

2021

## Chinese Parents' Perceptions of Critical Thinking and Its Pedagogy

Suning Li  
*Walden University*

Follow this and additional works at: <https://scholarworks.waldenu.edu/dissertations>



Part of the [Educational Administration and Supervision Commons](#)

---

This Dissertation is brought to you for free and open access by the Walden Dissertations and Doctoral Studies Collection at ScholarWorks. It has been accepted for inclusion in Walden Dissertations and Doctoral Studies by an authorized administrator of ScholarWorks. For more information, please contact [ScholarWorks@waldenu.edu](mailto:ScholarWorks@waldenu.edu).

# Walden University

College of Education

This is to certify that the doctoral dissertation by

Suning Li

has been found to be complete and satisfactory in all respects,  
and that any and all revisions required by  
the review committee have been made.

## Review Committee

Dr. Cheryl Keen, Committee Chairperson, Education Faculty  
Dr. Leslie VanGelder, Committee Member, Education Faculty  
Dr. Wade Fish, University Reviewer, Education Faculty

Chief Academic Officer and Provost  
Sue Subocz, Ph.D.

Walden University  
2021

Abstract

Chinese Parents' Perceptions of Critical Thinking and Its Pedagogy

by

Suning Li

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Education

Walden University

August 2021

## Abstract

As a result of China's education borrowing many Western educational values, such as critical thinking, became known to Chinese education practitioners and parents.

However, Chinese parents' perceptions of such educational values have not been studied.

Three research questions centered on understanding Chinese parents' perceptions of critical thinking and the role of schooling in the development of critical thinking. The conceptual framework comprised the established conceptualization of critical thinking from the Western research tradition and Confucian ideas of critical thinking. Qualitative data were collected from interviews with 12 participants and were coded to find emergent themes. The research results suggested that Chinese parents' perceptions of critical thinking was in line with its Western definition and research tradition. The findings also suggested that there is a lack of communication between most public schools and parents in terms of the national educational goals. The findings indicated that most Chinese parents were actively engaged in building a positive family environment with the self-reported strategies for critical-thinking development. Participants' self-reported beliefs in the efficiency of those strategies were confirmed by the empirical research regarding the indirect influence of parental involvement on students' development of critical thinking. The findings may contribute to positive social change by encouraging school administrators to improve their communication to build a stronger partnership between schools and parents in developing students into creative and critical thinkers (i.e., the national educational goal).

Chinese Parents' Perceptions of Critical Thinking and Its Pedagogy

by

Suning Li

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Education

Walden University

August 2021

## Dedication

This dissertation is to be dedicated to my parents who were born before the People's Republic of China was established as a new nation in 1949 and experienced all the ups and downs of the new country. With such experiences, they never expected their daughter, a girl, could get an undergraduate degree, but they were tolerant of their daughter's unquenchable desire for pursuing advanced degrees and wanting to be closer to the great people in the world. It is also dedicated to my dear children and my husband who have been accompanying me with their growing understanding and support in this doctoral journey. This doctoral degree meant more than another milestone in my pursuit of knowledge; it also reminded me of the hundreds of days and nights when I was absent from my responsibilities as a mother and a wife.

## Acknowledgments

The deepest and sincerest acknowledgement goes to my mentor, Dr. Cheryl Keen, who has welcomed me to the group of doctoral students at Walden during my first residency, guided me during my doctoral study and the journey to become a qualified researcher and scholar, sustained me during the hard times in my life, and finally walked me to the end of the doctoral journey. I am also very grateful to other committee members, Dr. Leslie Van Gelder and Dr. Wade Fish, for their professional comments on my dissertation and sincere encouragement to complete my research project. Also, I want to express my great gratitude to my study buddy, Raven Roytblat, who helped out with the learning materials I needed and with whom I could share experiences during the difficult times.

## Table of Contents

List of Tables .....	v
Chapter 1: Introduction to the Study.....	1
Background.....	3
Problem Statement.....	6
Purpose of the Study .....	8
Research Questions.....	8
Conceptual Framework.....	9
Nature of the Study .....	12
Definitions.....	12
Assumptions.....	13
Scope and Delimitations .....	14
Limitations .....	14
Significance.....	15
Summary.....	16
Chapter 2: Literature Review .....	17
Literature Search Strategy.....	18
Conceptual Framework.....	19
Conceptualization of Critical Thinking in Western Tradition .....	19
A Confucian Conceptual Framework of Critical Thinking .....	23
Conceptual Framework for the Present Research Project.....	26
Literature Review Related to Key Concepts.....	27



Education Borrowing in China .....	27
Parental Role in Students' Development and Academic Achievement .....	34
Empirical Studies of Critical Thinking Skills/Dispositions .....	42
Summary and Conclusions .....	45
Chapter 3: Research Method.....	48
Research Design and Rationale .....	48
Role of the Researcher .....	50
Methodology .....	53
Participant Selection Logic .....	53
Instrumentation .....	55
Procedures for Recruitment and Participation .....	58
Data Collection .....	59
Data Analysis Plan .....	60
Issues of Trustworthiness.....	63
Credibility .....	63
Transferability .....	64
Dependability .....	65
Confirmability .....	65
Ethical Procedures .....	66
Summary .....	66
Chapter 4: Results .....	68
Setting .....	68

Demographics .....	70
Data Collection .....	76
Data Analysis .....	79
Evidence of Trustworthiness.....	80
Credibility .....	80
Transferability .....	82
Dependability .....	82
Confirmability.....	83
Results.....	83
Theme 1: Critical Thinking as a Very New Concept for the 21st Century	
Chinese People.....	84
Theme 2: Perception of Critical Thinking Informed by Personal	
Experiences .....	85
Theme 3: Parents' Perception of Critical Thinking as Important for Child's	
Growth .....	94
Theme 4: Parental Role is Perceived as Influential in Child's Development	
of Critical Thinking.....	98
Theme 5: Perceived Effective Strategies for Critical Thinking	
Development.....	100
Theme 6: Perceived Challenges in Critical Thinking Development .....	111
Theme 7: Parents' Divergent Perception of Schooling Role in Critical	
Thinking Development .....	118

Theme 8: Parental Perception of the Challenges for Public Schools to	
Develop Critical Thinking .....	124
Summary .....	128
Chapter 5: Discussion, Conclusions, and Recommendations .....	129
Interpretation of the Findings.....	130
Findings in Relation to the Conceptual Framework of the Study.....	130
Findings in Relationship to the Reviewed Empirical Literature.....	135
Limitations of the Study.....	139
Recommendations.....	139
Implications.....	141
Conclusion .....	143
References.....	145
Appendix: Individual Interview Protocol .....	168

List of Tables

Table 1. Participant Demographic Information ..... 72

## Chapter 1: Introduction to the Study

Many Western educational values, such as the concepts of critical thinking and creativity, have made their way into the discourse of China's education reforms as a result of China's education borrowing policy. Chinese education reforms are characteristic of education borrowing (Tan, 2011, 2012, 2016) where Western educational ideas and values are borrowed as an approach to combat the exam-driven learning (Chen, 2017; Tan, 2012, 2017, 2019; Tan & Hairon, 2016). China's education reform is also characteristic of education borrowing from Western society because the government-initiated reform aims for a bilingual education with Chinese and English as the instruction languages (Gong, 2019). Chinese educational researchers tend to use the Western conceptualization of critical thinking and conduct quantitative measurements with scales developed within the Western learning context (Li & Li, 2019; Qi, 2018). Most of the established conceptualization of critical thinking has resulted from the efforts and contributions of Western educational researchers (Dewey, 1910; Ennis, 1985, 1996, 1991; Facione, 1990, 2011; Fisher, 2001; McPeck, 1991, 1994; Paul, 1984, 1990); Chinese researchers have also borrowed the whole conceptual system of critical thinking to use in China's research context (Chen, 2017; Cheng, 1998; Qi, 2018).

A few researchers have started to explore how Chinese Confucian ideas on the integrated relationship of learning and thinking can contribute to and expand the understanding and conceptualization of critical thinking (Hwang, 2013; Kwak et al., 2016; Lam, 2017; Rošker, 2017; Sigurðsson, 2017; Tan, 2016, 2017). Tan (2017) captured three aspects of Confucianism that relate to critical thinking, first pointing out

that Confucius said that human beings should constantly and carefully examine their real-life practices in light of dao in contrast to assumptions that Confucianism implies only rule following. Secondly, Tan stated that in Confucianism, an individual conducts judgement according to dao but must examine norms with careful considerations of particular contexts. The third aspect is the characteristic of judgement as a moral character, which is considered as a virtue of humanity that entails all moral values.

Diverse perspectives of China's reform towards progressive education exist. Middle-class Chinese parents have gained much autonomy in selecting educational systems for their children due to China's educational privatization and the increased family wealth in many Chinese first-tier cities. As one of the important stakeholders in China's education reform, Chinese parents are also exposed to many Western modes of education and educational values. However, while the concept of critical thinking has become one of the most important selection criteria for parents and has been included in school mission statements and promotion documents by principals of international and bilingual private schools in China, it has not been clear how the concept of critical thinking has been understood among Chinese education practitioners, policy makers, and parents (Chen, 2018; Dong, 2012). It is necessary to get some understanding of critical thinking, be it Western or Confucian in focus, in the present China's education reform from the Chinese parents' perspective because they are one of the important stakeholders in China's educational privatization (Han & Ye, 2017; Mok, 1997; Tan, 2012).

In this chapter, I present the background, problem statement, and purpose to develop the research problem and the research questions. An introduction to the conceptual framework and nature of the study then follows. Next, I provide key operational definitions, along with the assumptions, scope and delimitations, limitations, and potential significance of the study. The chapter concludes with a brief summary.

### **Background**

After Deng Xiaoping's Open and Reform policy in the late 1970s, China's economy stepped onto the platform of the world economy, and China became an active participant in economic globalization (Branstetter & Lardy, 2008). With globalization as one of the motivating factors, at the end of 20th century China's education reform went through the process of privatization and marketization (Mok, 1997; Paradise, 2012). Globalization brought in changes to many areas in China during this process, including education (Austin & Shen, 2016; Chao et al., 2017; Griner & Sobol, 2014; Guo, 2012; Sanchez Sorondo et al., 2007; Yamato & Bray, 2006). China's education reforms were influenced by many progressive Western educational ideas, such as child/student centeredness, inquiry-based learning, life-long learning, and the encouragement of thinking and creativity (Saravanamuthu & Yap, 2014; Tan, 2012, 2016; Tan & Chua, 2015). Such a liberal context of educational privatization and modernization involved various stakeholders, including Chinese local education commissions, municipal education bureaus, private education investors, and international education private providers (Cheng, 1998; Han & Ye, 2017; Paradise, 2012; Tan & Hairon, 2016; Tan & Reyes, 2016). When a few Chinese researchers called for attention to the Westernization

of the modern China (Cheng, 2016; Du, 2015; Wang, 2015), a research interest in the traditional Confucian ideas sprung up as a new model of the 21st century learning from the Confucian perspective (Tan, 2016; Tran, 2013). Under the influence of Western educational values and in the critical historical period of China's educational reforms, many stakeholders, including education policymakers, education practitioners, and parents, joined in this campaign for a quality education as China's education reformers proposed (Tan, 2016, 2017; Tan & Chua, 2015; You, 2018, 2019).

The current context in China is characteristic of Chinese economic development and a trend to pursue Chinese indigenous education conceptual frameworks and pedagogies (Tan, 2019; Tan & Hiron, 2016). Some Western-based Chinese scholars contributed their research and philosophical inquiries with a purpose to call for a careful consideration of Confucian legacy for China (Hwang, 2013; Kwak et al., 2016; Rošker, 2017; Sum & Kwon, 2020).

Another assumption has emerged that preparation for critical thinking may be different in Western and Confucian traditions with the increase of Chinese students in the Western classrooms. Such an assumption aroused a broad research interest in Chinese learners among Western researchers (Dennehy, 2015; Ryan & Louie, 2007; Slethaug, 2010; Tran, 2013). China was one of the top five countries sending students overseas to Western universities, indicating Chinese parents' high expectations of their children's academic achievement and their high regard of Western educational modes (Henze & Zhu, 2012; Hu, 2009; Tarc, 2012; Yan & Berliner, 2011).



Many Chinese students exhibited difficulties in actively participating in class and asking questions and encountered problems, such as passive rote-learning modes and lack of participation in class discussions (Tang, 2018; Zhang & Kumari, 2014). Along with the academic problems, Chinese students have also been found to be separated from the local English-speaking cultural environment (Zhang & Kumari, 2014). These factors were found to have a negative influence on Chinese international students' academic achievement in the Western higher education institutes (Sit, 2013; Tan, 2011). Many empirical researchers have traditionally put Asian learners and Western learners on the opposite sides of a dichotomy (Ryan, 2016; Ryan & Louie, 2007). Asian learners, especially those with Confucian heritage culture, have been described as passive learners who only memorize knowledge for exams. On the other side of the dichotomy, Western learners are considered as active learners with more participation in group discussion and a tendency for critical thinking. This dichotomy extends to the contrasting educational modes between Asian and Western schools as well (Ryan & Louie, 2007; Saravanamuthu & Yap, 2014).

Apart from the assumption of Chinese learners as passive learners without critical thinking, the question of how Chinese learners acquire critical-thinking skills has not been fully understood by educational researchers. It was noted that Chinese students are high score-achievers in the Program for International Student Assessment (PISA) even though they have the reputation for their hard work, memorization of knowledge, and being quiet learners in the classrooms (Organization for Economic Co-operation and

Development, 2016). The role that Confucianism plays in Chinese students' learning in general and learning of critical thinking, in particular, is also not clear.

There is a dearth of studies contributing to the research area of how critical thinking is understood and taught in the Chinese cultural context. In the present study, I aimed to develop an understanding of the concept of critical thinking and its pedagogy within the Chinese cultural context by exploring Chinese parents' perspectives. In this way, I hoped the research results could help in filling a gap in the larger concern regarding Chinese students' development of critical thinking.

### **Problem Statement**

The research problem was that it was unknown how critical thinking had been understood by Chinese parents who were exposed to both Western and Confucian educational modes and values. Due to the privatization and marketization of education in China, private schools gained more flexibility and rigor in implementing China's education reform initiative than government-supported public schools (Wong, 2004). Private schools borrowed Western education programs along with its educational values, such as critical thinking, creativity, and life-long learning in students (Dello-Iacovo, 2009). As an administrator working in the admissions panel of an international school for more than 10 years, I have witnessed firsthand how private schools competed with one another by articulating the importance of Western learning skills, such as critical thinking, to attract parents and students for the purpose of enrollment.

Within the Chinese educational research field, there has been a lively discourse of the importance of critical thinking for China's education reform (Bi et al., 2018; Dong,

2012; Wang, 2018; Xia, 2018). Chinese researchers defined and studied critical thinking development in students at various education levels according to the Western research tradition (Chen, 2018; Li, 2020; Qiu, 2003; Xia, 2018; Xu, 2019). In general, Chinese educational researchers gave critical thinking a great emphasis in China's education reform and contributed a lot of research to understanding; defining the research scope; and developing the localized pedagogical perspectives, resources, and strategies. Among these studies, Chen (2018) identified parental education at home and parents' economic status as two of the influential factors in college students' critical-thinking development. Some Chinese researchers argued that critical thinking is one of the core skills for the development of rationality and creativity (Bi et al., 2018; Dong, 2012), and other studies suggested that critical thinking is a way of thinking that orients towards independent thinking, a negation of irrational factors, and criteria-sensitive and evidence-based thinking (Bi et al., 2018; Xia, 2018). Dong (2012) also argued that without critical thinking as one of the goals of education reform, educational innovations cannot be considered to be for the purpose of quality education. Xia (2018) conducted a comprehensive study of critical thinking in China's compulsory education and its relationship with China's school reform and concluded that the view of knowledge acquisition and generation in school should include critical thinking as an important educational goal to achieve. Other researchers reviewed studies of critical-thinking development in China's compulsory education and reflected on such issues as pedagogical strategies and teaching staff development (Bi et al., 2018; Xia, 2018).

Chinese parents are considered as one of the most important stakeholders in developing Chinese students' critical thinking (Chen, 2018; Li & Li, 2019). However, little is understood about Chinese parents' understanding of critical thinking and the strategies for its development in children. The influence of Confucian heritage culture on the development of critical thinking was also not understood. This was a factor to be considered during this exploration of parental perspectives of the concept of critical thinking and its development in children because China is one of the countries influenced by Confucian heritage culture.

