinese Graduate Students Experiencing Challenges and Frustration

	Category I	Category II	Category III
← →	fewer	some	more
	Zoe, Harry, Maurice	Feng, Jason, Xing	Renee, Yan, Helen, Heather
Previous research experience	extensive	moderate	little
Academic goals upon arrival at U.S.program	clear	unclear	unclear
Perceptions of their U.S. graduate programs	matching perceptions	problematic perceptions	misconceptions

Compared to the other participants, who reported having little experience in colleges and universities learning about basic courses in humanities and social sciences, Maurice was better prepared in terms of knowledge and thinking skills. The plan of establishing a "Great Program of Humanities and Social Sciences" benefited him and his classmates. When he reflected on this unique experience, he remarked that,

> The special class provided us with a comprehensive structure of knowledge. It serves as a springboard for me to enter the graduate program of history in Beijing University. In the graduate program, I made great progress in terms of reading and thinking. The amount of reading was comparable to the amount of reading

here. That probably explains why I haven't felt very much stress since I came here. (Maurice)

Two other participants in this first category had comparatively extensive research experience before they came to the U.S. programs. One of them recalled,

> My graduate program of economics in China, which required all graduate students to conduct some kind of research, encouraged publications, but neither research nor publications were strictly required. For one course, I tried to conduct a research project. I did some literature review and used data published in Yearbooks and other books. That paper was published and awarded a national prize in1995. (Zoe)

Among the participants, she was one of the very few who had an impressive list of publications and had invaluable work experiences with journal article publications. She described her previous work experiences as follows,

> I worked three years as a journal editor with the Journal of Chinese Science Academy, which required all editors to have knowledge and editing skills in our field. I was quite familiar with the research process before I came [here]. (Zoe)

The other participant among these three finished his master degree in China and came to his U.S. program in 2002 with a considerable list of publications. In terms of research experiences, he benefited a great deal from writing his master thesis.

> I spent the whole year in the last year of my graduate program working on my master thesis. I reviewed literature, put forward research questions, designed an experiment, collected data, ran statistics model on the data set, analyzed the data, and wrote the thesis up. I experienced the whole process of conducting research.

> The committee and the department were quite impressed with what I did in that research project. (Harry)

These three participants had clearer goals upon their arrival at their U.S. programs. They seemed to have appropriate understanding of their academic programs and were quite explicit about their objectives in the new learning environment. They wanted to become experts with a systematic structure of knowledge in their respective academic field. They offered the following comments in the interviews,

> I came here to conduct research and get published. China needs experts and scholars in this field. That's why I came [here]. (Zoe)

> Looking back, I thought I didn't accomplish much in the past years. I conducted research and published journal articles, but I still felt quite empty. I didn't think I was like an expert in any field. I admired those experts in a field, who have an extensive and systematic knowledge about a field. I wish I could become an expert in the field of adult education or distance education. China needs experts in this field. That's why I came [here]. (Harry)

> I became interested in distance education, distance learning and adult learning. I knew that the U.S. has advanced studies in this field. There are many famous scholars whose theories are influential to the development of the field. I would like to have a systematic study of their theories and practice. What I have accumulated based on my work experiences was too fragmented. I really want to learn about the field and pursue further study. (Harry)

I wanted to continue the historical research in my field. (Maurice)

This does not mean that these three participants had no frustration when they came to the program. However, compared to other participants, these participants experienced fewer challenges. Even when they had frustration, they dealt with it with a positive attitude. For example, selecting human geography as her research focus, Zoe realized how difficult it was for her to be a successful researcher in the field of human geography. She shared,

> Conducing research in human geography requires a lot more than conducting research in physical geography. Human geography research requires a higher proficiency of language. If I conducted research in physical geography, I could simply run a model or software on computer. In addition, human geography requires a wider and a more solid cultural background. It requires an in-depth review of literature. (Zoe)

While she recognized the difficulties, with the assistance of her major professor, she viewed her experiences in the program as positive ones. For her distinguished academic achievements, the Department of Housing and Urban Development (HUD) in the United States recently awarded her the Doctoral Dissertation Research Grant for the years in 2003 to 2005. National Science Foundation (NSF) awarded her the Doctoral Dissertation Research Improvement Awards for the years in 2003 to 2005.

The second category on the continuum has three participants who obtained their master's degrees in a Chinese university and had some research experience in graduate school before they came to their U.S. programs. While these participants had goals set for their U.S. academic programs, their perceptions of the nature of these programs did not quite match the true nature of

those programs. All of the participants in this category reported that they had some challenges and experienced frustration at different degrees. For example, Xing noted,

> When I was in China, what I studied in archaeology was very specific. We went to the field, and focused on the stuff we could come up with. Here, the department focuses on building a theory base for each student in the program. (Xing)

Here she realized that the archaeology program was placed in the Department of Anthropology. It took her some time at the beginning to make adjustments to such a shift.

> I realized that Archaeology belongs to Anthropology in this U.S. graduate program. Here Anthropology focuses on adopting a holistic perspective to view the history of human society. The department I am in right now has a special focus on environmental anthropology. It is a totally different focus for me. Another major difference is the department here requires all students to have a wide range of knowledge in the field first. For example, anthropology has its interdisciplinary thrust in many other social science fields, such as psychology, sociology, political sciences and ecology. You could tell from most of the course syllabi. From theories to practice, we are required to be well read in all aspects in the field. (Xing)

With her master's degree in archaeology, Xing's goal was to pursue her doctoral degree in the United States. However, she felt that she was not well prepared in her discipline back in China. She felt greatly challenged here when courses required readings in social science theories.

> We studied Marxism for so many years in China. When class discussed Marxism, I was terrified that I knew nothing. I didn't know what to say. The instructor encouraged me to share how Marxism was researched and practiced in China, but

> I still did not know what to say. I noticed that my classmates could share so much about what they learned in social science theories. They could draw upon ideas of Kant and Hegel, for example. I only knew very little about their ideas. I wonder how my North American classmates knew even more about Marxism, which China has been researching for so many years. (Xing)

She attributed her lack of knowledge in social science theories to the teaching approaches in Chinese philosophy classes.

> We had been studying philosophy since we were young. We ended up knowing so little. It might be due to the way of teaching in classrooms. Instructors seldom inspired students to think independently. They were too preoccupied with cramming ideas into our minds. That's why we are so weak in theories. (Xing)

Neither of the other two participants in the second category seemed to have extensive research experiences before they came here. Both of them majored in English and benefited from self-directed learning in undergraduate and graduate programs in China. Finishing their master thesis was counted as their minimal research experiences prior to their trips to the United States. They each had work experiences of up to three years before they came here.

Jason's first challenge came from slow reading speed at the beginning of his program. But he overcame that barrier in about ten weeks. One of his perceptions of his learning experiences is that the amount of weekly reading was too huge to complete.

> There were so many readings….besides that, I read shamefully slow. I was an English instructor in China. Still I had to admit that I read too slowly.…it took me about ten weeks to keep up with the rest of the class as far as reading is concerned. (Jason)

Once Jason overcame the reading barrier, he was on his way fully enjoying his new learning experience in his program of linguistics. He said,

> I felt that my reading ability is a bit better than other international students in my class, probably because I spent more hours on reading. I could therefore participate in seminar discussions. (Jason)

Writing, which is a challenging task to other Chinese students, did not intimate Jason either. His previous experience of supervising thesis writing helped him a great deal.

> Writing, to me, is not very difficult. The instructors here do not require you to finish a paper within a time limit. You should finish required readings first. When I taught writing in China and supervised students to write their master thesis, my writing skills had been improved. Here, I did not find writing challenging. (Jason)

Like Jason, who drew upon his teaching experience, Feng depended on his excellent language ability to obtain straight A's in his program. Despite their language ability, their perceptions of their academic programs did not well match the nature of the programs. Such mismatches created mixed feelings of frustration, disappointment, shock, and even panic in some cases. For example, Feng realized that educational leadership in the College of Education was totally focused on K-12 education. His original intention was to conduct research in higher education administration.

> Because I have totally no knowledge of North American educational system, higher education or K-12, I don't even know whether Georgia's educational leadership is for higher education or K-12. Just think if it is educational leadership, it is fine. When I got here, I was totally shocked. Then I know this is not higher education. This is K-12. (Feng)

His lack of experience in the field of education made him frustrated. For the first two years, Feng could not focus on his study in the department. He was preoccupied with the idea of changing programs of study or even transferring to another graduate school.