### **Purpose of the Study**

The purpose of this generic qualitative study was to understand how metropolitan Chinese parents perceive the concept of critical thinking and its pedagogy, how they view their roles in developing their children's critical thinking, and what they perceive are influential factors in children's development of critical-thinking skills. In this qualitative inquiry into the understanding of and approaches to developing critical thinking in children, I conducted individual interviews with Chinese parent participants on the topic of critical thinking within the Chinese cultural context, while considering Mainland China's globalized and internationalized economic and educational context at the same time.

### **Research Questions**

RQ1: How do metropolitan Chinese parents perceive the concept of critical thinking and its importance in child rearing and cultivation?

RQ2: How do metropolitan Chinese parents perceive their role in developing children's critical thinking?

RQ3: What do metropolitan Chinese parents perceive as the influential factors in children's development of critical thinking in their schooling?

### **Conceptual Framework**

I used Facione's (1990) and Lipman's (1988) definitions of critical thinking as well as Lipman's guidance regarding teaching critical thinking as the conceptual framework for this study. Critical thinking has been described as one of the most important skills to be acquired for the 21st century (Geisinger, 2016). As Tan's (2017) research showed, the concept of critical thinking has been considered as only belonging to the Western research tradition. Sigurðsson (2017) noted that critical thinking became a "marketable commodity" and was traditionally held to be a concept particular to the feature of Western thinking. Many Western philosophers tried to define the concept of critical thinking. For instance, Dewey (1910) defined critical thinking as a reflective operation that is initiated by a question or problem and involves further action of investigations. Ennis (1985, 1996) defined critical thinking as logical thinking that is characteristic of cognitive skills and some predispositions or attitudes. Paul (1990) referred to it as "critical thinking in the strong sense...the disciplined, self-directed thinking which exemplifies the perfections of thinking appropriate to a particular mode or domain of thought" (p. 4). McPeck (1981, 1991, 1994) categorized critical thinking as the ability and aptitude to perform a reflective and active skepticism. Siegel (2003) argued for a concept of critical thinking including reason and a critical spirit. For Lipman (1988,

1995), critical thinking presupposes skills of four categories: conceptualization, reasoning, generalization, and research.

On the basis of the abovementioned efforts of philosophers and researchers to define and interpret the concept of critical thinking, the American Philosophical Association (APA) came to the following definition called the “1990s Delphi definition of critical thinking”, which I selected to guide this study: “critical thinking is a purposeful, self-regulatory judgement which results in interpretation, analysis, evaluation and inference, as well as explanation of the evidential conceptual, methodological, criteriological or contextual considerations upon which that judgement was made” (Facione, 1990, p. 6).

Sigurðsson (2017) and Rošker (2017) raised the same concern on how critical thinking was not thoroughly studied in the field of education due to the lack of consideration of the influence of Asian Confucian ideas on thinking and its role in education. Wang and King’s (2008) research showed that the concept of critical thinking can find its origin in both Western and ancient Asian traditions. Confucius laid the foundation of Asian educational values in the aspects of moral education, life-long education, the importance of learning and thinking, and knowledge base. Confucianism had a great emphasis on education in that Confucius put social roles in a hierarchical system in which scholars, educated people, were placed at the top of the hierarchy. Confucianism is influential in many Asian countries, such as China, Japan, Korea, and Singapore (Rošker, 2017; Sigurðsson, 2017).

When depicting the 21st century skills learning framework from the perspective of Confucian ideas, Tan (2016) identified that what Confucius called critical thinking is not only a cognitive concept but also an affective one. Tan (2017), another researcher from Singapore, conducted a study to challenge the assumption that critical thinking is absent from Chinese education traditions and came to the following interpretation of critical thinking in Confucianism: Critical thinking is a form of judgement that is action-oriented, spiritual, ethical, and interpersonal. In addition to these definitions of critical thinking, this study relied on a framework that addressed how to cultivate students' thinking and develop their critical thinking.

At the beginning of the 1970s, American philosopher Matthew Lipman (2011) developed an approach to teach children critical thinking (i.e., philosophy for children [P4C]). In analyzing Lipman's P4C, Daniel and Auriac (2011) argued that philosophy is always considered as an intellectual activity requiring cognitive skills and affective factors such as predispositions. This argument is similar to Tan's (2016) statement of critical thinking from a Confucian perspective, suggesting cognitive skills as related to knowledge acquisition as well as to predispositions. Lipman argued to include such dispositions as curiosity, open-mindedness, thoroughness, and acceptance of criticism in critical thinking. With P4C, Lipman proposed an in-class practice to foster critical thinking in pupils with philosophical dialogues. One of the goals of P4C is to teach children the aptitude to have doubts, questions, and to make mistakes and correct themselves. It was believed that such a program would improve pupils' experience in personal reflection and social interaction with peers (Daniel & Auriac, 2011).

In summary, for the present study, I used the definition of critical thinking from the APA Delphi report (Facione, 1990) as well as Lipman's (1988) definition of critical thinking and pedagogical initiative in the P4C, a program of teaching critical thinking to children. These definitions contained aspects related to China's specific context with its education borrowing from Western education values and approaches. The overlapping areas in terms of the definitions of critical thinking from the Western tradition and Confucianism were revealed from the analysis of Confucian classics (Lam, 2017).

### **Nature of the Study**

In this study, I employed a generic qualitative design using interviews based on Merriam's (2009) approach that focused on building themes related to the shared experiences of the participants. I conducted individual interviews with a total of 12 participants whose children were 4 to 18 years old and were interested in exploring the concept of critical thinking for their children. The generic qualitative approach was the most suitable platform for addressing this research problem because it allowed for the capture of participants' personal experiences and their perceptions of the concept of critical thinking. The generic qualitative approach is not guided by explicit and well-established philosophical assumptions and is simply the descriptive qualitative approach or interpretive description (Kahlke, 2014). I analyzed the collected data with coding strategies and sought the emergent themes.

### **Definitions**

Based on the Western researchers' contributions in defining the concept of critical thinking, in 1990, the APA published a Delphi report with the following definition of



critical thinking: “critical thinking is a purposeful, self-regulatory judgement which results in interpretation, analysis, evaluation and inference, as well as explanation of the evidential conceptual, methodological, criteriological or contextual considerations upon which that judgement was made” (Facione, 1990, p. 6).

Lipman (1988) defined critical thinking as skillful and responsible thinking that facilitates judgement. Critical thinking relies on criteria and self-correction and is sensitive to context (pp. 1-6).

Tan (2017) found that the concept of critical thinking exists in Confucian ideas and proposed that it should be considered within broader perspectives to include the experiential as well as the aspect of moral character development. According to Tan, critical thinking is understood around two primary ideas, li and ren (rites and virtue). Confucian ideas of li and ren offer characteristics of critical thinking as judgement, and critical thinking is the experiential act of thinking in particular situations. Confucianism has a broader interpretation of such critical thinking, (i.e., within the authentic context of real life, the observation of li and ren contains flexibility and adaptability, thus the act of thinking has a higher purpose, moral values, or virtue of humanity; Tan, 2017).

### **Assumptions**

I made several assumptions regarding this research study. The first assumption was that more parents of the first-tier Chinese metropolitan city where this study took place belonged to the middle class and had more choices of educational resources because of their favorable socio-economic status. I lived in this city and got access to the potential participants through my professional associations and social media. The second

assumption was that each participant would fully cooperate and provide relevant information about their experiences that would be beneficial to the research. The interviews were conducted in Chinese because all the participants were native Chinese speakers. I also assumed that the transcripts of interview records were translated into English with high accuracy so that the data analysis would be reliable for the generated themes. Lastly, I assumed that the participants were aware of the concept of critical thinking and were ready to reflect about it with me, either in the Western or the Confucian frame or in both.

### **Scope and Delimitations**

I delimited the study to include participants whose children were at three types of schools (i.e., Chinese public schools, private bilingual schools, and the international section of private Chinese schools) for at least 1 school year. I focused the scope of the study on one first-tier city.

### **Limitations**

The small sample, which is characteristic of a qualitative study, limits transferability of the research findings. The use of two languages for transcripts and codes in the study made it challenging to fully communicate my findings in English. (The interviews were conducted in Chinese and transcribed in Chinese as well. Then all the Chinese versions of the interviews were translated into the English language.) I used an online translation software to make sure the English translation was as accurate as possible and sent some parts of the translated transcripts and coding memos to my mentor for additional review. In this way, I meant to increase the validity of the research. I was

aware of my limitations with qualitative research skills and of my subjectivity as a researcher.

### **Significance**

More understanding of the concept of critical thinking in a Chinese context may be helpful to provide insights for at least two groups: Chinese parents who are seeking education values and skills such as critical thinking for their children and the private school administrators who want to achieve better rapport with parents. I hope the study will open an original line of critical-thinking research in a methodological respect. The findings of this study may contribute to more understanding of critical thinking from Chinese parents' perspectives.

I expect the research can bring a long-term benefit when Chinese people can understand better what Chinese children and students need for their overall development and meaningful learning for the 21st century. Both Dewey and Confucius stated their belief in a higher purpose of human education. In *Democracy and Education*, Dewey (1922) emphasized the concern of education in schools should be the relationship between knowledge and conduct, stating, "unless the learning which accrues in the regular course of study affects character, it is futile to conceive the moral end as the unifying and culminating end of education" (p. 418). In *Analects*, Confucius argued that the purpose of education is "the cultivation of Junzi through the character building of benevolence, righteousness, and rites" (Lau, 1979, p. 14). Critical thinking is one of the educational outcomes believed to be shared by both Western and Confucian educational pursuits (Tan & Reyes, 2016). I believe there is still much to do so that a deeper

understanding of Chinese people's education needs can be achieved. I meant the current study to become a part of these efforts.

### **Summary**

In Chapter 1, I introduced the problem statement, research background, research questions, the nature of the study, and the conceptual framework for the present study. I also outlined the primary definitions used for the research and reflected the assumptions and limitations of the study. The positive social change implications of the research findings were also provided. In Chapter 2, I first explain the strategy used to search for relevant literature, then I review the conceptual framework and empirical literature related to the research problem and research questions.

## Chapter 2: Literature Review

The research problem was that it was unknown how critical thinking was understood by Chinese parents who had been exposed to both Western and Confucian educational modes and values. This is particularly a problem when the concept of critical thinking has become one of the most important selection criteria for parents when deciding which school to send their children to and is included in mission statements and promotion efforts by school principals in China. Little is known about Chinese parents' understanding of the Western approach to critical thinking in relationship to a Chinese approach. Within the Chinese research field, critical thinking has become an important aspect in the discourse on education reform in China (Bi et al., 2018; Chen, 2018; Dong, 2012; Li, 2020; Qiu, 2003; Wang, 2018; Xia, 2018; Xu, 2019).

The purpose of this generic qualitative study was to understand how metropolitan Chinese parents perceive the concept of critical thinking and its pedagogy, how they view their roles in developing their children's critical thinking, and what they perceive are influential factors in children's development of critical thinking skills. I conducted this study from the parental perspective on the topic of critical thinking within the Chinese cultural context, while considering Mainland China's globalized and internationalized economic and educational context at the same time.

In this chapter, I explain how I searched and located the literature related to the research problem. The literature reviewed in this chapter helped me to formulate the research conceptual framework and extract the related findings from the empirical studies. As supported by the analysis of the empirical studies, I identified the research

gap on children's critical-thinking development, especially in the understanding of the concept of critical thinking within the educational and cultural context of globalized China. This research gap relates to such issues as parental perceptions of the concept of critical thinking and its pedagogy. A qualitative endeavor was necessary to explore the problem within the current Chinese context with its traditional Confucian cultural heritage.

### **Literature Search Strategy**

I used the following research databases to search for the literature reviewed in the present study: EBSCO, Education Source, and China Knowledge Resource Integrated Database CNKi (中国知网). Google Scholar was mostly often used. At the beginning stage of literature search, I used *critical thinking* as a general term to search on Google Scholar. It appeared in various research fields beyond education research and student learning. Then, in the research database, Education Source, I used the key word *critical thinking* along with the search terms of *Chinese* and *conceptualization* to narrow down the scope of literature and include only those articles published since 2013. I found only four peer-reviewed, empirical studies. Since China is a country mostly influenced by Confucian heritage culture, I used the phrase *Confucian teaching/ideas/Confucianism on student's thinking development* to search on Google Scholar. I searched the phrase *parental perceptions of thinking/critical thinking* and limited the range to publications since 2015, but I did not find anything relevant. I revised the phrase to *parental engagement/influence/involvement in children/students' learning/development/academic*

*achievement* and found many studies, so I limited the publication range to only include those published since 2015.

In China Knowledge Resource Integrated Database CNKi (中国知网), I only used the keyword search term of *critical thinking* (批判性思维) and found many quantitative empirical studies on the measurement of critical thinking dispositions published within the last 5 years. The website has the functions to screen the various subtopics related to critical thinking, such as teaching critical thinking, critical thinking ability, and critical thinking disposition.

### **Conceptual Framework**

For this study, I used the Confucian conceptualization of critical thinking as *si* (meaning *thinking*; Tan, 2017) and the conceptualization of critical thinking that was agreed on by renowned Western educators and education philosophers in the APA Delphi report on the definition of critical thinking (Facione, 1990). In the following subsections, I briefly review the history of the study of critical thinking in the Western educational academy and how the concept of critical thinking was considered within the Chinese Confucian cultural context.

#### **Conceptualization of Critical Thinking in Western Tradition**

In the Western educational research tradition, the idea of critical thinking as a goal for learning and education started with Socrates around 2000 years ago and grew through the work of John Dewey, a U.S. philosopher and educator, more than 100 years ago (Bonney & Sternberg, 2011; Fischer, 2001). Dewey (1910, 1922) emphasized the importance of thinking in education and dissected the essence of education as in teaching

thinking in a progressive framework. Dewey (1910) further depicted thinking as a reflection process or inquiry process (Rodgers, 2002). Rodgers (2002) delineated Dewey's idea of critical thinking as reflection in terms of four criteria:

1. It must be a meaning-making process.
2. It should be a rigorous way of thinking with scientific inquiry as its root.
3. It happens when one expresses one's own idea with others, in community.
4. It happens with a set of human attitudes.

Rodgers drew on Dewey's idea of thinking in education by emphasizing that thinking is the most essential piece that makes humans learners.

From the beginning of the 20th century until now, many educational researchers and philosophers after Dewey stated the importance of thinking in education for the freedom and democracy of human society (Dwyer et al., 2014; Geisinger, 2016; Kuhn, 1999, 2005; Paul, 1984; Živkovi, 2016). Researchers proposed different definitions or models of critical thinking for the purpose of teaching and assessment. I briefly introduce the following researchers' contribution to the conceptualization of critical thinking in the following subsections: Robert Ennis, Richard Paul, and Matthew Lipman. In the Western academy, these three researchers along with other education philosophers and researchers came to a definition consensus through the APA Delphi report in 1989. Their definitions expanded Dewey's idea of thinking as reflection. The reason I chose these three researchers is that they spent great effort in studying and reporting the significance of critical thinking for the overall meaning of human development, which is the very meaning of education.



### ***Ennis's Approach to Critical Thinking***

Ennis (1985) defined critical thinking as “reflective and reasonable thinking that is focused on deciding what to believe or do” (p. 1). This definition employed Dewey’s idea of critical thinking as reflection and inquiry process. Ennis broke up the concept of critical thinking into two parts: dispositions and abilities. For the purpose of teaching and assessing critical thinking, Ennis developed a critical-thinking framework with four categories of elements to explain the process: inference, clarity, thinking dispositions that are required for problem solving, and interactions with others.

### ***Paul's Approach to Critical Thinking***

Paul (1984, 1990) mentioned the importance of cultivating critical thinking in students many times, arguing that critical thinking belongs to the higher order thinking skills and refers to a domain of knowledge and criteria. Paul (1990) defined such critical thinking as disciplined, self-directed thinking that exemplifies the perfections of thinking appropriate to a particular mode of domain of thought. In Paul’s definition, a person engaging in critical thinking uses all their prior knowledge and thoughts to adjust to a type of thought according to some criteria. According to Paul, the outcomes of developed, habitual, critical-thinking skills include intellectual humility, intellectual courage, intellectual perseverance, intellectual integrity, and confidence in reason. Apart from these outcomes, Paul also proposed an idea of thinking about one’s thinking (i.e., metacognition) as an important part of critical-thinking development.

### ***Lipman's Approach to Critical Thinking***

As another influential philosopher and educator in the research area of critical thinking, Lipman (1988) did not agree with the definition of critical thinking as only for decision making and problem solving or as metacognition. Lipman's contribution to the education of thinking includes the great promotion of and research in children's philosophy as well. Lipman offered a functional definition of critical thinking in terms of three characteristics: Critical thinking is self-corrective thinking, it is thinking with criteria, and it is thinking that is sensitive to context. With this definition, Lipman argued that self-corrective thinking becomes critical thinking when it employs criteria and is sensitive to context.