> [Here] in class, I was totally silent. I know when professor threw in some questions, some people would immediately pick up and talk about it at great length. I am just sitting there trying to understand what they are talking about. That's…sometimes, it is really frustrating, because it lowered your self-esteem. (Feng)

However, Feng did not let such frustration rule the rest of his learning experiences. He made timely adjustments. He started to experience learning moments from the third year on in his program. He shared his two most important lessons from his personal experience.

> The first one is education as a science, is about how to come up with…I begin to understand the true meaning of research, you know which is a so much abused term in China. And the second is the interdisciplinary approach. I can…I mean, then I realize every subject in social science and humanities is interconnected.…yet, all my previous background is English language which is nothing in North American settings, you know. (Feng)

It took Feng about three years to finally concentrate on a major topic in his field. He felt so much relieved now as he had been admitted into the doctoral candidacy.

> Then I realize I have found a very good topic, because teacher education restructuring and micro-politics is about organizational politics and organizational behavior. It is a theory that can guide my investigation of teacher leadership. …so I'm happy with this area. (Feng)

The third category on the continuum features participants, two of which came to their U.S. graduate programs directly from college graduation and the other two worked for three to five years after they obtained a bachelor's degree in a Chinese college. None of them had any research experience or clear goals upon arrival at their U.S. programs. In terms of perceptions of their graduate programs, they seemed to have misconceptions about those programs. All of them reported that they had undergone many challenges and experienced much frustration even after their first year in the programs.

Helen thought reading education focused on improving learners' reading comprehension. She was perplexed when she discovered that reading education was more concerned with young learners' awareness of phonetics and pronunciation.

> When I arrived here, I realized that reading education does not match my conception of the program when I was in China. It teaches children how to read and how to read aloud. It is not about understanding. It is not about reading comprehension.…it is all about children's awareness of phonics and pronunciation. (Helen)

Such a misconception of the nature of the program did not occur only among education majors. Renee thought she was going to learn a lot of practical skills in her journalism master's program. To her surprise, the program was research oriented. She had to start by reading research papers to make sense of the nature of her program.

> I know I am coming into the graduate school, but I still want to learn more practical skills in order to make television program production in the future. Before long, I realized that the focus of our department is not on skills and

techniques. It is on research. It aims at training us as faculty in higher education. (Renee)

Renee supposed that she could get over the requirements by doing sloppy work as she did in China. Later on she realized that there was no possibility to get by if she did not make efforts to study hard.

When previous experiences in their respective discipline were considered, participants in this category seemed to have few experiences. Such lack of experience challenged them at the beginning of their programs. They shared,

> The three courses I took this semester are very challenging. Most of them require previous knowledge in those theories of linguistics. I am not familiar with those theories. (Yan)

> There are quite a number of things that I have never experienced in China. For example, I am not used to speaking in class discussion. I did not have class presentation experiences before either. Writing papers is still a challenge for me. (Yan)

> When I first came [here], I chose not to speak in class at all. I was too scared to speak. At the beginning, I didn't know what to say. What they discussed in class was so different from my previous experience. Many of my classmates here used to be teachers. They came back to take this course with rich teaching experience to share with the class. I didn't know what to say. (Heather)

Another participant had similar experiences in class when she took courses in reading and language education.

> I do not have any background in education. Nor do I have enough teaching experience. I taught as a part-time teacher, but it was only for oral English tutoring. I felt that most pressure came from my lack of understanding and experience in reading education. (Helen)

As English majors, three participants in this category spoke fluent English. However, they still admitted that some of their challenges were related to inadequate language proficiency. For example,

> In class, when instructors quoted ideas and thoughts of certain authors, I was completely in the dark. I seldom read these authors in the past. Even if I did, I would not have been able to remember their names. Writing is challenging to me. It always took me double or triple the time a 500-word paper might take a North American classmate. I guess it will take us five or ten years to live in this country to really improve our writing. (Heather)

They found it hard to read research articles that usually came in dozens of pages. Since graduate students usually take at least three courses per semester, time became an issue.

> Some of the courses I took had too many reading assignments. Each week we had 70 or 100 pages to read.…if I had time, I would have read them all carefully. But if I did not have time, I simply scanned them for main ideas. (Renee)

Renee's college experience in China was different from that of the other participants in that her college was not an academic-oriented higher education institution. She started her interview by saying,

> I studied in China Youth Political Institute in Beijing from 1992 to 1996. But I just fooled around in those four years. My major is ideological political education, which was kind of new at that time. It didn't have a systematic structure either. My school was previously known as Central Youth League School, whose main purpose was to train youth leaders to work for the communist youth league. Later in the 80s, it was upgraded into a higher education institution. We happened to be the first few classes in the program. Courses were offered in a variety of subjects with an academic focus. The main purpose of the program was to train youth league leaders. Social and communication skills were much stressed. It was very different from the focus of other universities. (Renee)

Renee honestly reported that she just fooled around and tried to pass the exams in her college years. Here, she became completely lost at the beginning of her program.

> In one of the research course, the instructor assigned us to find articles that used qualitative and quantitative research methods respectively. I didn't know what do to. I was completely clueless. It was a painful experience for me. It seemed to me like, to look for a needle in the haystack. I flunked that assignment. (Renee)

If it took other participants much effort to make their learning experience a rewarding one, it certainly took Renee much more effort to come to the point when she reflected on her learning experiences in the U.S. program with confidence.

> It was quite worthwhile for me to come to study here. The whole experience changed my way of thinking.…I knew nothing about research at the beginning. What I have learned in the first year is ten times more than what I had learned in

China in the past ten years. This experience is of utmost importance to me. (Renee)

In summary, after overcoming difficulties and frustrations, participants perceived their learning experiences in U.S. graduate programs as positive. Among their positive perceptions, they shared their experiences of developing higher order thinking skills. The following section presents how students develop higher order thinking to meet the graduate requirements in their respective programs.

Understanding and Developing Higher Order Thinking Skills

This section presents strategies used by the participants to develop higher order thinking skills to meet the requirements of graduate program. The researcher first examined the participants' understanding of higher order thinking skills. This is followed by participants' descriptions of the process of how they meet higher order thinking requirements in their graduate programs.

Participants' Understanding of Higher Order Thinking Skills

Most participants mentioned that their thinking abilities were developed in China and that it is difficult to separate their experiences of developing thinking skills in China and the United States. However, they reported that the skills to analyze, evaluate, and critique were mainly trained and developed here. Even those who had studied in graduate programs in China reported having few experiences in improving such higher order thinking skills. They wrote papers, but not at the level required in U.S. graduate program. The amount of reading required here cannot be compared to those required in China.

As far as an understanding of higher order thinking is concerned, most participants recognized that higher order thinking skills refer to the skills beyond just reading to get

information and obtain understanding. For example, participants defined higher order thinking as skills to analyze an issue with critical thinking.

> Weekly course assignments require skills to analyze. For example, the instructor might provide a lot of data for you to run an analysis. What you have in hand are a few basic principles. But when you come across a question in the data, you have to take many things into consideration. Before you make claims about your data, you have to decide how to generalize, how to classify, and how to represent the data. At the graduate level, there are few assignments for you to learn things by heart. In fact, recall abilities could be assessed through other abilities such as analysis and application. (Heather)

> When you read something, you simply can't read it just for facts. It would be wonderful if you could remember the facts. What's more important, you should relate what you have read to your life experience. When I was in China, I tended to accept all that I read. For example, if books say so, then it must be the reality and truth. It seems everything printed in books is correct. As you read more, you would find out authors disagree with other authors. Ideas of the author of one book could be in conflict with the author of another. The reader needs to take sides in such a conflict. Such a critical thinking skill requires you to reason, and decide on your own idea. (Heather)

> Higher order thinking requires one to have a good command of key issues in a research field. Higher order thinking is especially critical to social sciences. One's

creative ideas are more important than what one could memorize. One needs to be able to analyze, apply, and critique things. (Zoe)

Helen thought that higher order thinking means creative thinking. To her, higher order thinking means to think independently and critically.

> Here American graduate programs aim at training us to improve our higher order thinking. For example, they train me to conduct research. My advisor asked me to select a topic in a field. Read and review the literature. Then find out what issues are researched by others and identify gaps in the literature. Then form my own research questions. They require you to be able to synthesize, rather than just memorize….one's own opinions and ideas are highly valued here. For example, if you want to write a critique, you need to analyze other people's articles. You review all the aspects of the research project and find out if the project has some defects. Gradually I learned to find such defects. I couldn't imagine that I could find faults with those research reports. I felt that my higher order thinking skills have been gradually improved. (Helen)

Feng and Harry agreed with Helen in saying that higher order thinking means critical thinking to them.

> I think the defining feature of high order thinking is critical thinking. I believe it is very important to be a scholar and you have to be critical, to have critical thinking skills. I think that is the most important. As an independent scholar, you can't just follow other people's footsteps. You must blaze new trails for your study. To do so, you must not only accept what's been said, you have to question what's been

said and what's been asserted. And you could possibly develop or point out new directions for your research. (Feng)

Higher order thinking, to me, is too broad. I prefer to understand it as critical thinking. First of all, higher order thinking requires one to understand other's opinions. Then it might refer to one's ability to analyze a field or topic in depth. It might also refer to skills to evaluate and critique. It is important that one has one's own ideas and thinking. This is what I call the depth of thinking. This is width or breadth of thinking. It means that one can think about a topic from multiple perspectives. (Harry)

For other participants, higher order thinking means thinking about issues from multiple perspectives. Heather and Yan shared as follows,

Here instructors seldom impose certain ideas upon students' minds. Instructors usually present students with several perspectives. They talk about the merits and demerits of each perspective. They encourage students to compare and contrast before reaching a conclusion. Students could always have their own thoughts. (Heather)

The graduate level study in the Unites States focused on promoting abilities beyond recall and comprehension. With abilities to memorize and understand things, one could never be able to meet the requirements of most courses here. Each course we take here requires a variety of higher order thinking. One could tell by examining the evaluation rubrics in the course syllabus. (Yan)

The skill to apply what one learns was identified as a major higher order thinking skill. Both Helen and Jason believed that knowledge acquired through hands-on and direct experiences is more likely to be retained in one's mind.

> In the Children's Literature class, we had a lot of hands-on activities. We learned by doing. For example, we video-recorded children's behaviors, and then analyzed the data. We were told that research could be done like this….I learned so much from that course, in which I tutored a child every week. In that course, I had opportunities to exchange my thoughts, even my unsuccessful experiences with the instructor and other students. I think that is the most useful course I have taken. (Helen)

> I think the difference between the training here and China is that, in China we are required, we had to be required to get our experience from the second-hand experience. Here we have resources to get materials from both second-hand and first-hand channels. (Jason)

Jason identified that the skill to synthesize is part of higher order thinking. He believed that the U.S. programs put more emphases on improving students' higher order thinking skills.

> Higher order thinking is for high intellectuals. Usually it involves the skills of induction and deduction. And this is cultivated in China as well as in the United States. However, in China, usually our training was focused on reading and trying to do a summary and then develop your own thinking. Here in the United States, according to several courses I have taken, we are required to develop such

> thinking skills by synthesizing what we have read, what we have seen. So the goal is the same, however, the channels are somewhat different. (Jason)

To Yan, higher order thinking means an array of skills. He believed that the higher order thinking in his U.S. graduate program especially requires him to have a high level of reading and writing abilities.

> Higher order thinking refers to a combination of skills. Here the graduate program requires a higher level of reading ability. In addition, it requires a high level of writing ability. Both reading and writing are comprehensive skills. For example, to finish an assignment of a term paper, one needs to read a lot of articles and then choose a topic. It is very hard for me at the beginning. One has to compare among a few options and learns to make a choice and prioritize. I believe the term paper assignments aim at improving higher order thinking skills. (Yan)

In summary, participants described higher order thinking as critical thinking, creative thinking, independent thinking, and thinking from multiple perspectives about certain issues. They understood that higher order thinking skills refer to skills to understand, analyze, apply, evaluate, critique, and synthesize. Participants' conceptions of the higher order thinking skills all fall into Newmann's thoughtful classroom framework. Newmann (1990a) defined higher order thinking as challenging tasks that require the student "to interpret, analyze, or manipulate information" (p.44). The four traits that Newmann (1990a) believed should be key components of "thoughtfulness" include the students' skills to reason, reflect, synthesize and think from multiple perspectives. Here in the U.S. graduate programs, Chinese students reported having experienced considerable learning activities designed and developed by the U.S. instructors to promote such higher order outcomes.

Developing Higher Order Thinking Skills

Developing higher order thinking skills is a complex learning experience that involves interactions among the learner, the instructor, and the learning context. Interviews of participants in this study and analysis of course assignments collected from them provide a window into effective strategies participants adopted to develop such skills in order to meet the graduate requirements. The learning strategies adopted by the participants in their learning experiences fall into four types.

First, since most graduate courses require a large amount of reading, participants put an emphasis on completing these readings. As they kept up with the readings, they made much progress improving their reading abilities. Participants learned to read with a critical lens. Reading was no longer reading for meanings of the articles only. Participants reported a change of reading habits when they started to read beyond understanding. They learned to think while they were reading and to critique what authors wrote in the text. It is a new experience for students who did not read assigned materials in the same way when they were in China. Heather compared her experience of finishing readings here with hers in China.

> When we read [in China], we got caught in the readings. When an instructor asked to read the article, I just read the article. I could not think critically. I could not go beyond the article itself. (Heather)

Jason reflected that his U.S. program emphasized improving students' abilities of independent thinking. Developing one's own ideas is one way to meet the course requirements.

> [In a course], the teacher told us first we could have doubt about what we have been accustomed to. We should have doubt, and then just based on what you have doubted, try to think about in other ways, or in the way around. So in order to

> support your own point, you need to read and you need to think your own way and try to connect your materials from every source possible. And try to synthesize what you have read and then combine what you have found from the books with your own thinking. (Jason)

Zoe understood that she could learn to lead classroom discussions by synthesizing what she had read and asking insightful questions.

> For example, seminar courses usually require students to lead discussions. If it is your turn to lead the discussion, you will have to understand the reading assignments completely. You need to synthesize and come up with questions. Without a good understanding of the material, it is hard for you to lead the discussion. (Zoe)

Participants realized that research projects depend on knowledge accumulation in their respective field through readings required by each course as well as readings selected for their own projects. Participants, therefore, attached great importance to reading the most influential journals in their respective fields. Such self-directed reading is different from reading for a particular course. Feng, Zoe, and Harry shared their experiences.

> After you read all those reading stuff, you will come up with your own ideas, your own views, of these books and materials. Then you will develop a new perspective, you know. So that sort of things, I think, that can really create and nurture your higher order thinking. (Feng)

> Research in social sciences should be based on accumulation of knowledge. You have to accumulate a great deal before you could come up with a research topic.

> To do research with a topic in human geography or other social sciences requires a great deal of cultural background knowledge. You have to get yourself acquainted with all kinds of background and context knowledge before you go about doing research. (Zoe)

> Instructors offered topical seminar courses. They will assign students four or five journal articles for each class. Sometimes they assign three articles for us to read. Usually these articles are highly recommended by the instructors and they are required readings. Discussion based on such readings is an effective way of learning. (Harry)

Second, participants reported that they benefited from taking research method courses from which they learned both quantitative and qualitative methods. Since Chinese students generally have good math skills, they did not find it a great challenge to take statistical courses and research seminars using quantitative methods. Renee and Zoe shared their experiences of taking such courses.

> I understand that research in social sciences in the United States tend to develop like science.…research depends on quantitative research methodology, which is applicable to all social science fields….the statistical method courses I took [here] are very basic. They introduced the basic concepts and quantitative methods in statistics.… I took a statistics course last summer so that I used what I learned in the research seminar. I didn't find quantitative methods very hard. (Renee)

> In China, research in economics seldom used quantitative methods.…I learned all the quantitative research methods [here]. I'm not exaggerating. I have never learned such methods in China. Even when we used data to for analysis, we just described the data. We seldom used the data for in-depth analysis. I didn't have any experience of building up a model. (Zoe)

As to qualitative methods, most research methods courses introduced such methods as another paradigm of conducting research. Few participants had the experiences of using such methods in China. However, they realized the importance of using such methods in doing social science research here and expressed their willingness to take such courses. Renee and Harry talked about their experiences of taking qualitative research method classes.

> In the first session of the research method course I took, I remembered that the instructor introduced to us that there were both quantitative and qualitative methods. He assigned us to find research articles using quantitative methods, qualitative methods, and focus group interview as research methods.…I wonder if researchers used qualitative research methods in China. I would like to use focus group interview as a research method. (Renee)

> The instructor modeled telephone interview as a research method in his class. We learned so much in his class. I begin to think about taking a few courses of qualitative research methods. (Harry)

By taking courses, participants developed a positive attitude to participate in the discussion needed to meet the course requirements. Some of them decided to speak more and contribute more to class discussions. When they did, on the one hand, they felt challenged by the

requirement. On the other hand, the process of overcoming the challenges helped them to reflect on their performances in classroom. Heather recognized that language was a challenge to any Chinese student, but she realized that language should not be the excuse for passive participation in class.