### ***The APA Delphi Report's Definition of Critical Thinking***

For the purposes of teaching and assessing critical thinking in higher education, there was a need for the APA to have a consensus on the definition of the term. In 1988, Facione gathered renowned educators and education philosophers from the United States and Canada to discuss this issue. Forty-six experts came to a consensus of the definition later known as APA Delphi definition: Critical thinking as a purposeful, self-regulatory judgement which results in interpretation, analysis, evaluation, and inference, as well as appropriate explanation (Facione, 1990). The Delphi definition also delineated three categories included in the concept of critical thinking: critical rationality, referring to skills like inference-making and argumentation; judgement formation; and critical character containing disposition, abilities, and attitudes.

The APA Delphi definition of critical thinking became the well-established, generic one for educators who teach students thinking (Larsson, 2017). Based on this definition, Facione developed a model of critical thinking that prescribed six skills for training in critical thinking: interpretation, analysis, inference, evaluation, explanation, and self-regulation (Davies, 2015; Živkovi, 2016). Based on studies on critical thinking, Fisher (2001) developed a similar categorization of critical thinking skills that entailed four categories: interpreting, analyzing, evaluating, and thinking about one's own thinking (i.e., self-regulation).

For the present research I drew on Ennis's (1985) definition of critical thinking that contains both abilities and dispositions and employed the Delphi definition that categorized the specific skills, dispositions, abilities, and attitudes. I used these concepts, such as attitudes towards thinking, abilities of thinking, and thinking skills, when designing the interview questions.

### **A Confucian Conceptual Framework of Critical Thinking**

With the thorough research of critical thinking in the Western academia, there appeared a perception that the idea of critical thinking is characteristic of Western education tradition and is against the Confucian heritage culture (Aoki, 2008; Chen, 2017; Li & Wegerif, 2014). Some researchers from the CHC indicated that critical thinking was not studied enough within the Confucian cultural contexts (Chen, 2017; Chen et al., 2017; Tan, 2014, 2016, 2017). Tan (2017) especially focused on the conceptualization of critical thinking from the Confucian perspective. As the debate on what constitutes critical thinking has marginalized CHC, Tan's research raised a question

in the educational research field about whether critical thinking is absent from the Chinese tradition.

Following Brookfield's (1990) argument that more conceptual malleability can give a wider interpretative latitude and ideological applicability to more diverse groups, Tan (2017) proposed a particular interpretation of critical thinking from a different perspective. Instead of trying to define the concept of critical thinking, Tan argued that the term is conceptually malleable and contestable. Based on Lipman's (1988) interpretation and Dunne and Pendelbury's (2003) further elaboration of the concept of judgement, Tan considered two characteristics of judgement as an expansion of the interpretation of critical thinking: (a) it is experiential and (b) it is related to one's moral character. In this interpretation of judgement in terms of the two characteristics, Tan referred to the Confucian context. By experiential, Tan meant that a person applies generalizations to particular action situations insightfully and flexibly. With this characteristic of judgement, Tan explained that judgement requires both personal reflection on knowledge and flexibility to use the knowledge. Therefore, with judgement a person cannot accept existing beliefs or ideas without questioning, instead they need to modify when necessary. By moral character, Tan referred to virtues. Tan argued that critical thinking as judgement is expressed in the Confucius' idea of li, meaning "ritual propriety" or "rites." With the assistance of a quotation from the *Analects*, Tan explained the broader meaning of Confucian li and its connection with critical thinking as judgement,

Do not look unless it is in accordance with rites; do not listen unless it is in accordance with rites; do not speak unless it is in accordance with rites; do not move unless it is in accordance with rites. (Lau, 1979, p. 112)

In this verse, Confucian li or rites covers all the aspects of human actions. That means, an individual following li (rites) should “think and act normatively, autonomously, and judiciously in every situation” (Tan, 2017, p. 334). Tan indicated that this is exactly the characteristics of critical thinking as judgement: experiential, where individuals act out critical thinking in particular situations. In the case of Confucianism, the actions of judgement are realized in dao, the way of heaven. Even though Confucius said that dao contains norms and procedures for human’s critical thinking as judgement, he depicted the interrelationship of dao and judgement with the following verse: “It is Man who is capable of broadening the way (dao). It is not the way (dao) that is capable of broadening Man” (Lau, 1979, p. 136). With this verse, Confucius actually said that human beings in observing li and dao should constantly and carefully examine it in the real-life practices.

Confucius had another notion related to critical thinking as judgement, yi, meaning appropriateness or rightness. In the analects, Confucius said “in his dealings with the world the gentlemen (junzi) are not invariably for or against anything. He is on the side of what is moral (yi)”. A gentleman (junzi) is the person who possess moral character or yi. Here the interpretation of judgement from the Confucian perspective has the resonance with Lipman’s definition of critical thinking as a self-corrective process according to appropriate norms and with specific contexts. In Confucianism and

individual conducts judgement according to dao but must examine norms with careful considerations of particular contexts (Lam, 2017).

Tan (2017) also pointed to another characteristic of judgement, moral character, represented in Confucian notion of judgement, ren. For Confucius, ren is the over-arching virtue of humanity that entails all moral values. According to Tan's explanation of this notion of ren, it involves not only outward moral acts but also corresponding feelings and dispositions. This application of ren that motivates and individual to act out judgement found the similar meaning in Paul's argument of critical thinking in the strong sense.

### **Conceptual Framework for the Present Research Project**

My review of the Western research tradition of critical thinking focused on how the Western education researchers have been trying to define critical thinking. Mainly, the efforts covered these aspects as to what critical thinking contains, why critical thinking is needed for human society, and the ways for achieving critical thinking. Generally, critical thinking has been defined as thinking process, reflection inquiry, thought, or meta-cognition, the purpose of critical thinking is for decision-making and other more intellectual outcomes, the attainment of critical thinking requires two categories of skills, cognitive and affective (Ennis, 1985; Lam, 2017; Lipman, 1988; Tan, 2017). The modern human society especially emphasizes the significance for the changing world: it is one of the important necessary competencies for adaptability to the changing world.

For the present research, I used a consensual definition of critical thinking provided according to the APA Delphi report by Facione (1990). It depicted critical

thinking with predefined categories containing interpreting, analyzing, evaluating, and thinking about one's own thinking, and falling into two aspects of critical thinking, cognitive and affective. The definition of critical thinking can only serve some functions according to Lipman (1988) because the process of critical thinking can only be "defined functionally rather than teleologically" (p. 5). Therefore, another conceptual framework that I want to employ is Confucian ideas of rites (li), rightness (dao/yi), the virtue of humanity (ren) that is similar to Paul's statement of critical thinking in the strong sense. Confucian concepts of rites and rightness delineated the goal of thinking in education and human learning, and cognitive skills and affective dispositions are considered to serve for the higher purpose of critical thinking in education (i.e., Paul's critical thinking in the strong sense).

In the following section, I explore a few issues related to the origin of critical thinking becoming one of the important education values for China's education reform; how the background of Chinese parents' parenting has affected the implementation of quality education reform in China; how critical thinking has been studied within China's cultural context; and its development within the pedagogical context.

### **Literature Review Related to Key Concepts**

#### **Education Borrowing in China**

The history of education borrowing at the national scale in China started after the establishment of the People's Republic of China in 1949. Since then, until the Cultural Revolution, education models in China followed the Russian style (the Soviet Union at that time). Examples of this education model include knowledge reproduction,

standardized teaching and assessment. During the period of 10-year Cultural Revolution (1966-1976), the education system in China collapsed with universities being closed and young students being sent to the countryside to participate in agricultural activities. The educational system was rebuilt in 1976 and the national college entrance exam was introduced in 1977 (Tan & Chua, 2015).

After China started the Open and Reform policy, Chinese education authorities realized that it is imperative to reform Chinese education model toward the direction of building up quality education. Even though the Chinese government did not clearly state what they meant by quality education (Tan & Reyes, 2016), the general target of the education reform is to direct the present education focus of knowledge transmission and exam-driven learning to a new model of learning aiming for thinking and life-long learning.

This calling for a change in education model started in China with globalization and internationalization of education as the backdrop. Organization for Economic Co-operation and Development (OECD) first started PISA in 2000; it tests mainly students' abilities in reading, mathematics, and science with a focus on reading and learning skills. Tan's (2019) content analysis found that OECD might have its own standard and purpose for promoting PISA in the world, but the Chinese education officials use Chinese students' (especially from Shanghai) PISA results for the Chinese education reform's own sake. In Mainland China only students from Shanghai attended the 2012 PISA and achieved good results with China listed as one of the top five countries on PISA result list. This has no doubt attracted the world's spotlight to Shanghai China (Tan, 2012,



2019). At the same time, PISA also revealed existing educational problems in China with Shanghai as an example. Two of the problems appeared as most critical: Heavy schoolwork burden and school choice fever (i.e., the great competition of enrolling students in top key schools). The Chinese education officials utilized PISA results and the highlighted education problems in Shanghai education to validate their reform initiatives and garner support from the stakeholders of education.

The PISA results highlighted many well-performing countries, and the PISA data also revealed some contributing factors to those successful education systems, for example, school leadership. Harris and Adam's (2016) study of seven countries' education systems with a mixed methodology revealed that there is a great commonality in policy borrowing in the seven countries' leadership preparation and development trajectory. The findings of the study had the implications for education policy makers to take a more careful consideration of such factors as contextual and cultural conditions during the process of education borrowing. The findings of the study showed that the borrowed policies that were successful originally cannot be replicated in a different context and culture. Therefore, Harris and Adam argued that it is not appropriate to attribute the success of education systems to single features. They recommended that some potent factors should be considered and borrowing proven successful principles is better than borrowing entire policy.

On the education reform in China, a few education researchers (Tan, 2012; Tan & Chua, 2015; Tan & Reyes, 2016) made their contributions to shed a light on a deeper understanding of the reality of China's education: How and what cultural factors interact

with the borrowed education values, ideas, and practices with the education reform in Shanghai as a research case. These empirical studies showed that the real situation in China's education reform appeared to be something like what Harris and Adam suggested, even though they appeared with different names and supporting conceptual frameworks, such as politics of selling and gelling (Tan & Chua, 2015), policy internalization and indigenization (Tan & Reyes, 2016), and global assemblage (Tan, 2012). Tan and Chua (2015) used two of Johnson's (2006) five metaphors of education policy borrowing: the politics of selling and the politics of gelling. By the politics of selling, Johnson meant that the developing countries have more control in selecting educational politics sold by developed countries. The politics of selling involves a wider set of interest groups who set up new education agendas by combining both global and local sources of knowledge.

In Tan and Chua's (2015) study of education borrowing in China, the politics of selling and gelling are pertinent to a knowledge-based society such as China. As Tan and Chua pointed, the politics of gelling involves struggles and conflicts caused in the interactions between foreign education policies and local cultural and contextual factors. The policy of internalization and indigenization (Tan & Reyes, 2016) reflected the similar meaning to the metaphor of politics of gelling, in that Western ideas and practices were internalized and indigenizing into the local Chinese traditions and values. In another study of curriculum reform in Shanghai, Tan used the conceptual framework of global assemblage to describe the roles of various stakeholders in the education reform. From all the conceptual frameworks used by different researchers, it is visible that the complex

interactions of the borrowed foreign policies, ideas, and practices with various Chinese cultural and contextual factors happened during the process of education reform in China. In this process, various stakeholders played their own roles.

Some empirical research of curriculum/education reforms found some evidence of such influences that stakeholders and cultural factors played in the process of education borrowing. Han and Ye's (2017) case study of the Outline of China's National Plan for Medium and Long-term Education Reform and Development (2010-2020) argued that the changes of China's education policy making has gained the characteristics of a broader education governance by developing into a sector of the global education network. In their analysis of the evolution of China's education reform, the authors found that the voices of professional interest groups from the universities and colleges were greatly valued in the education policy making. Although the existing reality of the policy making still has the central government as the only decision-makers, the Chinese government and the Chinese Communist Party have given consideration to global trends of education development; this was manifested in its participation in international student assessment such as PISA. A multiple social interest groups exerted little influence on Chinese education policy making, because of the limited access of resources. Han and Ye's research did not find solid evidence of other social interest groups' involvement in China's education policy making process, but the trend revealed in their study can serve as a supportive evidence that nongovernmental factors such as cultural influence and parental involvement in educational change are active. Parents can manipulate their own

resources in terms of how their children should be taught. And the culture of exams is hard to alter and can only be done through governmental policy.

In another study on the roles of nongovernment actors in education policy change, Tan (2019) did a comparative research on Chinese and South Korean parents' strong influential roles on the schooling reforms in their respective countries. Tan's study illustrated the dominant roles of the two countries' central governments in education reforms. The study found that such reforms in Korea and China sent contradictory messages to the parents. On one hand the governments issued policies to combat the exam-driven learning in schools, such as freeing students from afterschool tutoring in schools. On the other hand, the top schools and universities continue to use students' scores of the high-stake standardized exams as the only standards for higher education admission. Korean and Chinese parents have resisted the education reform policies with the manipulation of their personal resources, such as sending their children to private tutoring classes or cram schools. Tan called this private tutoring as shadow education. In this way, Tan argued, the education reform in Korea and China proved to be unsuccessful due to the parents' reliance on shadow education.

Another contribution of Tan's (2019) study was that it shed some light on the understanding of the power relationship of the stakeholders of the education reforms. Tan's empirical research offers additional evidence that parental factors can be very powerful in educational change. It is necessary to involve parents as important stakeholders in the discussion of education reform.

Apart from various stakeholders, it is also necessary to consider the roles of cultural and contextual factors played in the education reforms. A few studies also found cultural factors that influenced the education reforms in their own way. Since globalization starts to influence the nations, Cheng (1998) raised the question on how cultural differences may affect the education borrowing process of foreign education values. In Cheng's (1998) comparative study, some Asian countries education values emerged, such as class-size, discipline, values, and assumptions of student ability and efforts. Even these Western education models could be borrowed by the Asian countries, the Asian education values could not be replaced by the Western ones. For example, Asian countries believe bigger class size can benefit student social skills, and stricter class discipline and extra efforts lead to better academic achievement.

In a few other studies (Tan, 2012, 2019; Tan & Reyes, 2016) on China's education reform, it is mentioned that the primary purpose of these reforms was to construct a quality-driven education rather than exam-driven education. These studies mostly used Shanghai's education reforms as research data. Those education reforms borrowed the Western education values such as holistic education and assessment, life-long learning, student-centeredness, emphasis on knowledge construction, formative assessment and teaching students' thinking.

From the review of studies on China's education reforms, I found that various stakeholders play their different roles in sense-making of the meanings of education reforms and navigate through the reform process with the manipulation of their personal resources as guided by their own interpretation of the goal of formal school education.

The revealed parental influences on the education reforms appeared to be especially interesting to the research topic of this dissertation. In the following section, I will explore how parental roles in student education have been understood and how parents have influenced China's education reform.

### **Parental Role in Students' Development and Academic Achievement**

Parental role in students' overall development and academic achievement has been extensively studied in the Western research field (Benner et al., 2016; Boonk et al., 2018; Castro et al., 2015; Crede et al., 2015; Goodall & Montgomery, 2014; Jeynes, 2014; Piquart, 2016; Porumbu & Neccoi, 2013; Yamamoto et al., 2016;). Research results showed that parents play a very important role in students' education, and especially parents' influential role in students' academic achievement is empirically evidenced. With China as the research context, parents should be considered as one of the important stakeholders of Chinese educational reforms as well as of their children's growth and development. Chinese parents' influential role in choosing schools and career for their children was well studied (Liu et al., 2015; Wen et al., 2017;). In this section, I explore how Chinese parents' role in students' education and academic achievement has been studied and what evidence has come out of the educational research field.

### ***Confucianism as the Cultural Background***

China is a country that has been influenced by Confucianism for about 2000 years. Confucius laid the foundation of Chinese educational beliefs in the aspects of moral education, life-long education, the importance of learning and thinking, and knowledge base. Confucianism attached great importance to education in that Confucius

put social roles in a hierarchical system in which scholars, educated people, were placed at the top of the hierarchy. In a narrative study of Chinese parents' perspectives on parenting, Chen (2016) used the two Confucian concepts to study the relationship of Chinese parents and their adolescents: filial piety and harmonious relationship. In *Analects* 4.18 (Lau, 1979), Confucius stated,

In serving your father and mother you ought to dissuade them from doing wrong in the gentlest way. If you see your advice ignored, you should not become disobedient but remain reverent. You should not complain even if in so doing you wear yourself out" (p. 74).