> Language might be the barrier. But we should take the initiative to speak in class. Sometimes I thought the questions put forward by my American classmates were also in my mind. But I just could not go deeper into the question. (Heather)

Renee commented how courses she took here aimed at developing her analyzing skills. Although theory courses were difficult for her, she learned to understand the theories through a variety of learning activities. Among them, readings and discussions were the most important activities that helped participants develop higher order thinking skills. Renee and Harry shared,

> In research seminar courses, we learned about basic theories. We didn't learn them the way we had learned in China. Back there, instructors would just read a textbook for the students and tell students what these basic theories were. Here they do not teach this way. Instead, they provide students with research articles using these theories and ask students to analyze and identify these theories through discussions. Gradually we learn about the basic theories….in class, the instructor listed a few questions for discussion. Based on the analysis of each article, students identified what theory was used, which research method was selected, and how data were processed. Students took the initiative to ask and answer questions put forward by the instructor or other students. They learned to apply what they learned into practice. (Renee)

> Discussion is an effective way of learning. During discussions, we could constantly compare our own ideas with those of others. Active participation helps me develop new perspectives of thinking about issues. (Harry)

Third, besides readings and discussions, participants' experiences of writing papers and completing research projects are worth mentioning. With little experience of writing academic papers required in U.S. graduate programs, participants shared their strategies about writing papers. For example, two participants shared what they did for writing papers.

> I decided to talk to the instructor. I asked if the instructor could show me some excellent papers as samples. But I didn't understand why the instructor did not follow my advice. The instructor used a different way to help students out, though. In class, the instructor would ask students to form into groups of four or five students to discuss their synthesis papers before they turn them in. In each group, students read each other's synthesis papers. I read yours and you read mine. Peer reading goes on for about ten minutes like this. Then the instructor would ask students to turn the papers in. This is a great activity to help me out, but again, as a non-native speaker, I read shamefully slow. Within ten minutes, I could, at most, finish reading one paper. It is impossible for me to understand the rest of the four or five papers within the limited time. I could, at best, get a general idea of each paper. (Yan)

> I developed an effective way to help with writing essays and papers. I usually bring a notebook with me so that I could jot down ideas as they occur in my mind. For example, when I go out for a walk, if any idea hits on me, I would

> immediately take it down. Otherwise it will slip away. Writing synthesis requires one's higher order thinking. (Jason)

When Yan asked his instructor why his synthesis papers had not be highly evaluated. The instructor told him that he stuck too closely to ideas in one article, while synthesis requires an integration of ideas in several reading assignments, he decided to change his way of thinking and tried to write papers using a different format from a new perspective. He began to get A's for his papers. He then compared and contrasted good papers and bad papers, and made timely changes to improve his writing.

Fourth, participants reported that they sought a friendly and supportive academic environment in their respective programs. The human factor in their learning experiences cannot be overlooked. For example, Heather shared her successful experience of seeking help about writing papers from students who took the same course before.

> I asked students who took the same course before and got some suggestions. One of the suggestions is that for each paper, you have to have an organized structure. I spent so much time reading those articles and I spent almost the whole week on the paper. Luckily the paper was well written. I gradually learned the tricks. When you read each article, that article most probably has the major theme or topic of the week. It might have a similar topic. You may relate your thoughts to this topic. For example, you could talk about your experience of learning the language and what you could do in your future instruction. Then your paper could be of good quality. (Heather)

Other participants had experiences of working with supportive major advisors and course instructors.

> Faculty members in my department did many things for graduate students. Sometimes I went to talk to her about what courses to take before I registered for each semester. She would tell me which course to take and which course not to take. She would suggest that I read a certain book and encouraged me to come back to discuss questions with her. She treated me like a respectful scholar. (Zoe)

> The instructor of the seminar course I took in the first semester was very considerate. He was conscious of my learning challenges as a foreign student. He stopped from time to time during his instruction to ask if I had any questions. He would ask me if I knew a particular term. If I said that I didn't, he could explain for me. I was too shy to stop him since I had too many new words in his course. (Xing)

Besides these specific strategies, participants reported that they developed skills to prioritize things and to solve problems on their own. They perceived the development of such skills as necessary to meet the requirements of self-directed learning in U.S. graduate programs. For example, to locate a dissertation topic, Feng benefited a great deal from being able to prioritize things while he was reading journal articles in his field.

> Then I think about how to maybe, the ability to prioritize things, because as a doctoral student, you have so many things. You have to take so many courses. You have so much different stuff to do. You have to do your dissertation, and in your dissertation, you have to prioritize things….one could start with journals in your field for a research. One needs to critically read the literature and locate the gap in the existing research. (Feng)

Besides the ability to prioritize things, Feng thought that problem-solving skill was as important if not more. He said,

> Another thing that is important, is how to, well, how to handle, to deal with specific problems. That is also important….any course the assignments require one to deal with a problem. Or a course that asks you to identify a problem of your interest and then you do the literature review to support dealing with the problem. Then you came up with your own solutions. That would be the course. Any course that has such a component, I would say it really helped develop higher order thinking, you know. (Feng)

No participant was more articulate than Harry in describing how he developed higher order thinking skills. He concluded that completing the large amount of readings, participating in classroom discussions, and completing the course assignments are the major ways through which he developed higher order thinking skills.

> Three things that helped me develop such [higher order thinking] skills. [The first thing is] the large amount of readings. Each week we will be assigned four or five, even six articles to read. We got to read articles written by different authors from different perspectives. This helps me to develop breadth of thinking. Another thing is discussion of a variety of formats, including big-group discussion, small-group discussion, seminar, and presentations. Through discussion, I learned to view an issue from many different perspectives. The third one is course assignments. Here in the United States, we felt so much burdened by the course assignments in each course. Most courses employed the evaluation system to require students to do regular learning. Basically course assignments

> have two features. The course assignment does not have to be closely related to classroom instruction. Instructors encouraged self-directed learner-oriented learning. Learning tasks are not imposed upon students. The goal is to train autonomous learners.…the second feature is the practicality of the course assignments. Instructors always managed to help students put what they learned into practice through assigning research projects. (Harry)

In summary, participants developed their understanding of higher order thinking in U.S. graduate programs and they described their experiences of developing higher order thinking skills by completing reading, participating discussions, and completing course projects. The next chapter concludes the findings of the study and presents recommendations to educational practices.

CHAPTER 5

CONCLUSIONS AND IMPLICATIONS

This chapter presents the conclusion of the study and discusses the contributions of the study to the literature. Implications are made for future research and for instructors in both Chinese and U.S. graduate programs, and educational policy makers in China. Recommendations will be made for Chinese graduate students in U.S. programs of social sciences, humanities, and education on how to overcome challenges.

The study examined the learning experiences of Chinese graduate students in U.S. graduate programs. The findings of the study were categorized into three areas: participants' perceptions of incongruities between Chinese and U.S. graduate programs, their perceptions of the challenges they faced, and their experiences of understanding and developing higher order thinking skills.

Four major themes emerged regarding participants' perceptions of incongruities between Chinese and U.S. graduate programs. They are: general characteristics of the graduate programs, general classroom characteristics, teachers' behaviors, and students' behaviors.

Participants described their U.S. graduate programs as more conducive to human development and learning and more reasonable than the Chinese programs they experienced because the system here is more focused on promoting thinking. The participants in this study identified four ways that U.S. graduate programs achieve this goal. First, U.S. programs have an established structure of curriculum that encompasses key concepts and theories in each discipline. In their Chinese programs, participants did not have opportunities to learn about these

concepts and theories from multiple perspectives. Marxism was the only major theory that was taught to them in a didactic way. Thoughtful classrooms and requiring higher order thinking skills are the second way U.S. programs promote human development and learning. In comparison, Chinese classrooms were lecture-oriented and did not promote thoughtfulness and higher order thinking. Research training opportunities were identified as a third way in which U.S. programs promote learning. These opportunities are offered through graduate-level seminars, assigning readings, and requiring presentations and academic papers. Chinese programs provided little research experiences for students. Readings assigned in Chinese programs at the graduate level do not compare with those in the U.S. programs. Presentations were a new concept to Chinese graduate students when they first came here. Additionally, academic paper writing in China was not viewed as challenging as it is in U.S. programs. Finally, U.S. programs familiarized students with both quantitative and qualitative research methods through projects. Participants reported they had taken quantitative research methods courses in China, but they did not have much exposure to qualitative methods. Those whose had learned about quantitative research seldom learned these methods through practice or projects. Their understanding of such methods remained on the level of indirect knowledge.