In Confucianism, filial piety was considered as the foundation for them to achieve benevolence towards people in the future because the Confucian argument was that a person who loves his or her parents can show love towards others. In filial piety, children's obedience and reverence to their parents and elders are very important; children were educated from their childhood that they are responsible for the glory of their family through educational success. In *Analects*, Confucius said, "Harmony is to be prized. The social order was considered to be achieved through observing propriety, *li*". As written in *Analects* 12.1 (Lau, 1979)

Do not look unless it is in accordance with the rites; do not listen unless it is in accordance with the rites; do not speak unless it is in accordance with the rites; do not move unless it is in accordance with the rites (p.112).

The harmony at home between children and parents was required for the benefits of family and society. Therefore, the relationship between parents and their children were

based on harmony and propriety, or rites, *li*. Chen (2016) found that such ideas of Confucianism are still influencing Chinese parents' relationships with their children. For example, Chinese parents make decisions on their children's future career in selecting universities and even study fields in universities. With the modernized and internationalized Chinese society, Chinese parents are still following the traditional Confucian teachings like filial piety, hierarchy, and ideal of harmony. So they cultivate their children for the purpose of knowledge attainment, personal achievement, a better life, and the honor of their family.

### ***The Developmental Trend of Chinese Parents' Parenting***

Many educational researchers have studied parental behaviors and parental styles (Castro et al., 2015; Chen, 2016; Goodall & Montgomery, 2014; Jeynes, 2014; Li & Li, 2019; Ren & Edwards, 2015; Wang, 2014; Yamamoto et al., 2016). Generally, there are two dimensions of parental behavior: responsiveness and demandingness (Wang, 2014). There are four parenting styles contained in the two dimensions: authoritarian (more demanding and less responsive), authoritative (more demanding and more responsive), neglectful (less demanding and less responsive), and democratic (less demanding and more responsive). As Chen's (2016) study showed, traditional Confucian hierarchical system influenced Chinese parents' relationship with their children so that authoritarian parenting style was considered mostly related to Chinese parenting. A few studies (Chen, 2016; Guo, 2014; Guo et al., 2018; Long & Pang, 2016; Ren et al., 2015; Wang, H., 2014; Wang, Y. C., 2014) examined what Chinese parental styles look like.



Wang (2014) studied the relationship between parenting styles and academic and behavioral adjustment among urban Chinese adolescents. The results showed that the social and economic change in China have greatly changed parenting practices. The majority of Chinese fathers and mothers adopt democratic and authoritative parenting styles. According to Wang, the responsive dimensions comprise parental warmth, acceptance, encouragement, cognitive independence and egalitarianism. Wang called democratic and authoritative parenting styles optimal parenting styles. This research has theoretically and empirically identified parental responsiveness dimension as important for children and adolescents. A majority of Chinese parents use these optimal parenting styles. The research also showed that parental warmth and acceptance foster optimal child and adolescence development.

In a similar study, Wang (2014) tried to explore if families influenced by Confucianism still existed in the present China. The research showed that middle class parents were more expressive than many of their working-class counterparts. Those working class parents were only concerned about their children's academic results or scores. Different from the working class parents, middle-class parents made great efforts in building up good relationships with their children because they are not only satisfied with children's academic results. These parents had more affordance of self-direction and autonomy and more than 12 years of education. From this study, it also revealed that parental education background or educational pursuit can be seen as an influential factor on parental style. The qualitative research results generated such themes as loosening parental control, parental emphasis on parent-adolescent relationship, focus on academics

and manners. The researchers did not find a typical Confucian family with strict hierarchy and requirement of valued obedience more than independence.

Chen's (2016) qualitative study shed more light on the understanding of the relationship between Chinese parents and their children. Chen took a different research perspective from other researchers: to study Chinese parents' perceptions of parenting. The research results showed that Confucianism still had much influence on Chinese parents and their parenting styles. From interviews with those parent participants, Chen found that most Chinese parents identified themselves as impatient, authoritarian, and utilitarian in their parenting styles. Confucian ideas of hierarchy and filial piety resulted in parents' dominant role in parent-child interactions, school selection and plan on future career. Under the influence of such Confucian ideas, the author concluded that Chinese parents' parenting is still characteristic of Confucianism. For example, Chinese parents attached great importance to key university acceptance. Confucianism advocated education as a process where children investigate the nature of things, understand life-long goals and learn how to live personal lives in the society. So Chinese parents' expectations for their children's moral education and for them to become scholars are in line with Confucian teachings.

Besides, the research also suggested that Chinese parenting had changed due to China's economic reform (Chen, 2016; Liu et al., 2014; Wang, Y. C., 2014). Most participants expressed that they were willing to listen to children and took children's interest and voice into consideration. Chen (2016) argued that the economic reform and globalization resulted in the tremendous changes in Chinese people's ideology. Under the

influence of the two conceptual systems, Confucianism and globalization and internationalization, Chinese parents' parental behaviors cannot be simplified into authoritarian, authoritative, or utilitarian parenting. High valuation of scholarship, moral education and aspiration for dragon children (a popular phrase representing the best academic achievers in the eyes of parents) by means of high academic achievement remained as Chinese parents' primary expectations for their children. At the same time, the research also showed an increasing attention from Chinese parents to the cultivation of emotional intelligence and social skills.

### ***Contributing Factors to Optimal Parenting***

The purpose of all of the studies related to parenting that I have reviewed was to find out more about what type of parenting can benefit students' academic achievement and overall development. Many researchers tried to find out what factors influence how parents play their role in their children's academic achievement and development (Benner et al., 2016; Castro et al., 2015; Goodall & Montgomery, 2014; Guo, 2014; Long & Pang, 2016; Wang, 2014; Yamamoto et al., 2016). Castro et al.'s (2015) meta-analysis result showed the strongest associations between types of parental involvement and academic achievement were the relationships between such types as parental high expectations, parental communication with children, and reading with children, and students' academic achievement.

Goodall and Montgomery's (2014) research employed the concept of triad of child, parent, and school to put an emphasis on the important role played by a community in children's education. Within such a conceptual framework, the authors argued for a

movement from parental involvement to parental engagement. Epstein's (1995) idea of the triad of child, parent, and school focused on the belief that school, family and community partnership share the responsibilities for children's learning. Goodall and Montgomery (2014) differentiated parental involvement from parental engagement arguing that parental engagement encompasses something more than just involvement, such as feelings and activities.

A few studies (Goodall & Montgomery, 2015; Yamamoto et al., 2016) have showed that parental engagement based on the school activities has not been successful due to the lower sense of responsibilities and lower parenting self-efficacy and lack of capability to do schoolwork. By encouraging a movement from parental involvement to parental engagement, Goodall and Montgomery (2016) argued for the benefits of parental engagement in boosting children's self-esteem, increasing motivation and children's engagement with learning, and as a result, increasing learning outcomes. By this, parental engagement would play an important role to influence children's overall actions.

Other researchers (Guo, 2014; Long & Pang, 2016) did similar research on the relationship of Chinese parental expectations, student expectations and students' academic performance, and the relationship of Chinese parental expectations and student expectations. In Long and Pang's (2016) study, the context of parental SES was expanded to include family wealth, home educational resources, and parental education to study the impacting factors on parental expectations. Long and Pang examined the relationships between the parental SES and students' mathematical achievement and problem-solving achievement. The empirical findings of the study provided another

evidence that SES and parental expectations are robust predictors of students' achievement. Among the three components of parental SES, home educational resources are found to be non-significant predictors of student mathematics achievement and family wealth is found to be a non-significant predictor of students' problem-solving achievement.

Guo's (2014) study focused on the relationship between parental educational expectations and student educational expectations within the China context. According to Guo's literature review, the factor of parental expectations is one of the important factors included in parental involvement. It has direct influence on their children's educational expectations and indirect influence on their children's educational expectations. It also has indirect influence on students' academic performance because children's own educational aspirations and expectations for success play crucial role in the long-term academic achievement.

### ***Conclusion***

Of all the studies that related to the topic on how parenting can influence students' academic achievement and students' overall development, Epstein's (1995) idea on the triad of child, parent, school is so pervasive that parental role in children's development is very important and parental involvement has been empirically proved to be influential in students' academic achievement. Researchers are carrying on more studies to shed more light on understanding the role of parenting in students' academic achievement, their overall growth and development. However, there is not yet understanding of the parental role on developing thinking dispositions and skills.

### **Empirical Studies of Critical Thinking Skills/Dispositions**

The teaching of critical thinking skills/dispositions has been studied extensively by researchers with different student groups, learning subjects, and cultural backgrounds (Abrami et al., 2015; Liu, 2016). In the literature selected for the current review, a majority of the empirical studies on critical thinking teaching were conducted with students at the level of tertiary education (Dwyer et al., 2017; Fong & Kim, 2017; Huber & Kuncel, 2016; Noone et al., 2016; Ordem, 2017; Tan, 2017; Tous & Haghghi, 2016; Wilson, 2016). A few studies contributed to identifying the factors that might influence higher order thinking skills, or critical thinking skills/dispositions at the higher education level. Almost all the studies covered such topics as identification of critical thinking skills/dispositions with measurement scales and pedagogical interventions/strategies to teach critical thinking skills. A few studies (Budsankom et al., 2015; Huang et al., 2019; Noone et al., 2016; Song, 2018; Stupple et al., 2017) on influential factors for the development of students' critical thinking dispositions and skills are closely related to my research problem.

In Budsankom et al.'s (2015) meta-analysis of factors affecting higher order thinking skills, researchers identified four factors influencing the development of students' higher order thinking skills: classroom environment, family characteristics, psychological characteristics, and intellectual characteristics. Each of the four overarching factors contained sub-factors. Classroom environment includes classroom climate, teaching and learning methods, and teacher behavior. Classroom climate related to both physical (such as tidiness, cleanness, light and size) and psychological

environment (warmth, safety, freedom in expressing ideas and feelings). Teaching and learning methods refer to principles, methods, and techniques used by teachers. Teacher behavior refers to teachers' actions in the classrooms to motivate, facilitate, and encourage students to perform their efficient works.

Family characteristics is a basic social unit that is considered as a foundation for every dimension of students' development as well as students' academic achievement and thinking skills (Budsankom et al., 2015). In this study, two factors, democratic parenting style and parental support, were identified to exert indirect influence on students' higher order thinking.

The analysis results showed that the three factors, psychological characteristics, classroom environment, and intellectual characteristics, directly affected students' higher order thinking skills, with psychological characteristics as the strongest one. The research results concluded that psychological characteristics is an important mediating factor for classroom environment and the family characteristics. This study is unique because the researchers considered higher order thinking skills as to involve three variables, analytical thinking, critical thinking, and creative thinking.

Generally, most studies of critical thinking skills that I reviewed (Budsankom et al., 2015; Forawi, 2016; Huang et al., 2015; Huang et al., 2019; Huber & Kuncel, 2016; Ordem, 2017) used quantitative methodology, reported from the perspectives of teachers, and focused on student groups at the tertiary educational level or children older than 6 years. The parental factor was identified influencing critical thinking development indirectly. As discussed in the previous section, parental involvement, parental style, and

parental engagement have been found by researchers as influencing factors for students' academic achievement, but during the literature search and review, I have not found studies that contributed to understanding what facilitate students' critical thinking. I found only one study about importance of the development of critical thinking skills during early childhood (Aizikovitsh-Udi & Cheng, 2015).

Following the Western conceptualization of critical thinking and its purpose for a higher educational ideal (Lam, 2017; Lipman, 1988), in the Chinese educational research field, critical thinking becomes a focus for discourse for a successful education reform (Bi et al., 2018; Dong, 2012; Wang, 2018; Xia, 2018). Chinese researchers defined and studied critical thinking development in students at various education levels according to the Western research tradition (Chen, 2018; Li, 2020; Qiu, 2003; Xia, 2018; Xu, 2019). In general, Chinese educational researchers have given critical thinking a great emphasis in China's education reform and contributed a lot of research to understanding, defining research scope, and developing the localized pedagogical perspectives, resources and strategies. Among all these studies, Chen (2018) identified parental education at home and parents' economic status are one of the influential factors in college students' critical thinking development. Some Chinese researchers argued that critical thinking is one of the core skills for the development of rationality and creativity (Bi et al., 2018; Dong, 2012), and it is a thinking that orients towards independent thinking, a negation of irrational factors, criteria-sensitive and evidence-based thinking (Bi et al., 2018; Xia, 2018). And without critical thinking as the goal of education, an educational innovation cannot be considered a quality education (Dong, 2012). Xia (2018) did a comprehensive



study of critical thinking in China's compulsory education and its relationship with China's school reform and concluded that the view of knowledge acquisition and generation in schools should include critical thinking as important educational goal. Other researchers made a review of the research of critical thinking development in China's compulsory education and reflected on such issues like the lack of established theoretical framework, pedagogical strategies, and teaching staff's development.

### **Summary and Conclusions**

As Chen et al. (2017) mentioned, critical thinking is a complex mode of thought, and cannot be learned as sets of abstract principles. Such an abstract mode of thought should be built through a range of specific experiences and by considering the perspective of participants in building up critical thinking. Chen et al. further drew on Lipman's (1988) focus on children's philosophy to emphasize that communication through language is an important means to construct children's knowledge and understanding, and it is essential for teaching critical thinking. Language is believed to be primary method that children benefit from the experiences of their forefathers.

Chen et al.'s (2017) research focused on developing students' critical thinking within the context of indigenous learning environment and cultural heritage. They also proposed a dialogic approach to developing primary children's critical thinking. Chen et al claimed that children's knowledge and understanding comes from their communication with their forefathers through written and oral language. These people also can be their parents, grandparents, relatives and other family members, and even anybody in their community. From the findings by this literature review related to the role of the parental

involvement/engagement in children's overall development, parents have been found to be one of the important stakeholders. However, there is a scarcity in the research on parent perception of critical thinking and parental intervention in their children's development of critical thinking/thinking skills.

The literature review showed that there were more quantitative studies that were made in the field of critical thinking in preschool children, primary students, or high school and college students (Budsankom et al., 2015; Forawi, 2016; Huang et al., 2015; Huang et al., 2019; Huber & Kuncel, 2016; Ordem, 2017). Even though parental influence, involvement, and engagement was studied as one of important influential factors on children's development and academic achievements, it was very rarely studied in the field of children's critical thinking achievement except for Budsankom et al.'s (2015) study on the parental indirect influence on critical thinking development. In China's context in particular, the parental perception and experiences with developing their children's critical thinking has not been known in the research academy. Even though Chinese education reforms emphasized the importance of quality education comparing with exam-driven education that is commonly criticized in China (Tan, 2012; 2019; Tan & Reyes, 2016), the primary contents of quality education were not clearly stated and researched except for borrowing Western progressive educational ideas such as inquiry-based learning and teaching thinking skills. However, the implementation of those Western education ideas has not been empirically studied for an examination of the efficiency of the reforms. In this way, parents are often misled by the reforms and various policies.

Therefore, the present research project examined the development of children's critical thinking from Chinese parents' perspective within China's modern society as a contextual background. Considering Chinese Confucian culture heritage as a cultural influential factor, I also tried to explore if and what parents perceive Confucian values are beneficial for developing children's critical thinking skills and dispositions. I intended that the research could shed some light on deeper understanding of Confucian teaching regarding how it might influence parents' perceptions of students' learning and thinking. As in Wang's (2014) research, it is considered that Confucian parental styles/families that are characteristic of strict hierarchy and requirement of obedience are detrimental to optimal parent-child relationship and to children's academic achievement.

Chinese parents are considered as one of important stakeholders in developing Chinese students' critical thinking (Chen, 2018; Li & Li, 2019). With the present research, I explored Chinese parents' perceptions of critical thinking to see how they consider the concept, either from the Confucian cultural perspective or the Western educational perspective. And further I explored how those parents think critical thinking can be acquired through their children's formal schooling. In Chapter 3, I provide a detailed account of the research design for this study, the rationale, researcher's role, methodology planning process, and the trustworthiness issues and research ethics related to the research design.

### Chapter 3: Research Method

I designed this qualitative study to understand how metropolitan Chinese parents perceive the concept of critical thinking and its importance in educating their children as well as their perceptions of what the influential factors in children's development of critical-thinking skills are. I conducted this study regarding parental perceptions of critical thinking within the Chinese cultural context while considering Mainland China's globalized and internationalized economic and educational context at the same time.

In this chapter, I cover the research design and rationale, researcher's role, detailed methodology planning, and issues of trustworthiness and research ethics. In the first section, I provide the research questions, the social phenomenon being studied, and the central concepts of focus. In this section, I also explain the rationale for the generic qualitative methodology. In the second section, an account of the relationship between myself as researcher and participants and the possible research biases caused by my background and relationship with participants is offered. In the third section, I present details on the research methodology, including the research setting, participant selection, sampling strategies, instrument developments, pilot study, and data collection and data analysis methods. In the last section, a description of the issues related to trustworthiness, including credibility, dependability, confirmability, and transferability, and research ethics, such as research agreement, the treatment of human participant and collected data, and the Walden University Institutional Review Board (IRB) permission, is provided.

#### **Research Design and Rationale**

In this qualitative study, I tried to answer the following three research questions:

RQ1: How do metropolitan Chinese parents perceive the concept of critical thinking and its importance in child rearing and cultivation?

RQ2: How do metropolitan Chinese parents perceive/consider their role in developing children's critical thinking?

RQ3: What do metropolitan Chinese parents perceive as the influential factors in children's development of critical thinking in their schooling?

The purpose of this generic qualitative study was to understand how metropolitan Chinese parents perceive the concept of critical thinking and its pedagogy, how they view their roles in developing their children's critical thinking, and what they perceive are the influential factors in children's development of critical-thinking skills.

For the present research project, I used the generic qualitative approach (see Kahlke, 2014; Ravitch & Carl, 2016). The generic qualitative approach is not guided by explicit and well-established philosophical assumptions; it is simply interpretive and descriptive (Kahlke, 2014). Ravitch and Carl (2016) called such an unnamed qualitative approach as general qualitative research. In the tradition of the generic qualitative study, I sought the understanding of how people interpret, construct, or make meanings of their world and experiences (see Kahlke, 2014). I conducted this study through the process of my understanding Chinese parents' meaning making of their experiences in a social constructive approach.

The nature of the research problem could be suitable for other qualitative designs, such as phenomenology and narrative approaches. Chinese parents' pursuit of a Western educational model because of their passion for a critical-thinking education could become

an interesting phenomenon. However, the goal of phenomenological research is to get comprehensive descriptions for the purpose of reflective structural analysis and a solid portrait of the essence of the particular phenomenon (Ravitch & Carl, 2016). This was beyond the range of the current study and was not the purpose of the study. The intent of this research was to analyze participants' life experiences, so it would have also been possible to employ a narrative approach. However, the research questions determined that I would need to collect not only narrative data but also data related to their actions and meaning-constructing process. With this pragmatic consideration, a qualitative generic approach allowed for the blending of many qualitative approaches (see Kahlke, 2014).

### **Role of the Researcher**

As Merriam (2002) stated, one of the important characteristics of qualitative research is that the researcher is the primary instrument for data collection and data analysis. In the present research, I served as a researcher-instrument because the research purpose was to understand participants' perceptions of the concept of critical thinking and its application to the real-life practice. Both Merriam and Patton (2015) mentioned that the human instrument has shortcomings, and a researcher's biases can have an impact on the credibility of study. Merriam reminded that those shortcomings, such as research biases or subjectivity, should be identified and be monitored. Patton said that the credibility of qualitative inquiry, internal validity, is directly related to the credibility of the person who conducts the inquiry and to the quality of researcher's reflexivity and reflectivity. Similar to Patton's reminder of the researcher's reflexivity issue, Ravitch and Carl (2016) wrote about a researcher's positionality in the qualitative research. In the

present qualitative study, I tried to be mindful of three aspects of the researcher's role in the research project: positionality, biases, and research skills.

In this study, I kept an ongoing, detailed researcher positionality memo so that I could keep the track of the development of the research design, rationale, research methodology, and interpretation of the study results. The memo helped me and the research project reviewers to understand how the research questions had been formulated; what the research purpose was; and what possible researcher biases, beliefs, and social identities might influence the research methodology and interpretation of collected data. The memo included such information as my social location, my relationship to the study topic, my personal interest in the research topic and research setting, the reasons motivating me to do the research, some assumptions that influence my orientation, and possible assumptions causing my biases.

I am a mother of two teenagers and a full-time administrator who first worked in a K–12 International Baccalaureate (IB) international school in China for 10 years, and in recent years started a new job in a Chinese kindergarten, also as an administrator. I am Chinese myself and live in one of the first-tier cities in the south of Mainland China. Since I was 18 years old, I studied, traveled, and lived outside of China for about 7 seven years, until 2008. The exam-driven learning style that I experienced before I was 18 made me believe deeply in the failure of the Chinese educational system. A job in a K–12 IB international school in a southern city of Mainland China was my first position after I came back to China from abroad. The instruction language of the school was English. Because of my distrust of any Chinese kindergarten or school, I decided to enroll my

children, a boy and a girl, in the school where I worked as an administrator. This school is very much isolated from the local Chinese school system. My interactions with the Chinese parents who enrolled their children in the same school helped me to learn more about the status quo of the Chinese educational reforms and parents' dissatisfaction. I shared those parents' concerns regarding their children's education since I have the same concerns as a Chinese parent. The most frequently mentioned expectation of those Chinese parents that I heard was that they wished their children would not become the victims of a rote-learning and exam-driven educational system and, hence, they needed an educational model that can inspire their children's creativity, critical thinking, and develop them into life-long learners. My interactions with those worrying parents who were also interested in the topic of these Western-originated educational goals drove me into the current stage of my qualitative research project. I had some biases but strived to be objective with the assistance of self-awareness that I enhanced with the use of the positionality memo.

In my research project, apart from the researcher positionality memo, I also attached my research interest mind-map and conceptual framework memo or mind map. As Ravitch and Carl (2016) indicated, qualitative research is both iterative and formative, so qualitative researchers, as the instrument for data collection, need to keep constant reflexivity. To increase the validity of the research, qualitative researchers need to keep reflexivity all through the life span of the research project so that they can constantly check themselves and make appropriate adjustments and revisions of questions and techniques.



Together with the researcher positionality memo, I kept a reflexive research memo to record my reflections regarding contact with participants during the interviews. These memos together became research data as well (see Ravitch & Carl, 2016, p. 116). In these memos, I kept a record of each contact with the participant and made a detailed contact summary as well as reflected on my communication skills and my skills as a fieldworker. By the stage of my research proposal, the possible biases of the researcher as instrument included my power as a knowledgeable researcher in the educational sciences and long work experience in the international educational business. My belief in the emancipating role of my research project presented the assumption that most Chinese parents do not understand what the concept of critical thinking means to them while it is widely mentioned by educators. This assumption might have influenced my role as a mother-researcher who wants to make sense of the current issue with other Chinese parents in a more constructive way. This assumption might have also had an impact on the selection of the research participants.

## **Methodology**

### **Participant Selection Logic**

The purpose of this study was to see how Chinese parents understand or perceive a concept through answering my questions during individual interviews. Therefore, parents who expressed an interest in exploring the concept of critical thinking were eligible. Another selection criterion was those parents whose children were between 5 and 14 years old.

In addition, since my research questions centered on Chinese parents' perceptions of the concept of critical thinking, I selected only Chinese parents as the research participants living in a first-tier Chinese city where educational privatization provides various educational resources (i.e., various school systems and educational models for those middle-class Chinese parents to choose from). I expected those parents' children attend schools that primarily belong to three categories: government-funded public schools that are only eligible for Chinese children, bilingual (i.e., English and Chinese as instruction language) Chinese schools that are required to follow the Chinese national curriculum but have autonomy to implement foreign curriculum and approaches to learning and teaching, and private Chinese schools that fully follow international curriculum and examination systems (this is the case with only international sections of some private schools). Ideally, I hoped I could recruit parents from all these school types.

I used the purposeful sampling strategy, which is typical of all the qualitative research (see Patton, 2015; Ravitch & Carl, 2016). When compared with the quantitative sampling strategy, purposeful sampling is often labeled as nonprobability sampling. As Patton (2015) clarified, the contrasting characteristics between quantitative and qualitative methodologies are in their different research purposes. For qualitative researchers, the illumination of the questions under study are at the center of the research focus. Therefore, nonprobability sampling, or purposeful sampling, is used for the in-depth study of information-rich cases because information-rich cases can give insights on the research questions and provide an in-depth understanding of particular phenomena.

In addition to the purposeful sampling strategy, I used the snowball sampling strategy suggested by Patton (2015) to help me to recruit more interested and information-rich participants. In case I did not recruit the expected number of participants, I needed the participants to introduce more parents to the study to reach data saturation.

Arriving at a number of participants is a hard question to answer for a qualitative researcher. Patton (2015) stated that there was not a specific rule to determine how many participants are necessary for a qualitative inquiry, even though the commonly agreed upon sample size for qualitative research is a multiple of 10. It is not the purpose for qualitative research results to be generalized, so the sample size becomes less important than in quantitative research (Ravitch & Carl, 2016). The primary purpose of this study was to answer the research questions rigorously, ethically, and thoroughly enough; therefore, during the data collection process, I kept the number of participants open based on the resources, time, and location of the research project while keeping the minimum number of 10 participants, seeking four parents from each of the three types of school, for a total of 12 participants. For the study I succeeded in recruiting 12 participants and reached data saturation.

### **Instrumentation**

Qualitative research instruments include a variety of tools for data collection. In the present study, I myself, the researcher-instrument, was the primary instrument for data collection. Apart from the research memo as mentioned in the previous section, I kept a detailed contact protocol and field note protocol for each interaction with the

participants. I kept a consistent contact summary memo, researcher reflexive memo and field notes. The interview protocols are referred to the Appendix.

My instruments included researcher memo, interview protocols, and contact information protocol. The purpose of researcher memo was to keep the awareness of researcher's subjectivity. The researcher's positionality memo contained researcher's name, date of entry, title of the journal for the date, and any thoughts from daily reading of collected data and reflection that might give an insight on interviewing. Contact summary protocols contained each contact information, including type of contact; date of contacting; contact details and background; questions ever asked; and researcher's thoughts inspired by the contact focusing on salient, interesting, and illuminating findings. The interview protocols included the logistics information of interviews, the sequence of the interview questions, and participants' answers and responses that were recorded with audio devices.

For the development of interview protocols, I referred to the following types of interview questions outlined by Patton (2015): experience and behavior questions, opinion and values questions, and knowledge questions. I developed the qualitative research interview protocols based on the research questions and conceptual framework; my personal work and life experiences; literature reading and reviewing; my personal beliefs in the goals and values of education and learning; and personal reflection memo as well.

The rationale of triangulation involves taking different perspectives for a careful examination of the research conclusion. The purpose of triangulation is for convergent

perspectives to give multiple perspectives so as to better answer the research questions. The strategic sequencing of methods not only involves how I arrange which method goes first, and also includes how I arrange the sequence of my interview interaction and questions. First, I used individual in-depth interviews with the purposeful sample, and then the snowball sample. The sequence of methods that is appropriate for individual participants can help to get most responses to the research questions.

For the present research project, I used an interview practice for the instrument's refinement with a Chinese friend who is fluent in English and with related research experiences in critical thinking. I used this as a peer debriefing. In Appendix are interview protocols in both English and Chinese. The following are excerpts from my interview protocols:

Sample questions from interview protocol for RQ 1: How do metropolitan Chinese parents perceive the concept of critical thinking and its importance in child rearing and cultivation?

- What value do you see of critical thinking in your child's education? Can you explain why critical thinking is important for your children? Or, in what aspects do you think critical thinking is an important skill for your child to develop?
- What experiences do you have in which you think your child exhibits the characteristics of critical thinking? Can you describe such an experience? Can you name a few characteristics?

Sample questions from interview for RQ 2: How do metropolitan Chinese parents perceive/consider their role in developing children's critical thinking?

- What factors, do you think, matter most for your child, and are most helpful to develop his/her critical thinking, from your personal experiences?
- What the family environmental factors, do you think, are most beneficial for your child's critical-thinking development from your experiences?

The working language for data collection is Chinese since all the participants are native Chinese. For this reason, all the interview protocols were transcribed in Chinese language first. Then the Chinese transcripts were translated into English for data analysis.

### **Procedures for Recruitment and Participation**

For participant recruitment, I planned for two options: recruitment through administrators of the target schools or through my personal social media. Firstly, I plan to send a letter explaining the research project to the three types of target school administrators (public school, private bilingual school, and private international school) to seek cooperation. I hoped the administrators can help me to announce my research project to the staff and parents in their schools with my recruitment letter. Meantime, after the research recruitment letter was sent, I would start to use social media, WeChat, which is very popular in China. My Wechat account includes various parent contacts that I collected when I worked in the education business for many years.

If I got inquiries of interest from more than the desired number of responses (at least four parents from each of the three types of schools), I would send a research consent form to the selected responding parents who met the recruitment criteria. During

this round, I expected 20% response rate. I also expected a few more follow-up interviews for clarification and more information after the first interactions. Also, I requested parents who give information-rich interviews to recommend others for a snowball sample, trying to reach information saturation. I made it clear in the consent form that participants would be allowed to exit the study whenever they wish.

I followed the following more detailed steps to recruit participants for data collection.

- 1, Send an introductory research consent letter to all the parents connected with me through social media or whose addresses are provided by the school administrators, providing my contact information.
- 2, Do an individual telephone contact with those who respond first to express my gratitude, and to agree on meeting time and place with any who respond.
- 3, For the appointments, prepare all the necessary protocols in print and recording devices, including contact information protocol, field note protocol, interview protocol, recorders, pens and notepads, and request the letter of consent be emailed to me, or signed during the interview.

### **Data Collection**

For the purposeful sampling, I focused on sense-making participants to get in-depth data with individual interviews. From those information-rich participants, I expected snowball sample to appear during the process of data collection. Homogeneous sampling is helpful in generating patterns and themes, while different information-rich cases help to increase the data validity.

In order to find a confidential and quiet place to have in-depth interviews, I asked the owner of the Chinese kindergarten where I worked. There was a spacious room as a kitchen and tea ceremony on the top floor of the kindergarten. For data collection, I used two recording devices, my iPhone and digital recorder pen. For the two devices I prepared backup battery or connected my phone to power cord. I purchased a recording pen with advanced function to transcribe all the recorded interviews verbatim. Then I did manual check again. The recorder pen could only make the transcription in Chinese. So, I needed to use an online translation software to make them translate into English. Then I myself checked the translation against the original Chinese transcripts.

Other issues to be considered included the unexpected cancellation of interview appointments or rescheduled meetings. I also had to consider beforehand some participants might withdraw in the middle of the research project. I planned each interview to take for 60 to 90 minutes. I expected the necessary follow-up interviews with more in-depth questions and clarification that might encourage good rapport building with the participants and new knowledge generation.

My research focus is on analyzing how those participants answer my interview questions, so participants' responses, the generated patterns and themes are the unity of analysis for the study.

### **Data Analysis Plan**

According to Patton (2015), the purpose of qualitative data analysis is either deductive (i.e., to provide support to the existing conceptualization or theories) or



inductive (i.e., to generate new concepts, explanations and/or theories). I hoped the research project can provide support to the existing conceptualization of critical thinking.

All the raw data including transcripts and fieldnotes were stored in my personal laptop in Microsoft Word documents, labeled according to interviewees' first name abbreviation, last name initial, interview date, categories of participant, number indicating times of contact.

When I began with coding, on the page margins of the individual Word transcripts, I planned to use such shorthand labels as identification of related research questions, such as PPCT for parent perception of critical thinking; PRCD for parent role in critical-thinking development; and OFCD for other factors for critical-thinking development. These were supposed to be only the overarching categories of data. I also planned to add English notes all though my bilingual versions of the transcripts, for all the labels I used; at the same time I kept the original Chinese version as well. For my research memo and fieldnotes, I also used Microsoft Word documents to keep them and the margins to code.

The precoding process happened as soon as I embarked on transcribing and reading my memos and transcripts. For this precoding process, I used the Microsoft Excel as my coding tool to categorize the descriptive codes from the excerpts and my research memo. At this stage, reading and understanding my transcripts and memos, reflecting on how to label them were the primary part of the work. At the same time, I used in vivo coding and initial coding at the same time whenever I found it appropriate. The in vivo coding and initial coding happened during the research process regularly (i.e., after each

interview was transcribed). This way of coding helped me to get some refreshed understanding of the collected data.

### ***Coding***

At this stage, I expected all the data collecting complete, all the interviews transcribed and translated, and all the memos labeled on the margins. For the convenience of the work, I needed to print some transcripts out so that I could read, highlight, and attach note-stickers whenever I travelled or worked outside the room. I primarily read the data and memo for several times for in Vivo coding and descriptive coding. Then, I moved on forward for categorizing and theming the data, which led me to identify patterns and themes that are related to the research questions.

### ***Connecting Strategies***

In Ravitch and Carl (2016), connecting strategies were mentioned as suggested by Maxwell. These strategies differ from coding in that they seek ways to connect different parts of the content. I needed these strategies as well because I expected some of the labels will not go into any categories (i.e., discrepancies of cases). During the coding process, to see both similarities and differences of the cases is necessary for a coherent and holistic interpretation of the collected data. For finding themes and patterns, I created a few columns attached side by side to the original worksheet with codes as a method to categorize themes based on researcher's interpretation of data and further to identify the relationships and connections.