In terms of classroom characteristics, participants perceived differences mainly in the seminars they experienced, the quintessential hallmark of the Western graduate education (Ning, 2002). At these seminars, participants were provided an opportunity to freely discuss and reflect on readings they had completed. By comparison, their instructors in China tended to dominate all classroom interactions and rarely allowed students an opportunity to discuss ideas. In addition, participants reported that the education they had in China placed too much emphasis on learning basic knowledge.

Regarding instructors' behaviors, three characteristics were identified. First, in U.S. graduate programs, instructors prepared a detailed syllabus to communicate with students the course requirements, goals, and ways of assessment. Participants reported having no such detailed syllabi from instructors in China. Chinese instructors did not communicate with students in the same way. Second, U.S. instructors facilitated rather than dominated the instruction, while in China instructors usually dominated classroom instruction. Third, U.S. instructors provided academic assistance and treated students as colleagues and independent researchers. In comparison, Chinese instructors treated students as receivers of knowledge and provided few opportunities to help them develop into independent researchers.

In terms of students' behaviors, participants described themselves that they are passive learners in China as shown in the following three ways. First, students were not given many choices to take courses. The courses available for students to select were limited and did not allow much flexibility. Here students were provided with a variety of courses from which to choose. Second, critical thinking and other higher order thinking skills were not the learning focus in the Chinese curriculum of social sciences, humanities, and education, rather students described themselves as passive receptors of the instructors' knowledge or depending on the textbook to pass exams. U.S. programs put more emphasis on promoting such skills. Third, in China, students depended almost completely on instructors in the learning process. They seldom got involved in or were asked to undertake challenging tasks. In their U.S. programs, under the supervision or guidance of instructors, students are more likely to develop independently into researchers taking up more challenging tasks.

By comparison, participants reported that their U.S. graduate programs encouraged active, independent self-directed learning. They perceived American classmates as active learners, who

were challenged to offer explanations and reasons for their conclusions in class, and who generated original and unconventional ideas, explanations, hypotheses, or solutions to problems. Students assumed the roles of questioners and critics, and often made contributions to the topic and connections to prior discussions. These perceptions of differences between their Chinese and U.S. programs played a large role in making their new experience challenging.

Since participants perceived such incongruities in these aspects, some of the incongruities became their learning challenges and difficulties. Five major types of challenges were identified by participants: unfamiliarity of U.S. graduate programs; lack of teaching or research experiences; inadequate language proficiency; disconnections between their experiences of teaching strategies and assignments that require higher order thinking skills; and disconnection between experiences they had with different research questions.

The first challenge was participants' lack of understanding and familiarity with U.S. graduate programs. Participants reported that they did not know what the expectations would be well enough to start right away with research and publications, which were required in most graduate programs. This lack of familiarity with U.S. programs is closely related with participants' lack of previous teaching or research experiences, the second challenge. When participants had few research experiences, they reported to have undergone challenges in courses that require the completion of research projects. Participants who had few experiences with graduate-level courses that require challenging tasks reported they had more difficulties in their learning. All participants perceive language as a third challenge in their graduate program. Specifically, inadequate language proficiency is the major challenge for participants in reading, participating in discussion, and writing. A fourth challenge participants reported was experiencing a disconnection when instructors used different teaching strategies. In China,

teaching strategies used by instructors were monotonous while here they experienced a variety of new strategies. Adjusting to these new strategies can be a challenge and adjustment took time. A final challenge participants reported experiencing was a disconnection when they began to understand that the research questions they may have found from their own cultural origins in China were very different from those in U.S. culture. Participants had to reach the realization that research in U.S. programs of social sciences, humanities, and education is largely dictated by what is relevant to the U.S. culture and its research community. Understanding these different research perspectives was a challenge for the participants.

In analyzing the experiences and perceptions of the participants, it became clear that they fall into three categories based on individual differences and challenges. The first category is those who had comparatively more extensive experiences in the knowledge base and research of social sciences, humanities, and education. These participants perceived the fewest challenges as compared to other groups. Participants in this category had obtained their master's degrees in China in fields that involved school-related and work-related research projects. The second category of participants were those who obtained their master's degrees in a Chinese university and had some experience in conducting research before they entered U.S. programs. Compared to those in the first category, the perceptions of these participants about U.S. academic programs did not quite match the nature of those programs. All of the participants in this category reported that they had some challenges and experienced frustration to different degrees. The third category of participants included those who came to their U.S. graduate programs directly after completion of undergraduate degrees and those who worked for three to five years after they obtained a bachelor's degree in a Chinese college. Little of their work experience was related to academic research. None of them had any clear goals upon entering the graduate programs. All

had misconceptions about those programs and reported that they had undergone many challenges and experienced much frustration even after their first year in the programs. These differences among the participants clearly influenced their perceptions and experiences with the challenges they faced.

Reflecting on their learning experiences and their perceptions of incongruities and learning challenges, all participants identified higher order thinking skills as a significant learning experience in their U.S. programs. When asked to share their understanding of higher order thinking skills, participants described it as critical thinking, creative thinking, independent thinking, and thinking from multiple perspectives about certain issues. Such conceptions of higher order thinking skills fit into Newmann's thoughtful classroom framework. In U.S. graduate programs, Chinese students reported having experienced considerable learning activities designed and developed by the U.S. instructors to promote such higher order thinking outcomes.

Participants were asked to describe strategies they used to develop these skills. They reported they read all required graduate course materials and sought additional readings on an independent basis. Most conducted joint research projects. These two steps, they felt, prepared them to have a solid foundation in research. A second strategy was participating in classroom discussions, which helped develop higher order thinking skills as participants agreed that discussion helped them learn to look at issues from multiple perspectives. Third, completing the course assignments and writing papers were the major ways participants believe they developed higher order thinking skills. An analysis of the interview transcripts and the written assignments showed that writing was an effective and comprehensive way to improve participants' higher order thinking skills since writing academic papers requires abilities to analyze what one has

learned, to apply theories or methods in research projects, to synthesize ideas, and to make evaluations.

Discussion

The Western academic heritage is based upon an epistemological belief that values objectivity over subjectivity and logic over intuition (Shute, 2002). Participants in this study, who came from a non-western culture where social sciences research is very much underdeveloped, felt challenged as they entered the research-oriented programs in the United States. The quantitative and qualitative paradigms of research revealed to them new ways of knowing the world and enriching the experience of conducting research. With these new learning experiences, participants perceived incongruities in curriculum, instruction, and research between Chinese and U.S. graduate programs.

In China participants experienced a rigid curriculum, which had Marxism embedded as a dominant ideology. With an academic community that only featured one ideology and did not allow much freedom, students tended to have negative experiences with learning. Participants perceived that everything came from a political perspective and political orientation was of utmost importance. Such a political culture greatly influenced the educational culture in schools. Before China introduced the concept of a market economy, social theories were not extensively studied as they had been in other countries. Students who did not have access to such a variety of theories in China reported having difficulties learning about such theories in U.S. graduate programs.

Differences in instruction in China and U.S. programs affected participants' experiences. Chinese graduate students' perceptions of learning are best explained by research that has shown that students act upon demands made by the learning environment (Biggs, 1987; Gow &

Kember, 1990). When there is a lack of choice over content and methods of study, and when the assessment system requires the memorization of information, participants are more likely to perceive learning as a means towards some end, such as obtaining a satisfactory grade. Participants in such learning environments focus more on concrete and literal aspects of the learning task and fail to see the relations between the components in the learning task or the relationship with other learning tasks. In such environments, participants are less likely to develop their higher order thinking skills. In terms of affective outcomes, participants avoid having personal involvement in the learning tasks.

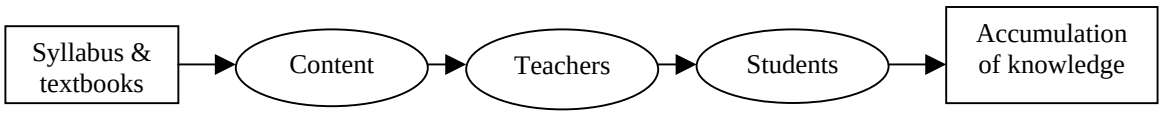
When learning environments require the enhancement of skills to analyze, apply, and synthesize information and allow learners ample time for contemplation and discussion with other learners (Biggs, 1987), they are more likely to develop an interest in their own research field. It is in such learning environments that participants have positive experiences with the examination system, which probe for the understanding of methods and theories rather than the reproduction of facts and procedures (Biggs, 1987). In this learning environment participants enjoy their personal involvement in the learning tasks. They read widely, discuss with others, theorize about the subject, and relate what is learned to other areas of interests and other applications. As for affective outcomes, the participants feel challenged but engaged (Biggs, 1987).