### **Issues of Trustworthiness**

The trustworthiness of qualitative research builds on the whole process of qualitative inquiry from research's positionality memo of detailed and honest personal background, philosophical belief, systematic and skillful data collection process, interpretation, analysis, and writing up (Patton, 2015). The trustworthiness is a term equal to qualitative research validity (Maxwell, 2014). In this section, I discussed how I would approach the issues related to research credibility, transferability, dependability, and confirmability.

In terms of strategies for achieving validity in qualitative research, I used a few techniques proposed by Ravitch and Carl (2016): triangulation of data, data collection methods, participant validation strategies, strategic sequencing of data collection methods, thick description, and dialogic engagement.

#### **Credibility**

Credibility is related to the complexity of research design, researcher-developed instruments, and collected data (see Patton, 2015). Primary methods for achieving credibility include triangulation, member checking, thick description, and peer debriefing. The process was expected to include the follow-up interviews with some participants so that I could add more descriptive details to my interview transcripts. I sent some of the translated transcripts and coding memos to my mentor as a process of debriefing. In the previous section, I also mentioned the role of researcher's positionality memo as strategies to increase credibility. This researcher memo should be kept all through the process of research project, from framing conceptual framework, formulating

research questions, creating research instruments, collecting data, coding and interpreting collected materials, until report writing. This means thick description. Employing experienced mentors and peers to check research questions and interview protocols is also included as one of the strategies to achieve credibility. During the coding process, I used what Saldaña (2016) called, analytic memo, to keep a track of my coding process. This memo was like a journal where I took notes on how I put the labels and named the codes during my reading and interpreting transcripts and documents.

### **Transferability**

Just like credibility as internal validity in the quantitative research, transferability in the qualitative research means external validity. That is to say about how much a qualitative research can be used for other settings and contexts. Because when readers or audiences read about a particular research, they would think how they might replicate the research design and findings in another context. So, transferability of a qualitative research design and findings lies on the thick descriptions of the research setting and everything related to the context, rather than on the truthfulness of the statements made through the process of inquiry. Even though due to the lack of established theoretical frameworks as a guidance for the research of critical-thinking development in Chinese students, the findings from the present qualitative project may add to the understanding of critical thinking from Chinese parents' perspective who are important stakeholders of education. I hoped the publication of the research results may contribute to the research perspective in the Chinese academic field so that the education researchers, education

practitioners, and policy makers can get Chinese parents on board to create a constructive community to develop critical thinking.

### **Dependability**

Dependability refers to a consistent and stable research project (see Ravitch & Carl, 2016). This is also related to the reliability of collected data and will further affect the interpretation and research findings. Again, triangulation and data collecting methods are the solution. With the memos and interview transcripts, I tried to achieve data dependability of the research through methodological triangulation of collected data from different samples. For each type of sample, I might have to consider the appropriate sequence of the data collecting methods.

### **Confirmability**

Confirmability refers to objectivity in the quantitative research while qualitative does not emphasize on objectivity (see Ravitch & Carl, 2016). On the contrary, qualitative researchers need to acknowledge and recognize the subjectivity and positionality. Qualitative researchers have to take their personal beliefs or ideology to the research field. But they need to keep a continuous awareness of the personal positionality and the subjectivity through the research journey. Qualitative researchers take their own experience to make sense of the world through a shared meaning making (Patton, 2015). For this purpose, I kept this research memo always with me as a constant reminder of my subjectivity and positionality. The planned follow-up interviews with the participants and the recruited debriefer were expected to help to increase the confirmability.

## **Ethical Procedures**

In qualitative research, the ethical considerations are about the protection of human rights. Qualitative research is study centering on the researcher, participants, and their relationships. That is why Ravitch and Carl (2016) called this relationship ethics in qualitative research. The research project followed what the institutional review board prescribed in terms of language, integrity, agreement on time, place, confidentiality assurance, conscientious writing during the reporting stage, and sensitivity of the possible confidentiality issues caused by public or internet-based data interface. All the participant recruitment followed the appropriate procedures with informed consent form and assent form. The consent and assent forms contained detailed expectations of the research project for participation including research purpose, methods, interview timeline, participant's rights to join in and to withdraw from the research project, description of confidentiality, statement on the compensation arrangement, and research results dissemination. What the documents aim to achieve is the good rapport with participants, respect, transparency, and collaboration with participants and peers/mentors.

## **Summary**

In Chapter 3 I introduced the research design that is driven by my inquiry into Chinese parents' perception of the concept of critical thinking. The nature of the research questions and the conceptual framework led to a qualitative approach for the current study. I discussed the researcher's role in the qualitative approach, and connected researcher's biases, validity issues, and solutions. Further I provided the procedures for participant recruitment, data collection, and data analysis. Issues of trustworthiness such

as credibility, transferability, and confirmability are indispensable for a qualitative research. These were mentioned in the last section of the chapter along with ethical considerations. In Chapter 4, I first briefly restate the primary information related to data analysis such as research purpose, research questions, research setting, and data collection and analysis process. Then I present the research results.

## Chapter 4: Results

The purpose of this generic qualitative study was to explore metropolitan Chinese parents' perceptions of critical thinking and its development through parental influence and schooling. Despite the fact that the educational borrowing in China's education reform brought the Western educational values, such as critical thinking, to the acknowledgement of Chinese educators, it was unknown how Chinese parents perceive the role of critical thinking in education. The research questions were:

RQ1: How do metropolitan Chinese parents perceive the concept of critical thinking and its importance in child rearing and cultivation?

RQ2: How do metropolitan Chinese parents perceive their role in developing children's critical thinking?

RQ3: What do metropolitan Chinese parents perceive as the influential factors in children's development of critical thinking in their schooling?

Chapter 4 contains a brief review of the research purpose and research questions, the research setting, participant demographics, and the data collection and analysis process. In the Evidence of Trustworthiness section, I describe the process of achieving credibility, transferability, dependability, and confirmability in the study. Chapter 4 ends with an analysis of the research results and a brief summary.

### **Setting**

I collected the data for this study in one of China's first-tier, metropolitan cities where Chinese parents have greater opportunities to get access to information regarding educational changes in the country and the world. Since the introduction of China's Open



and Reform Policy, the first-tier cities became the first internationalized cities in Mainland China where the old and new Chinese and foreign educational beliefs coexist (Young, 2018). The policy of education privatization and marketization granted many well-off families with more school options for their children. Basically, Chinese parents can choose to send their children to three kinds of schools: public schools, international schools with an English international program and Chinese national curriculum side by side, and alternative schools (Shulte, 2018; Young, 2018). Public schools are those budgeted by the Chinese government and are required to follow Chinese national education program. International schools are approved by China's education authority to offer both an international education program and Chinese national curriculum. Alternative schools are also approved by the China's education authority with a private educational license for a self-designed or nonmainstreamed innovative program. Many such alternative schools are in their developing stages.

I served as the data collector. WeChat has become the only dominant social communication media in China. Over the years of my working in different schools, I collected hundreds of WeChat contacts as my personal contacts. Currently, I am working as a part-time researcher in one of such alternative schools, and I got the permission from the school's chief administrator to recruit participants through their school parent WeChat group and use the school premises for individual interviews whenever any office was available. I sent a letter of recruitment only to Chinese parents. There were not any changes to the conditions with the research partner after I sent out the recruitment letter.

## Demographics

The 12 participants all lived in the same first-tier city in China. All the 12 participants have a higher educational background with bachelor's degrees or master's degrees. The participants' age range was between 35 and 45 years old; their children were aged 4–18 and were in Grades K–12. One of the participants was aware that one of the selection criteria was parents with children aged 5-14, but she still sent her consent and confirmed the interview schedule; I thought it impolite to refuse her participation regarding her 4-year-old in kindergarten. Another parent has two children, a 6-year-old son and an 18-year-old daughter. She frequently talked about the 18-year-old daughter during the interview, so I included the participant's responses about the elder child in the collected data. I interviewed four parents who have two children. In China children go to primary school from the age of 6 on. All the children younger than 6 years old by September 1 of the corresponding school year attend kindergarten. Chinese kindergartens start to accept children at the age of 3; all the children in kindergarten are placed according to their age groups (i.e., 3, 4, and 5), so the year before primary school is called preschool level. The other grades are called Kindergarten 1 and 2.

While I had intended to recruit participants whose children attend three types of schools (i.e., public schools, international schools with dual programs, and alternative schools), I had anticipated the third type of school as international schools with dual, bilingual programs. However, I ended up recruiting a couple of parents whose children attend a different type of international school that offers only American, British, or the IB programs and the instruction language is only English. Normally, those international

schools are not for Chinese citizens, allowing only the few Chinese parents who have foreign backgrounds or are from Hong Kong and Macao. Among the 12 recruited participants, there were seven parents whose children attended public schools, two parents whose children attended English international schools, two parents whose children attended alternative schools, and one parent whose children attended an English international school and an alternative school.

The participants' demographic characteristics are summarized in Table 1. I have given an age range to help maintain confidentiality. The participants' code names also protect their confidentiality.

**Table 1***Participant Demographic Information*

Code Name	Participant's Age	Child's Age	School Type	Grade Level
AD	35-40	10	Public	Grade 5
AD	35-40	12	Public	Grade 7
AB	40-45	8	Public	Grade 3
AB	40-45	12	Public	Grade 7
FY	35-40	9	Public	Grade 4
GL	35-40	7	Public	Grade 2
HL	40-45	10	Public	Grade 5
JW	35-40	5	International	Preschool
LQ	40-45	10	Public	Grade 5
PP	35-40	7	International	Grade 2
XR	45-50	6	Alternative	Grade 1
XR	45-50	17	International	Grade 12
YY	40-45	5	Public	Preschool
YY	40-45	5	Public	Preschool
ZM	35-40	4	Alternative	Kindergarten 1
ZS	30-35	5	Alternative	Preschool

AD works as a manager in an English extracurriculum club that caters to both the needs of expat and Chinese children. Chinese parents want their children to have some experience of foreign cultures there. AD has two children attending public schools, one in primary and the other in middle school. AD is passionate about his children enjoying the opportunities in the international club.

AB is a parent who has both Chinese and foreign family background since her husband lives in China as an expat. Her children live in China as Chinese citizens and study in Chinese public schools. AB thought if her children live in China, they should be educated like other Chinese children. She indicated the problem of inequality in

allocating educational resources is due to the large population in China, but she is hopeful about the positive changes she saw in her children's schooling. She believes Chinese public education is being reformed for the purpose of develop students' multiple qualities including critical thinking.

FY is a mother who works in an alternative school as a teacher. Her child attends public school, though she is open to other possibilities for her daughter's school choices. She identified the school where she was working as international school, which she called a Chinese international school. She said that she worked in such a school so that her daughter could enjoy something that public school education could not provide.

GL is a banker. Her son is a second grader in a public school. GL is satisfied with the public school education for her son because she perceived the positive changes in Chinese public school education from her son's schooling.

HL is a teacher working in a Chinese higher vocational school. Her son attends a public school that is affiliated with a university. According to her, this type of public school is extremely conservative in the attitudes towards educational changes and innovations. She has a very active son, a fifth grader whom she describes as someone who asks many challenging questions for HL to answer.

JW is a mother working in an IB world school. Her daughter attends the school where she teaches. With an overseas master's degree in literacy development, JW has much experience in international education as a teacher there for many years. JW is positive towards the idea of nurturing many critical-thinking skills in her daughter and students as well.

LQ is a mother who works in an alternative school as a part-time teacher. Her daughter attends a public school in Grade 5. LQ is not selective in her daughter's education; convenience of the school location is the first choice. She strongly believes in parental influence with good behavioral examples for children's overall development. She expressed her ignorance of critical thinking as an educational goal and did not see any efforts in developing students' critical thinking in her daughter's schooling.

PP is a self-employed parent. She believes herself as a critical thinker. She shared how her parents' business experience and their teaching exerted a great influence so that she became critical and doubtful about everything being talked about around her. She claims she habitually sees things from multiple perspectives and asks more questions rather than believing in or making judgements quickly. Her son attends an international school in the city. PP believes the available diversity and multiple perspectives of the international school are favorable conditions for her son's development of critical thinking. PP said she cares about her children's overall development instead of overemphasizing academic achievement. She believes that it is not worth her son losing other options in life just for the sake of exam scores.

XR is a mother who said repeatedly during the interview that she has been doing much hard self-reflection about her children's education. XR told me about her bitter memory of her elder daughter's schooling because her elder daughter had a hard time in a Chinese public school. She expressed her disagreement with public schools' teaching and learning approach. She reported that she believes in parental partnership to learn together with their children. XR thinks parents should not be authoritarian. Her children are in an

international school and alternative school, respectively, and she believes that her children are developing into critical thinkers from their schooling. She was the only participant who believes in the influential role of schooling in developing children's critical thinking.

YY is a working mother in the area of educational research. She believes critical thinking is an important quality for both roles as an employee and a citizen. YY believes that Chinese schooling is progressing towards an educational mode that emphasizes talent development with critical thinking and other qualities for a better society. She also believes parents should play the major role in each aspect of a child's development. Her frustration is not in her lacking abilities to be a helpful parent but in her lack of time for having more interactions with her children.

ZM has a child aged 4. She emphasized the importance of freedom for her child to think, and she thought that children need to be given more opportunities to solve problems. During this process, children can be taught to consider different solutions and possibilities. She thought it important to think outside of one's old box, and she herself tried to recognize her own prejudices and biases in her everyday life. She reported she has been trying to develop critical thinking in her child her own way. In terms of schooling's role in critical-thinking development, she found it hard to confirm, but she likes when the kindergarten gave more freedom to children.

ZS is a mother who considered herself as a critical thinker. She recalled that her experience with critical thinking started when she was in school and not satisfied with single answers to the questions. She pursued something behind the answers, such as

reasons and principles, and sometimes she presented questions one after another. ZS reported always being curious, but she was not liked by her teachers because of her endless questions. As a mother, she likes her son to ask her many questions on all topics, such as death, the differences between boys and girls, human emotions, and so on. She believes that children's spontaneity happens mostly at home with their close caregivers.

### **Data Collection**

Before I started data collection for this research project, I prepared a participant recruitment letter, consent forms, and a letter of cooperation with the alternative school where I was working. Since the research population uses Chinese as the first language, I made a copy of the recruitment letter, consent form, and letter of cooperation in Chinese. I also submitted a sample of interview questions in English and Chinese to the Walden University IRB. I received Walden's IRB approval for the submitted documents with the Approval Number 08-27-20-0472751. Then, I followed the planned recruitment procedure, first sending recruitment letters to the WeChat contacts and the designated parent WeChat group, and collecting the prospective participants' consent forms. I then made appointments with the confirmed participants regarding the interview mode and schedule.

The recruitment of participants and data collection, which began at the beginning of the fall semester, was very successful. I did not encounter any difficulties to get enough responses to the recruitment invitation since the COVID-19's negative influence was significantly minimized by that time; all the schools in China started in September 2020 so that parents were freed from baby-sitting at home. Within about 24 hours after



the recruitment letter was sent out, I got 23 responses to the WeChat invitation, expressing interest in the research topic. When I sent them the consent form and got the 17 answers of “I consent,” I started to contact them one by one to decide on the interview mode, face-to-face or by telephone. When it came to the confirmation of timing of the interview, I only got 12 parents’ confirmation. Out of ethical consideration, I did not bother the five remaining prospective participants.

I used the research partner’s office for six face-to-face interviews. One participant requested the face-to-face meeting in her office to save her travel time. The remaining five interviews were done through phone calls. Most of the interviews took around 60 minutes; the longest one took almost 90 minutes with the consideration of the participant’s great willingness to have more time for sharing. Immediately after each interview I fulfilled the compensation arrangement approved by the IRB.

The consent forms gave me the permission to record the interviews. The recording machine had a function to transcribe all the interviews in Chinese language. I read through all the Chinese transcripts and checked for accuracy while listening to the audio materials. The recording machine does not differentiate interviewer and participants’ speech, so I manually differentiated dialogues and inserted the English translation in between the speech chunks. While I was reading the 12 copies of Chinese transcripts and revising wherever something was not intelligible enough, I found the data was saturated in regard to the research questions and did not reach out to any additional participants for follow-up interviews. I secured all the transcripts, audio interviews, and

translated transcripts in a computer with password as well as a secured USB pen stick for backup.