In this study, participants' perceptions of incongruities between Chinese and U.S. graduate programs brought about a new understanding of the concept of teaching. In U.S. graduate programs, teaching involves providing an environment for knowledge construction, not knowledge transmission. From the participants' perspectives, learning involves knowledge construction rather than knowledge reception.

Chinese graduate students' perceptions of U.S. programs indicated that concepts such as self-directed learning (Schunk & Zimmermann, 1994) and constructivist activities (Chan, Burtis, Bereiter & Scardamalia, 1992) have long been accepted as theoretical notions in the western academic community. These notions emphasized that students should play active roles in their own knowledge construction. For Chinese students who have not been trained in such learning environments, encountering such notions caused challenges and frustration. However, Chinese graduate students were found to respond well to such constructive learning approaches. Though they are culturally predisposed to passive or rote learning (Dahlin & Watkins, 2000), this study provided evidence that Chinese graduate students welcome independent self-directed learning approaches.

Gao and Watkins (2001) depicted the learning process of Chinese physics students in the following model (Figure 5.1), in which learning is viewed as a process of accumulating knowledge. In this process, syllabus and textbooks determine learning content and prevent teachers and students from making decisions about learning.

Figure 5.1 A Model of the Knowledge Delivery Conception of Teaching*

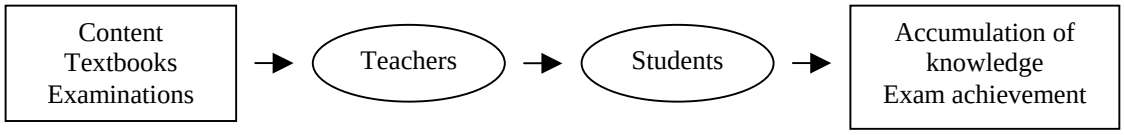


*(Original model from Gao & Watkins (2001)' conceptual models of teaching, p.30)

Figure 5.2, which is adapted from Gao and Watkins' original model, illustrates the participants' perceptions of the different learning experiences in Chinese and U.S. graduate programs. The model shows that the Chinese professors' major role was perceived by participants to be mainly a transmitter of the content from textbooks via lecture. The only way to

evaluate students' acquisition of this content is the exam. There is very little interaction between teacher and student, let alone interaction among students.

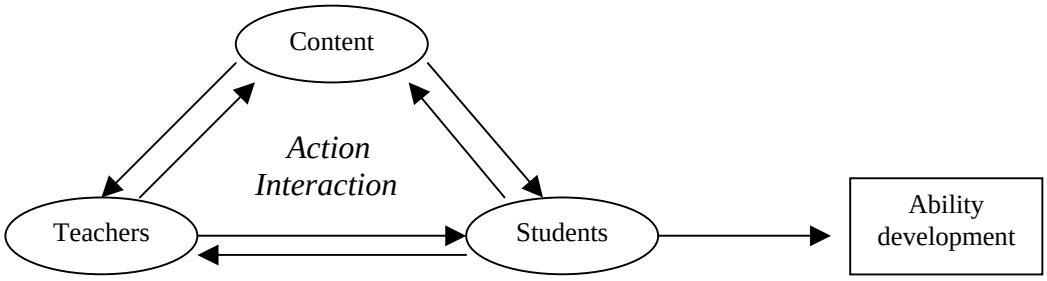
Figure 5.2 A Model of Participants' Perceptions of Learning Experiences in China*



*(Adapted from Gao & Watkins (2001)' conceptual models of teaching, p.35.)

However, Gao and Watkins' study also reveals that Chinese physics professors used a different model of learning for skill development. They termed this model the Ability Development Conception of Teaching (Figure 5.3). In this model, students are no longer passive learners and learning is viewed as a process of internal meaning construction. Teachers facilitate rather than dominate the instruction under this second model.

Figure 5.3 A Model of the Ability Development Conception of Teaching*

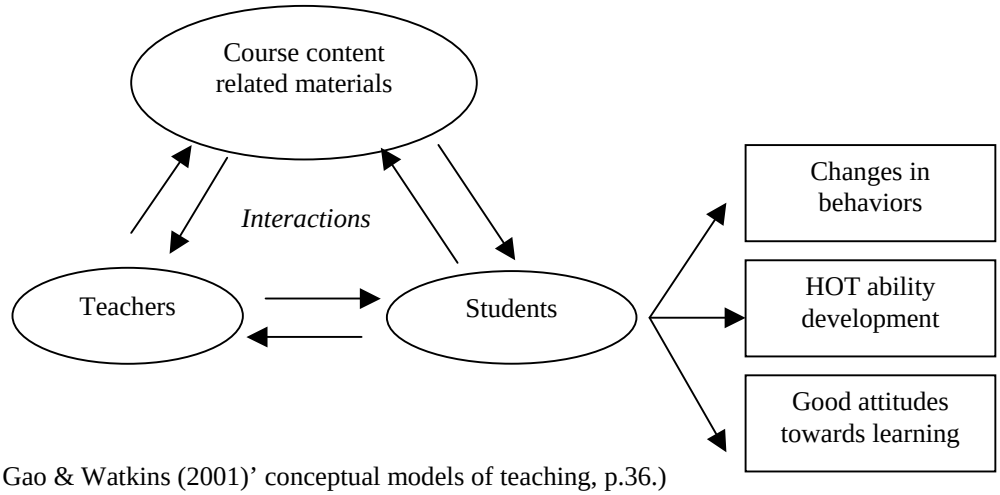


*(Original model from Gao & Watkins (2001)' conceptual models of teaching, p.32)

Figure 5.4 shows an adaptation of Gao and Watkins' Ability Development Conception of Teaching that shows how my participants viewed their U.S. graduate school learning experiences. It illustrates an increasing amount of interaction between teacher and students about

the course content and the related materials. The major difference between the two models illustrated in Figure 5.2 and 5.4 is the change in students' learning behaviors as the outcomes in the model change from simple knowledge acquisition to higher order thinking skill development. According to my participants, this model also aids students in the development of good attitudes toward learning.

Figure 5.4 A Model of Participants' Perceptions of Learning Experiences in the U.S. Graduate Programs *



*(Adapted from Gao & Watkins (2001)' conceptual models of teaching, p.36.)

In conclusion, participants in this study adapted well in learning environments where higher order thinking skills are required. While participants developed skills in memorization and understanding the materials in China where instruction depended on lecture-oriented teaching and rote learning, their development of higher order thinking skills mainly took place in U.S. graduate programs. Through readings, discussions, and involvement in research projects, participants developed independent thinking skills and met the requirements of those graduate programs.

In terms of research, participants experienced differences in the following aspects. First, the academic goal of most graduate programs in social science, humanities, and education in this southeastern public university is to train researchers. Similar graduate programs in other research-oriented universities share these goals. Graduate students in these programs are expected to conduct individual and cooperative research projects and publish in the academic journals in their respective fields. Therefore, it is not surprising to note that most of the graduate-level courses have a heavy focus on research. A second difference was that participants perceived that the research environment here is much sounder than that in China. A most compelling example of the differences in the research environment in China and the U.S. is library resources. Participants reported having positive experiences with the available resources provided by this research environment. In China, participants had to search for resources while they wrote their thesis or other journal articles and they reported having a hard time finding what they needed. The participants were impressed with the availability of online electronic resources, without which their research experiences could have been very different here. A third difference is that the U.S. academic community in each research field has established a sound structure and mechanism to promote and encourage more research by providing funding and grant opportunities, convening annual conferences for researchers to exchange information, hosting workshops for young researchers to learn from experienced researchers, and publishing academic journals. Participants in this study, who are in doctoral programs had the experience of attending national or regional conferences. They reported having benefited a great deal from such opportunities.

In terms of learning challenges, the findings of the study are consistent with those of other studies reviewed in previous chapters. First, participants in this study identified language

insufficiency as the major source of frustration and challenges (Chen, 1996; Lin, 1998; Parker, 1999; Pinheiro, 2001; Sun & Chen, 1997; Wan, 2001). The language-related challenges include their difficulties of completing the large number of readings required by most graduate-level courses, following discussions and participating in fast-paced graduate seminars, writing academic papers, and more importantly, they reported their inability to be critical thinkers. These difficulties clearly point to the lack of higher order thinking skills. Improving language abilities in reading, speaking, and writing becomes, inevitably, a priority for Chinese graduate students prior to beginning U.S. graduate programs.