Following my mentor's suggestion, I shared with participants a written copy of scholarly definitions of critical thinking during the process of data collection. For each participant with whom I did a face-to-face interview, I prepared a print copy of the three definitions of critical thinking used for the conceptual framework of the study. For the telephone interviews I sent an electronic copy of the definitions by WeChat message a few minutes before the interviews started. The definitions given to the participants are the following:

- Critical thinking is a purposeful self-regulatory judgement. In this process, skills are involved, such as interpretation, analysis, evaluation, and inference, as well as explanation of the relevant evidence, methods, and criteria.
- Lipman's definition of critical thinking as skillful and responsible thinking that facilitates judgement. Critical thinking relies on criteria and self-correction and is sensitive to context.
- Tan (2017b) defined critical thinking from Confucian cultural background that the concept of critical thinking does exist in Confucian ideas. According to Tan, critical thinking is understood around two primary Confucian ideas, li and ren (rites and virtue). Confucian ideas of li and ren offer characteristics of critical thinking as judgement.

## Data Analysis

To prepare for data analysis, I transferred each participant's interview text to a separate Word document and labelled each one with participants' code names and interview dates. I kept an interview contact form with each participant's demographic information and at the same time recorded the information in a separate Excel spreadsheet. I then created folders according to participants' code names and labeled with interview date so that I could save all the data in relation to the same participant into one folder, including a copy of contact form, audio interview, original Chinese transcripts, translated transcripts, coding memo, and Excel sheet with codes for each interview transcript.

When I finished 12 interviews, I kept all the relevant documents in individual folders as a preparation for the first cycle of data analysis. Firstly, I read Chinese transcripts for identification of relevant codes and then translated them into English. I next checked the English translation; while doing so, I began to look for some emergent codes regarding the research questions. For identification of participants' opinions and word expressions related to the research questions, with the English translations I used verbatim coding, in vivo coding, and eclectic coding for the first cycle of data analysis, as suggested by Saldaña (2016). Besides looking for the codes directly related to the research questions, I also included other codes that might lead to any new concepts. During the first cycle of coding, when I read the English translation for codes, I kept going back to the original Chinese transcripts to check the meaning again for accuracy.

For the first cycle of data analysis, I identified codes from the 12 interviews. I kept a coding memo in a Word document and then manually exported the memos into Excel spreadsheets for the purpose of second cycle analysis, where I grouped the codes into categories. For the second cycle of coding, I reorganized all the individual spreadsheets into a new spreadsheet to make an aggregated data analysis so that it was easier to compare all the codes according to each research question. At this stage I could identify the codes that emerged as they were related to the three research questions, and the categorization of the codes and word expressions helped me to establish themes. In the aggregated spreadsheets I reorganized the codes according to the individual themes they belong to.

### **Evidence of Trustworthiness**

In this section I discuss how the trustworthiness of the current research was achieved. I will discuss the evidence of trustworthiness from four aspects, credibility, transferability, dependability, and confirmability.

#### **Credibility**

The first evidence was the fact that most participants are knowledgeable parents. Eight out of 12 participants work in private or government education institutions or educational business. Besides, the remaining four participants were very much involved in their children's education. So, none of them claimed that they did not have any knowledge about the concept of critical thinking. The second evidence was the high level of accuracy of interview transcripts. Thanks to the transcribing function of the recording machine, I could get a verbatim transcription of all the interview details. The modern

online translation software was helpful in getting meaningful translation of the interview transcription. Then I checked the translation myself.

The last evidence was the dialogic engagement with the participants. During the interviews I rephrased the probing questions, so they did not sound too academic or formal for those participants. Even though I trusted all the participants understood the research topic and the research purpose from the consent form, I still gave a concise background information of myself as a researcher and the current research project. I made sure they were informed of the expectations of my interviews. Participants understood that the research purpose was to get understanding of parents' perspectives and their voice was valued. At the same time, they all got a definition sheet of critical thinking that I used for the conceptual framework in print or an electronic copy before interviews started. The basic interview procedure was designed to start from the first research question, but I told each participant all the three questions as soon as we started the interview to help them get a big picture of the interview. They relaxed as soon as they heard my review, explanation of the three research questions, and went through the academic definitions of critical thinking. Then they started by choosing whichever question they were more familiar with. Most participants started to indulge themselves in their personal memories of childhood and schooling, family and career stories, and their reflection on how those experiences influenced their parenting. From the interview transcripts I could see the participants opened themselves to the researcher rather than just giving answers to the questions like completing assignments.

**Transferability**

For the readers of the current research paper to get a better understanding of the participants, their children's schooling, and the influence of their professional and family background on their perception of critical thinking, I used a technique of thick description (i.e., to include more details and try to make a thorough description of the research context). Those details included information of participants' professional area and their unique interest in the research topic. Also, for each theme and category generated from codes I included details of participants' responses to the probing questions and their voluntary sharing of their personal thoughts and personal experience. The authenticity of the participants' responses was represented in the vividness of their oral stories.

**Dependability**

The evidence of dependability was reflected in my self-awareness of subjectivity and positionality as researcher. I kept notes on the margins of individual transcripts for the identification of the possible biases or assumptions I may have. The possible biases included that I tended to think parent participants relied on educational experts' opinions. The assumptions I had before the data collection included that I thought Chinese parents preferred international education to Chinese public education in critical-thinking development. With the progression of interviews, my role was transferred from a researcher's position as a knowledgeable researcher to a knowledge co-constructor participating in seeking knowledge and understanding together with the research participants. I understood more and more of participants' perspective regarding education for critical-thinking development. The data collection turned more and more interesting

because participants and the researcher shared the meaning making together. The responsive characteristic of the interviews created intersubjectivity successfully. At the end of each interview both participants and I, a researcher, expressed the gratitude to each other respectively for learning and understanding from the extended conversations.

### **Confirmability**

Confirmability refers to objectivity in the quantitative research while qualitative research does not emphasize on objectivity (see Ravitch & Carl, 2016). Qualitative researchers take their own experience to make sense of the world through a shared meaning making (see Patton, 2015). For a qualitative researcher, the confirmability is to be achieved by a series of documents for researcher's reflexivity as proposed by Ravitch and Carl (2016). To achieve the researcher reflexivity, I kept research memos with me to record my personal thoughts during the process of data collection. Besides the records I kept the notes to remind myself that my personal background and my assumptions might influence how I make meaning from participants' talk. In my memo I kept some possible biases I might have due to my personal beliefs in education. I also kept detailed contact forms for all the participants' interviews.

### **Results**

I organized the eight thematic research results according to the focus of each research question:

- RQ1: metropolitan Chinese parents' perception of critical thinking and its importance in child's overall growth, related to Themes 1-3,

- RQ2: metropolitan Chinese parents' perception of parental influence in critical-thinking development, related to Themes 4-6, and
- RQ3: metropolitan Chinese parents' perception of schooling's role in critical-thinking development, related to Themes 7-8.

I developed each theme with quotes from the participants.

### **Theme 1: Critical Thinking as a Very new Concept for the 21st Century Chinese People**

Critical thinking was a very new concept for all the participants and its newness was the most dominant response in the interviews. Sixteen codes contributed to this theme. The frequently used key words by the participants included *very new*, *vague understanding*, *hard to define*, *new concept for this generation*, and *superficial understanding*. To my first probing question “how do you understand critical thinking?” a few participants hesitated as to what to say, so they responded with very unconfident tone. For example, in GL's response there were doubts in her using the word expression like “how to say that” and “maybe.” She said,

Actually, before looking at the definitions given by you, I had some thinking of critical thinking, maybe it refers to do some thinking to disaffirm the knowledge I had before, or maybe for the purpose to extend that old knowledge. Umm, how to say that?

Also, she responded to my questions with questions instead of answers. Some participants were very straightforward; like AB and XR. AB's expression reflected her lack of knowledge about the concept, “I have a very vague understanding of this concept;



I might have heard the concept but could never give a definition. Just heard of it. Um, just like this. And I never used such a concept.” XR murmured to herself when she answered this question,

Critical thinking? Um... anyway, the two words are new to me. Um... so from their literal meaning, I think it may refer to openness to other people, not criticizing others, and reflecting on oneself. Is that so? And then one tries to examine one's own understanding, and then tries to think about it objectively, um...is this critical thinking?

In these instances, the participants acknowledged their lack of understanding of the concept even though they had heard about it. A couple of participants shared some of their understanding of what critical thinking is about but also indicated that critical thinking was a very new educational concept for the Chinese generation in this century. For example, AD, PP, FY, and ZS identified themselves as critical thinkers, but they said they “never heard of the words spoken” during their school time.

Chinese parents’ unfamiliarity with critical thinking was expected while I prepared the interview questions. Irresponsive to the academic definitions I prepared for the participants, during the interviews they all said that critical thinking was very new concept, and they did not have it in their school days. They thought the phrase had not been commonly accepted and used widely in the 21st century.

## **Theme 2: Perception of Critical Thinking Informed by Personal Experiences**

The second theme addressing RQ1 pertains to the emerged perception of critical thinking based on their personal experiences or assumptions. From participants’

responses I extracted 87 codes related to Theme 2. Participants did not refrain from speaking more about their understanding of critical thinking, even though they acknowledged the concept is new to them. With or without the help of the available scholarly definitions, participants volunteered to share their understanding of critical thinking from their personal experiences. A few participants considered themselves as examples of critical thinkers when they recalled their school days. What the participants remembered about their schooling and the relationship with their parents and teachers all reflected the traditional Confucian cultural influence. The key word expressions that reflect this category included *listening to adults and being obedient, challenging adult authority, being different and rebellious, challenging standard answers by asking inquiring questions and exploration, habitual questioning about old knowledge, and the tendency to criticize*. After reading many times the related codes and the transcripts I found the perceptions of participants belonged to three subthemes: critical thinking encourages (a) challenging authority; (b) freedom in thinking; (c) perspective taking or decision making after comprehensive thinking.

### ***Subtheme 1: Challenging Authority***

The following are some dominant codes that are related to this subtheme of Theme 2, such as not listening to adults, tending to ask difficult questions, not following standard answers. These participants referred to authority as all the adults, especially parents, grandparents, and teachers. Their responses also reflected their frustration with the traditional education belief and the confliction in their educating their own children. For example, when YY recalled some teachings of her parents-in-law to her children, she

said, “grandparents always said something like you should listen to adults; you should be obedient, but they were never clear about what exactly children should listen and do.”

JW’s sharing about her grandparents’ teaching reflected her similar experience of Chinese traditional child education practice, even though she did not say directly that the development of critical thinking should be related to challenging authority. From YY and JW’s sharing of their personal experience, their strong disagreement could be inferred from their expressions. For example, JW said,

My parents-in-law hardly offered any reasons for listening to adults and never discussed with my daughter about what to listen. They just forced her to do things according to their own understanding and will. My daughter told me that she did not like her grandparents’ approach even though she understood grandparents tried to do good.

Some participants responded to a probing question regarding how they understand critical thinking by sharing some personal experience at school. They reported that they were different from other peers because they tended to ask too many questions and were rebellious toward teachers’ authority. Like AD said,

School teachers didn’t like when any student challenged adult authority. If some students behaved differently at school, they would not be liked by teachers and peers. At that time people understood critical thinking as challenging authority, being not obedient or rebellious.

The interpretations of obeying authority were not differentiated clearly among the participants. From the responses mentioned above it seemed that children should listen to

adults in all the occasions. Other participants shared how their parents only emphasized on the academic aspect relating to obeying authority (i.e., if some child excels in exams, he/she will enjoy much freedom such as not obeying adults sometimes). It was inferred from PP's report, "...on the other hand, my parents were doing business so that they spoiled me a lot so that I became very rebellious." In here PP meant that she did not have to listen to teachers and to be a good student because she did not have to labor hard on her study like other students for a good future career. Her parents' business could guarantee her well-being.

Some participants reflected on the reasons why they thought critical thinking is related to challenging authority. ZS said she asked questions because she was curious and wanted to know more.

I was academically strong because I was always curious. I was never satisfied with the answers given by teachers. When students were required to select one correct answer from multiple choices, I was different from my peers. Instead of choosing the correct answer and getting the exams done, I would pursue to explore more about other choices. I would ask more questions about those choices, like "why not ..." questions. So, as I remembered, my teachers did not like me. Maybe because they felt me annoying.

Here the reason of challenging authority was the pursuit of knowledge. The other reason for challenging authority given by a few other participants was to challenge some old beliefs or established knowledge. The participants' responses for this reason included the reports on their habitual questioning and criticizing the old or established knowledge

and beliefs. This could be inferred from GL's report of her experience of being a critical thinker. For example, GL reported, "most of the time, I tend to ask why questions. Um, maybe I can call this my personal habit of thinking." YY mentioned her pressure because she constantly needed to challenge and criticize the established teaching practice: "we always appeared to be very critical people for outsiders. In the field of my profession, our professional visits were often not welcome by people because they think we tend to criticize."

### ***Subtheme 2: Freedom in Thinking***

Data analysis showed that Subtheme 2 is related to Subtheme 1. By sharing their personal experiences of challenging authority and the established knowledge or beliefs, the participants meant for their children to be allowed for independent and creative thinking. I found that most of the participants mentioned that for critical thinking it is necessary to have such a freedom (i.e., being encouraged to have independent thinking and decision making). Based on what participants said about their personal experience, I could see their desire for their children to have more freedom in thinking and their disagreement with the traditional authoritarian parenthood and teacher-centered learning. The key word codes included freedom given by parents, freedom to express oneself, having one's opinions (on things), freedom to manage, leave room and more flexibility, positive belief in child's ability, not having too many constraints, think independently, freedom to question, freedom of inquiry and exploration, and (spiritual) freedom within oneself.

The participants' responses reflected their perception of the importance of critical thinking in two aspects: it is important for a democratic and progressive society as well as for developing abilities of critical thinking. FY was one of the participants who thought highly of critical thinking because its existence in a society signifies the progression towards a more democratic society. FY said, "I think in a civilized and progressive society, people need to be given freedom to express themselves." In terms of the importance of developing the required abilities for critical thinking, participants mentioned such abilities as thinking and making decision independently, accepting different opinions with reasons, inquiry ability, and ability for deep learning and meaning making in one's academic learning. For instance, GL said,

I'd like to give him [my son] more freedom to manage his work. I think if parents gave children a lot of pressure and too many rules, and left no room for any flexibility, children would not have any room or freedom to make their own decision.

HL claimed that critical thinking is only for higher level talents rather than for common people. It can be inferred from her expression that she thought of critical thinking highly. She did not think her son and her family were ready for an expensive and time-consuming education mode like educating for critical thinking. However, she also acknowledged the importance of freedom for young children's thinking development. HL said,

I don't think it good for children to have so many constraints. They may turn children jittery so that they are afraid to express themselves. This will kill their

creativity. Inappropriate constraints are not desirable at the young age. I think freedom to express oneself is important for critical thinking development.

Some of the participants delved into the deeper meanings of freedom in thinking, pointing firstly that such a freedom produced positive relationship between children and parents. This could be inferred from JW's sharing of her 5-year-old daughter's expressive comment on her mother. "One day, my daughter told me, 'Mom, you're the best mom in the world.'" I asked her why. She said, "because you always trust me that I can do things well'."

ZS and PP shared how the process of inquiry gave them inner satisfaction and freedom within themselves that had been empowering them in their pursuit of knowledge and truth. Like ZS reported,

When I was at school, I was never satisfied with a single answer. I always inquired about the logic behind the answers (i.e., I would ask why it should be like this). Even though teachers thought me as different from other students, I enjoyed the process of inquiry and felt the freedom within myself. I felt happy and enjoyed the freedom and exploration.

From those participants' sharing, I could see there were two aspects of their interpretation of freedom in thinking. On one hand critical thinking presupposed freedom to criticize the ready knowledge and beliefs, to inquire and explore more and deeper for further meanings. On the other hand, it was the spiritual joy and freedom in the participants. When I read the transcripts of those participants who classified themselves as critical thinkers, I sensed the freedom emerged from their very persons and

empowered them. For example, PP said, “when you chose this path, and when you walked on, you always find you are not alone. You will find more and more people joining you.” Here PP meant she is the one who chose to be a critical thinker. Even though she had gone through a lot of difficulties and taken much pressure. She claimed she still believes it as a right direction.