Second, this study confirms the findings of research on academic adjustment that revealed incongruities between Chinese and the U.S. educational settings. Participants' perceptions of such incongruities led to frustrating experiences in U.S. graduate programs, which required skills in reasoning, questioning, problem-solving, creative thinking, and critical analysis. All of these skills are integral parts of the higher order thinking skills defined and conceptualized by Newmann (1990a, 1990b & 1991).

This study fills a gap in the research literature in this field in two significant ways. First, it identifies differences between graduate level instruction and curricula of social science, humanities, and education programs in Mainland China and the United States from the perspectives of the students. In previous research, students' perspectives have been overlooked (Bettencourt et al., 1999; Beyers & Goossens, 2002; Boulter, 2002; Leong & Bonz, 1997; Strage & Brandt, 1999). Second, it explores how such differences affected the learning experiences of Chinese graduate students in social science, humanities, and education programs in the United States. The study described the process of how Chinese graduate students make the successful

transition from their previous educational and work experiences to U.S. graduate programs that require higher order thinking skills.

Implications

This study has several implications for future research. Recommendations are made for instructors in U.S. graduate programs, instructors in Chinese graduate programs, educational policy makers in China, and Chinese graduate students in U.S. graduate programs.

Implications for Future Research

This study used a semi-structured interview design with participants who were graduate students in the U.S. programs. Course syllabi and course assignments were used as supplementary data sources. These data collection methods yielded rich data for analysis to answer the research questions. However, the perspectives of the U.S. instructors, who are crucial components in the learning environment, were not included. For example, Chinese graduate students' perceptions of incongruities between their U.S. and Chinese programs might be further elucidated if perceptions of instructors in the U.S. settings were explored. Instructors' perceptions should be examined in future studies.

This study used thematic inductive analysis and constant comparative analysis to interpret the findings. Such analysis methods are appropriate to answering the research questions. However, since the interviews were mostly conducted in Chinese, translating into English the quotes that the researcher decided to use as evidence to support claims makes it difficult to apply other analysis methods such as narrative analysis or conversation analysis. Therefore, future studies should determine if other analysis methods yield similar or different results.

During the research process, I found myself moving between languages and cultures. To be specific, I moved between languages and cultures when I conducted interviews in Chinese

and reported in English. I moved between languages when I, as a bilingual researcher, contacted my participants, who are bilingual. Some words used by the participants to describe their learning experiences have rich cultural meanings. For example, privacy has different meanings in China. When speaking Chinese during interviews, participants shared with me details of their lives, which would be considered private in the U.S. culture such as the amount of their graduate assistantships and aspects of their personal lives.

The challenges of moving between language and culture pose several important methodological questions. How should the researcher best translate and interpret the voice of participants? How much does the researcher know about his or her own culture? Who should conduct a similar study? Do similar studies have to be conducted by Chinese researchers only? One might argue that outsiders to a culture may better perceive what is figure and what is ground than insiders (Chang, 2000).

Implications for Instructors in U.S. Graduate Programs

The international participants in Beykonte and Daiute's study (2002) reported having positive experiences when instructors guided discussions and showed interest in international students' experiences. In this study, participants reported that they enjoyed discussion when all students came prepared to discuss readings and shared reflections of personal experiences. They volunteered to participate in discussion if the topics were related to their previous experiences or to China. In Beykonte and Daiute's study (2002), participants felt less comfortable in large classes where lecture was the only context for learning and where students were not encouraged to interact with the professor and/or with fellow students. Participants in this study did not share such views. While they preferred small-sized seminar classes, they perceived that instructors of large lecture classes made efforts to improve students' higher order thinking skills. To the

participants in this study, the most important thing is that instructors strike a balance between lecture-oriented instruction and discussion-oriented activities in the classroom. It was important for instructors to be aware of the challenges Chinese graduate students usually had in their first year in U.S. graduate programs. While participants would not expect U.S. instructors to lower academic requirements, they certainly appreciated instructors who were sensitive to their learning challenges. When participants reported having a large amount of reading assignments, instructors helped them by spending more time analyzing the reading assignments in class during discussions. Earlier guidance to encourage Chinese graduate students to critically read journal articles in their individual field will prove to be an effective strategy.

Consistent with the findings of other studies in which international participants identified writing as a major challenge (Angelova & Riazantseva, 1999; Chen, 1996; Fu & Townsend, 1998; Yang, 1999), this study shows that students perceived writing as the most challenging task. In this regard, instructors should provide more specific assistance when they review the written course assignments of Chinese graduate students. Based on an analysis of the written assignments, I noticed that most instructors did not make extra efforts to help Chinese graduate students to learn to write up to the academic standards expected. Participants obtained good grades despite the quality of their written assignments. However, participants who were writing dissertation prospectus or writing journal articles reported that they were shocked when major professors started to do “real” editing of their papers after the participants had obtained A’s in most of their coursework. For most participants, writing in a professional way, which adheres to all the standards of research articles is a real challenge. Instructors should start providing assistance or at least encourage students to seek writing assistance as soon as Chinese students come into the program. Though editorial assistance provided to the students at the dissertation

prospectus stage was appreciated, such assistance could have been more effective if provided throughout their coursework rather than in the last stage of graduate work.

It is very important that American instructors make it explicit earlier on in their courses that they appreciate different cultural values and welcome different patterns of classroom discourse and thinking styles (Beykont & Daiute, 2002). This not only helps Chinese and other international students, but it helps native speakers to feel more comfortable with foreign students' discourse styles and helps them understand that "silence does not mean lack of interest or engagement and different communication and thinking styles do not necessarily hinder learning" (Beykont & Daiute, 2002, p. 39). Most Chinese students prefer saving questions until after class or lecture to avoid interrupting the lecture or fear of embarrassing the professor, American instructors could plan to leave extra time for questions at the end of a lecture or class period (Cook, 2002).

Given that teachers always teach better when they understand students' prior knowledge and preconceptions, American instructors could ask Chinese students about their prior experience with active learning, rather than assuming it is entirely new to them. Instructors could encourage and assist in the adaptation to active learning strategies in American classrooms (Cook, 2002). A highly thoughtful classroom might appear intimidating to Chinese graduate students who have never been in one before. Instructors will need to talk to such students about their previous classroom experiences and they might find it helpful to provide support if necessary. Research suggests foreign students find it intimidating to participate in free flowing class discussion (Beykont & Daiute, 2002). Therefore professors could orchestrate class discussion in which everyone, including Chinese graduate students, has a chance to speak.

Implications for Instructors in Chinese Graduate Programs

The findings of this study are consistent with the results of other research on the effects of instruction on student learning (Biggs & Moore, 1993; Marton & Booth, 1997; Watkins & Biggs, 1996). Contructivist approaches and self-directed learning were proven to be effective with Chinese students. This study provided examples to argue that instructors can play a pivotal role in importing self-directed learning approaches into the Chinese context to promote student learning.

One implication of this study is to draw Chinese instructors' attention to providing a more interactive and constructivist learning environment for graduate students in Mainland China graduate programs. Newmann (1990a) recommended that instructors should assign non-routine intellectual tasks, which "require interpretation, analysis, and manipulation of information to solve problems that cannot be solved by routine application of previously acquired knowledge" (p.53). Chinese classroom instructors should understand the potential impact of their instructional strategies on students. Instructors need to understand that daily interaction between instructors and students plays an important role in helping students develop higher order thinking skills. This study shows that teaching with a variety of techniques is more likely to enhance learning than teaching with the rigid and monotonous lecture-oriented method. This study shows that only teaching for the purpose of improving students' higher order thinking can lead to greater changes of the learners' behaviors.

Another implication of this study is that teaching with a variety of techniques to improve learners' higher order thinking skills is not only necessary but also feasible in China. There has been an urgent call in the last two decades for Chinese education reform, particularly in the area of creativity. China has begun restructuring its educational system to stress creative thinking. "*In*

the past, education was very rigid; we call it 'force-fed education," says Gu Yuehua, deputy director general of the Suzhou Education Bureau. "*The teacher used to be the authority*," she says. "*Now the teachers' job is to promote, cooperate, and guide. Now we emphasize hands-on experience for students."* (Baker, 2004)

Implications for Educational Policy Makers in China

The fundamental changes in the educational system depend on changes in educational policies. This study reveals the limitations imposed by the Chinese education system that focuses too much on public examinations. Participants of this study reported that the teachers they worked with in China were more preoccupied with helping students perform well on examination questions rather than with promoting learners' higher order cognitive skills (Chan, 2001). One implication of the study is that China's social and political history of conformity complicates efforts to create a more student-centered, exploratory curriculum (Baker, 2004). Participants reported that they performed well in statistical courses, but do not have skills in participating in discussion and writing. This finding is consistent with those of studies that showed Chinese students can do a phenomenal job in mathematics and science, but lack discussion and writing skills.

As China's economy continues to grow at a breakneck pace, the nation's education policy makers should keep pace by changing its curriculum and reforming its requirements. Schools should be held accountable for students' academic performance in the national standard exams, but this is no longer a sufficient end point of education in the modern world. While high standards of student performance on standardized exams are desirable, students' thinking abilities should be improved.

Implications for Chinese Graduate Students in U.S. Graduate Programs

This study suggests several learning strategies that Chinese students and other international students who are enrolled in American social science, humanities, and education programs should adopt. These comprise what are beginning survival strategies. The first strategy is to use one's previous educational and cultural experiences in almost everything one is required to do in a graduate program. In this study, participants reported that they had positive experiences when they incorporated what they had learned in the past into their current learning experiences. It worked well with initial projects required in the program and helped first-year graduate students to gain confidence in writing assignments (Angdelova & Riazantseva, 1999). Some participants believed that their previous experiences had little to do with the topics assigned to them in a social science, humanities, or education courses. A recommended strategy is to talk with professors who often agree to tailor the requirements so that they fit into students' situations. In this study, for example, one of Helen's instructors designed a special assignment for her after being informed that Helen did not have similar teaching background, which was required for that assignment.

These survival strategies are short-lived and students should move on to other learning strategies quickly. It is recommended that students begin to read as early as possible selected articles related to a future research topic or topics that might be expanded into a term paper or dissertation. The earlier students anchor themselves in a specific field of study, the clearer they are about where to go in the program. Students should read journal articles that help clarify what other scholars are doing in their field of interest. Attending faculty seminars and graduate-level seminars and academic conferences helps students develop research ideas. Passively waiting for ideas to pop into their heads without actively engaging themselves in reading research not only is

a waste of time, but also makes students more frustrated as they move further into the program of study. If their individual and group research projects are connected in some way or another, this may help students compose personal research agendas. Course projects that are discrete and serve only one purpose do not maximally contribute to student success.

The third learning strategy is to develop critical reading and thinking skills because these skills are so important for graduate students. Critical reading involves evaluating what you read with regard to its logic, truth or accuracy, the merit of the ideas and the usefulness of the ideas (Lewis, 1996, p.195). In the past, students focused too much on memorizing facts. They may not have been challenged to question others' opinions and views on certain issues. Because weekly reading assignments at the graduate level are quite large and must be completed for class discussion of relevant topics, simply reading for main ideas would not be sufficient when students are expected to demonstrate and improve higher-order thinking skills. In the United States reading involves distinguishing statements of fact from statements of opinion, finding evidence for statements of opinion, making inferences, finding support for your inferences, identifying the author's style, tone, and mood, drawing conclusions, and finding errors in author's reasoning (Lewis, 1996).

For students whose backgrounds do not match the nature of their U.S. graduate programs, course instructors and academic advisors could pay more attention to helping them make the adjustment. While most of students soon find their experiences in the new academic department rewarding, the process can be long and painful. Instructors should urge students to start reading journal articles, identifying research interests, and focusing on a set of specific research questions as early as possible.

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APPENDIX A

INITIAL INTERVIEW PROTOCOL

The purposes of this study are to identify Chinese graduate students' perceptions of incongruities between social science, humanities, and education programs in China and those in the United States, and examine how they develop higher order thinking skills to meet the academic requirements of these programs in the United States.

Research questions

1. What incongruities do Chinese students perceive between Chinese and U.S. graduate programs in social science, humanities and education? How do such incongruities affect their learning?
2. How do they develop the higher order thinking skills to meet the academic requirements of those programs?

Interview questions

1. Tell me about your previous college learning experiences in China (undergraduate and master degree programs). Can you tell me about any social science learning experiences that stood out for you in China?

   (I will probe on the academic requirements, classroom characteristics, instructors' behaviors, students' behaviors, exams, course syllabi, and course assignments in China.)

2. Now you are in the United States, please tell me about your learning experiences in your academic program here. Are they the same or different experiences? How do you describe your learning context here in the United States?

   (My major purpose is to get stories. If stories are not to come, then I'll start with questions as follows:)
   1) In terms of learning in your academic program, what have you done differently in the United States that you did not do in China?
   2) How is your learning different here from it in China? Please share with me some specific examples.
   3) Tell me about the general classroom characteristics that you observed as different from those in China.
   4) Tell me about the instructors' behaviors that you observed as different from those in China.
   5) Tell me about the students' behavior that you observed as different from those in China.

3. What does higher order thinking mean to you? Can you think of a specific time in your academic program when you were asked to engage in higher order thinking activities in China and the United States? Tell me about your experiences of having been challenged to use higher order thinking skills in your academic learning experiences.

4. Think of a specific time when you were challenged by a course assignment, and tell me about it.

1) Think of a specific time when you felt frustrated, and tell me about it.
2) Think of a specific time when you overcame a challenge, and tell me about it.

APPENDIX B

FOLLOW-UP INTERVIEW PROTOCOL

The follow-up interviews were conducted after the researcher shared with each participant a copy of the interview transcript for member check. The follow-up interviews focused on any missing information or the parts in the transcripts that require further exploration. The follow-up interviews aimed at exploring participants' understanding of higher order thinking skills and how they developed such skills in their learning experiences. Therefore some follow-up interview questions were based on the result of the analysis of the initial interview transcripts.

Probing questions could be:

1. You mention…, could you tell me more about that?
2. We talked about… in our initial interview, could you explain it a bit more?
3. How do you understand higher order thinking skills?
4. Tell me about how you develop such skills in the U.S. graduate programs.

APPENDIX C

PARTICIPANT CONSENT FORM

Participant Consent Form

I, _____, agree to participate in a research study titled "DEVELOPING HIGHER ORDER THINKING SKILLS: CHINESE GRADUATE STUDENTS IN PROGRAMS OF SOCIAL SCIENCE, HUMANITIES, AND EDUCATION IN THE UNITED STATES" conducted by Ms. Lin Lin from the Department of Social Science Department at the College of Education, University of Georgia (542-6471) under the direction of Dr. John Hoge, Department of Social Science Education, College of Education, the University of Georgia (542-7265). I understand that my participation is voluntary. I can stop taking part without giving any reason, and without penalty. I can ask to have all of the information about me returned to me, removed from the research records, or destroyed.

The reason for this study is to identify the differences perceived by Chinese graduate students between social science, humanities, and education programs in China and those in the United States, and explore how Chinese students develop high order thinking to meet the academic requirements in those programs in the United States.

If I volunteer to take part in this study, I will be asked to do the following things:

1) Answer questions in an interview about my learning experiences both in China and the United States, which will take about an hour and no longer than one and a half hour
2) Collect and share with Mr. Lin my curriculum vitae, course syllabi, and course written assignments
3) Answer questions in a follow-up interview about my learning experiences in both countries for about 45 minutes and no more than an hour
4) If I am willing, I will take part in an informal focus group interview to share with others my learning experiences for about an hour and no longer than one and a half hour
5) Information will be kept in a safe place

I will receive a token gift that is worth approximately $10 for participating in this study.

No risk is expected but I may have to spend about more than two hours to participate in the initial interview and the follow-up interview. I will provide original copies of the curriculum vitae, course syllabi and assignments for the investigator to make copies. Original copies will be returned to me.

I understand that participation in this project is confidential. No information about me, or provided by me during the research, will be shared with others without my written permission, except if it is necessary to protect my welfare or if required by law. I will be assigned an identifying number and this number will be used on all of the documents I share with Mr. Lin.

The investigator will answer any further questions about the research, now or during the course of the project (Office Phone: 542-6471).

I give my permission for Ms. Lin to use the information I share with her for publishing purposes.
Circle one: YES / NO. Initial _____.
I understand that I am agreeing by my signature on this form to take part in this research project and understand that I will receive a signed copy of this consent form for my records.

Lin Lin Telephone: 706-559-0009 Email: linlin@uga.edu

_____	_____	_____
NAME OF RESEARCHER	SIGNATURE	DATE
_____	_____	_____
NAME OF PARTICIPANT	SIGNATURE	DATE

Please sign both copies, keep one and return one to the researcher.
Additional questions or problems regarding your rights as a research participant should be addressed to Chris A. Joseph, Ph.D. Human Subjects Office, University of Georgia, 606A Boyd Graduate Studies Research Center, Athens, Georgia 30602-7411; Telephone (706) 542-3199; E-Mail Address IRB@uga.edu