***Subtheme 3: Perspective Taking or Decision Making After Comprehensive Thinking***

Apart from Theme 1 regarding challenging authority and Theme 2 regarding freedom in thinking, informed by personal experiences, many participants mentioned in many places *multiple perspectives* and consideration of more possibilities and options during the interviews. The key words included *multiplicity*, *multiple perspectives*, *making judgement*, *different perspectives*, and *objectivity*. Here are a few examples where the information was either inferred from participants’ responses or directly extracted from their conversations. Some participants made it very clear that the ability to see things from different or multiple perspectives is critical, in their view, for decision making. Like ZM said,

**It is multiplicity not singularity. So, I think critical thinking involves multiple perspectives regarding things or questions. In the case of children, when they are encountered with a question, they should see many relevant aspects, but it is not necessarily black or white.**

And sometimes, they said multiplicity is related to the ability to see possible connections of different things. Like JW put it,



**I think if a child had critical thinking, he/she should be able to consider various factors in this world for making judgements or making good choices, instead of following only authority or being influenced by the pressure of the society.**

A few other participants did not use the word expression *multiple perspectives*, but they reported how they were willing to learn to look at things and people from different perspectives or to learn to get understanding by self-reflection. And they believed that the behavior of self-reflection and self-examination was related to critical thinking as well because during the self-reflection, the action of considering different perspectives would happen. For example, GL reported she often tried to change her perspective in the face of many things. She said,

When I am expected to make choices, I tend to weigh between best and worst choices. I see if I changed to a different perspective or a way of thinking, should I see anything different or a different picture of things?

During the data analysis process, when I read participants' responses again and again, I found other codes here emerging for this subtheme, such as *weighing*, *comparing*, *analyzing*, *discussing*, and *reflecting*. These codes are related to the subtheme because they are the actions in the process of perspective taking or decision making, such as considering choices, options, perspectives and positions, as FY shared, "it [critical thinking] involves making a judgement after thinking, considering multiple perspectives, developing understanding, giving definitions, sharing individual opinions, identifying various issues and trying to be objective."

When I read more of participants' responses, I found they did not stop at the conclusion that critical thinking was only related to mere consideration of multiple perspectives, options, and possibilities. The participants' responses naturally led to their proposing that critical thinking was for the purpose of perspective taking, decision making or judgement making. The evidence can be found in the following participants' responses. ZM said, "critical thinking does involve multiple perspectives, but it also related to decision making or perspective taking." YY said, "I always need to take a critical position to examine the phenomena in the society, and then to make a judgement in terms of the values, and further to think about better ideas." LQ said,

In fact, speaking of critical thinking is already referring to a result. If you only think, it is thinking, but the result is to make a judgement. Well, it must be independent thinking. And can also be group thinking.

JW said, "It is about a thinking process and then making judgement."

I will not exclude the possibility that participants' responses were influenced by the definitions I provided them before the interviews. All the definitions indicated that critical thinking is about making judgement.

### **Theme 3: Parents' Perception of Critical Thinking as Important for Child's Growth**

The data analysis produced Theme 3, perceived importance of critical thinking in child's development, with 38 codes relevant to the participants' sharing about how they considered critical thinking as important for their children's overall development. Generally, most participants considered critical thinking as an important ability or thinking skill for their children to obtain, even though Chinese traditional education did

not encourage or allow them to become critical thinkers, and participants themselves do not know much about critical thinking yet. There was only one participant, LQ, who expressed her uncertainty about the importance of critical thinking for her child's life. According to her understanding, the necessity in critical thinking depends on the ideological needs in a specific society.

Its importance depends on the general trend in a specific society. Well, it is a social trend, and the government is at the stage of education reform. Then we may need such people (with critical thinking) very much, but if we lived in a society that does not need it (critical thinking), we don't need this kind of person.

In terms of the perception of the importance of critical thinking, participants' responses were divergent. After reading the transcripts carefully several times, I decided their understanding of the importance of critical thinking can be interpreted in three aspects of meanings, its social meaning, moral and ethical meaning, and cognitive meaning. Some participants thought critical thinking as an important ability or skill to cope with the instability of the world reality. They see the world as a place full of information, people with different beliefs, and unpredictable changes, so they worried that their children may not handle the complicated world without critical thinking. I found the subtheme related to participants' perceived importance in critical thinking's social meaning. A few participants considered critical thinking's importance in the moral and ethical education. They thought critical thinking related to making good and right judgements or choices. Therefore, its importance can be seen to contain the moral and ethical meaning. Still, a few other participants considered critical thinking as important

factor and result for academic learning. Its importance can be considered to have cognitive meaning. Here I have the following subthemes according to the three aspects of meanings of critical thinking for children's development.

***Subtheme 1: Perception of Critical Thinking's Importance in its Social Meaning***

Those participants who considered the social meaning of critical thinking for their children mentioned variabilities and instabilities in the society, and many other societal factors that they think might be too difficult for their children to deal with if they did not obtain critical thinking skills. For example, GL said, "I think life is full of variabilities and instabilities, so we must develop such an ability to face with and deal with them, and to know how to make judgement in each situation." XR thought it extremely important for her children to develop critical thinking that she thought it more important than academic learning: "I think this ability is more important than knowledge learning. I think the ability to make judgement is more important than cognitive learning." Generally, all the participants thought listening to other people's opinions blindly will not be desirable for their children in their future social life.

***Subtheme 2: Perception of Critical Thinking's Importance in its Moral and Ethical Meaning***

Some participants specifically mentioned the aspect of spiritual growth and freedom that they believed would come to their children from being a critical thinker. ZM reported her belief in this way, "I feel that with such a freedom of thinking, his life will be open to possibilities and he will enjoy freedom in his heart. Critical thinking will be helpful for both his emotional development and academic achievement." As an education

researcher herself, YY expressed her strong belief in critical thinking as an important social and educational value to develop in the new Chinese generation, “critical thinking should become one of the important values and to be included in our educational system. For my children, I want them to develop such a value. And it has to be a value.”

***Subtheme 3: Perception of Critical Thinking’s Importance in Cognitive Meaning***

From the data analysis I found the third subtheme that is related to the participants’ perception of critical thinking’s importance in its cognitive meaning. However, their perception was divergent. Some participants thought that critical thinking should be a kind of learning more important than cognitive learning. Other participants thought that critical thinking was not at all related to academic learning. For example, FY thought critical thinking has nothing to do with cognitive learning.

I think academic learning is considered as knowledge learning; it is different from character cultivation, which is related to critical thinking. In academic learning area, all the knowledge systems are prescribed already, like, syllabus, formulas, equations, so critical thinking is not required or needed.

AD just thought it was not for schooling to develop children's critical thinking. In Chinese society the public school system cannot accommodate educational mode for critical thinking development: “Actually, I don't think critical thinking is necessary in the public school system. If we hope schools run well, it should be like Victorian factories.”

#### **Theme 4: Parental Role is Perceived as Influential in Children's Development of Critical Thinking**

For this theme, most participants mentioned their consideration of the importance of parental role in child's critical thinking development. Only one parent participant claimed that she did not do anything at all because she thought critical thinking neither important nor unimportant. All the other participants considered parental role as influential for child's thinking education. They thought parents hold great responsibility for child's education in general. In terms of the specific role played by parents in critical thinking development, participants' opinions were divergent. Some participants considered it solely depends on how parents cultivate this thinking skill in their children, and others considered it relies on a joint effort of schools and parents. There were also participants who indicated which part should play a major role. AD, FY, and ZS's responses are very representative that they thought parents bore the major responsibilities for child's thinking development as quoted below. AD said, "The school has different approach from mine, but I am not against the school system from where I came from." FY said: "Critical thinking is related to ethics and moral education so that is why it can be seen/educated through daily life activities within families." It can be inferred that FY believes critical thinking is not needed for school learning where syllabus was set, and knowledge and formula were ready for students to memorize. And ZS said, "In terms of critical thinking education, it is not the school business. Families play more important role in a child's growth and development, even though many parents cannot yet think of its importance."

When I read the transcripts again and again, I found that participants' perceived parental role was related to their perception of the concept of critical thinking. AD did not think critical thinking was irrelevant to academic learning, but he just perceived the incapability in his children's schooling. As a parent who is capable of critical thinking, AD implemented different educational approach than public schools as a compensatory education for his children. Also, he found his approaches more acceptable for his children.

I am not the type of parent who preaches a lot. I use various materials for educational purposes, movies, facts, interesting news, and compare different perspectives. We often watch English TV channels such as BBC and national geography. I think my son can enjoy more learning opportunities in the society than in his school. I can see my children are happy with the activities that I arranged because they practiced them without being told.

HL worked as a teacher at a Chinese higher education institute. She considered education for critical thinking as education of higher-level talents. In the same way, she did not see much hope in public education system for cultivation of such talents. She said, "It depends on families." Some families are very conservative; others are more open-minded. I think it should be an important ability, but in our education system, children are mostly expected to listen and to be obedient.

Generally, participants thought parents should play a more important role in a child's critical-thinking development. Some participants expressed clearly that they could not expect this from their children's schooling such as AD, FY, and HL, while other

participants such as ZM and ZS did not say they need help from her children's kindergartens without indicating any specific reasons.

### **Theme 5: Perceived Effective Strategies for Critical Thinking Development**

My data analysis showed that even though most of the participants acknowledged their lack of knowledge and skills in critical thinking, their belief in its importance for the future generation drove them to learn and try their best to help their children build up various thinking skills. There were 135 codes contributing to Theme 5 of the second research question. By further analyzing them I could see them grouping according to four subthemes: (a) building up awareness or knowledge of different perspectives/possibilities; (b) empowering children with freedom and courage; (c) building up understanding for meaning making and mind of logic; and (d) parents are to play an exemplary role in creating a favorable family environment.

#### ***Subtheme 1: Building up Awareness/knowledge of Different Perspectives/possibilities***

In many participants' responses to the probing questions on how they tried to develop critical thinking in their children, I found such key words as *diverse/diversity*, *multiple perspectives*, *various opportunities/options*, and *authentic/real life experience* related to this subtheme. Many participants mentioned the strategies relating to building up awareness/knowledge of different perspectives through exposure to various activities and new things, and to developing abilities to see various possibilities through problem solving. For instance, AD said: "I take initiatives in exposing my children to various activities and new things. I am very open for them to try all kinds of things, like stage performance, recitation, Cantonese opera, talk show, DJ, and so on."



Some parents used questioning techniques in their conversations with their young children such as ZM, whose son turned four at the time of the interview. ZM said, Even when he drew a conclusion. I still prompted him to do more thinking by asking “what else can you think of?” or “what other possibilities can you think of?” I will ask him to give me three, four, or even more possibilities to a given scenario. My purpose was to develop his divergent thinking.

Some parents used topic-based discussions of current critical issues such as FY:

In the process of discussion, we considered multiple perspectives regarding the topic on who should take the responsibilities for the outbreak of the COVID-19.

We put ourselves into other people’s shoes. We accepted various possibilities and opened ourselves to different opinions.

### ***Subtheme 2: Empower Children With Freedom and Courage***

Many participants thought the sense of freedom for children as a very important factor to influence the development of their various thinking skills and creativity, especially for young children. For example, in HL’s sharing it could be informed that she embraced the idea that young children should not be bound by various disciplines and rules.

I don’t think it good for children to have too many concerns. They may turn children jittery, and they might be afraid of making any breakthrough in the things they do. So, constraints at young age are not very desirable.

When participants talked about the concept of freedom, they meant children need to be able to think independently and to express themselves freely. They believed that

such freedom in thinking will enable them to see broader and wider perspectives. With this belief, participants shared the strategies that they thought to be effective for their children to develop freedom in independent thinking and courage to ask questions. Different parents had a slight difference in their understanding of freedom. AD thought society offered more space (i.e., freedom for children to get more meaning). He said, “In the society he can find value for himself and has more space for thinking development.” GL understood such freedom happening in her interactions with her child. She said, “Whenever we had any disagreement, I tended to give my son more space to think and to make decisions independently.”

In terms of the courage for children to express themselves, it seemed to be difficult because parents needed to navigate through different situations complicated by the conflicting beliefs in Chinese traditions and progressive educational modes. HL pointed this difficulty in deciding when and how much freedom to give children to express themselves.

I think freedom to express oneself is important for critical thinking. But it is so hard to decide on the limits of the freedom. Children sometimes disagree with adults, and their opinions are too radical and penetrating. It is not that I did not follow the tradition (HL meant that everybody lives in the boundaries of cultural traditions), but it depends on situations which we are in. For example, with parents, he has such a freedom.

The data suggested that parents encouraged children’s freedom to express themselves depending on situations and with whom they interact.

***Subtheme 3: Building up Understanding for Meaning Making and Mind for Logic***

A few participants argued that parents should build up understanding of rules in their children rather than indoctrinating rules. Those participants with young children described giving their children trust and options so that the children could have the opportunities to compare different possibilities. For instance, AD described his clear aim for his children to get better understanding of rules.

I only told my son the boundaries rather than telling him exactly what they can do or cannot do. It is important to give options to children. I let my children to see consequences of breaking rules instead of just telling them to follow the rules.

AB shared her family allowed open communication among family members to build mutual understanding in many issues. “In our home we often hold open communication so that we can understand our children better.”

Parents shared various strategies meant for their children to make meaning of what they do and learn, and the techniques they used were related to developing logic, or reasoning, in their children. Many participants shared their techniques for critical thinking development such as analyzing, discussing, asking open-ended questions and heuristic questions when their children were encountered with real-life problems. Some participants were very sensitive to real-life problems and very attentive to every opportunity to do thinking practice with their children. For instance, GL said,

When my son was encountered with difficulties in his table-tennis learning, my husband accompanied him, shared our experience with difficult moments, and talked about the importance of perseverance needed for overcoming them. Also,

my husband analyzed with him what strengths and weaknesses he has, so that he could see them with his own eyes. With all these strategies, we helped our son to overcome his difficulties and improve his table-tennis skills.

GL and her husband helped their child to develop understanding of the problem and taught him to analyze problems and find solution. In another response from GL, I could see a clear demonstration of her acknowledgement of children's right in decision-making: "I would like to believe that rules cannot be decided with only unilateral agreement. They should be established based on the mutual agreement and understanding. This is my opinion about rule making and following."

Many participants mentioned real-life problems or situations when they talked about discussion as one of the important strategies. Also, some participants went into details about how they developed discussions for concept building, made mind maps to visualize thoughts, and made discussions on philosophical questions. With all these techniques for more effective discussions, they believed that more such practices should start from the young age because of their belief in the necessity of early intervention and children's readiness for thinking practices. As JW put it, "it is necessary to cultivate thinking skills from the young age. At the beginning, children start from accepting because they need information and knowledge base to construct meaning."

I heard more examples. The participants shared of how they employed various techniques to develop children's reasoning. JW shared an example of how she held a topic-based discussion with her students to train their thinking skills (her daughter was

included in that group). JW shared how a school bullying incident created a point of discussion in her teaching about leadership.

We used the topic of leadership to educate children how to identify student gang and its relation to bullying. I asked them what makes of a good leadership. All the children started to brainstorm about the concept based on their everyday experience. When they shared their thoughts, they found out a child behaved improperly in using tricks and pressure to coerce other children to follow and listen to him. In the process of discussing and sharing, we gradually formed our idea about good leadership.

FY shared an example of how parents could practice thinking with their children in home environment. FY talked about how she handled the difficult topic on COVID with her daughter during the quarantine period, starting with a mind map.

We used a mind-map to discuss the topic related to COVID-19 outbreak issues. First, we should learn something about what COVID-19. Then we checked the professional medical information on it and got some understanding about its origin and the reason why it spread so fast, through what way it would be spread, and what kind of environment was favorable for the virus. We analyzed the new reports from different international news channels about the pandemic. We discussed the issue about the responsibility for the COVID-19 outbreak and dissemination. When we heard some people in the world started to blame China for the pandemic, we started to put ourselves into those people's shoes (i.e., asking ourselves what we would think and say if we were in the same situation).

We analyzed each opinion with reasons and arguments. The whole thinking process was represented with a big mind-map in the end.

ZS was the only participant who found philosophical topics fascinating to include in her interactions with her son. ZS thought the exploration into philosophical topics may provoke more thinking in his son and herself as well. ZS drew on her teacher training to improve her attention to her own children's questions, particularly in helping her handle such difficult topic as death.

After I attended philosophy for children's workshops, I started to be mindful of my children's questions. We started to explore a lot of questions related to philosophy. Often with extended conversation with my son, I found we explored more than expected. For a while, my son was very interested in the topic on death. He saw dead bodies of animals in the wild field, realized they would decay and disappear in the soil. He associated it with human bodies. He asked me many times where people go after their death, and specifically about his beloved people. He said he did not want to turn into soil after his death. During the periods of time at the ages 3 to 5, he kept asking many questions about death. I used heuristic way to induce his independent thinking. The topic like a myth hassled him so long that finally he even cried in dreams. Then I had to tell him that human beings were different from other animals because they have souls. Their souls would continue after their bodies ceased to be living.

*Subtheme 4: Parents are to Play an Exemplary Role in Creating a Favorable Family Environment*

All the participants who shared their strategies of thinking practices with their children exhibited examples of being life-long learners themselves. They were mindful of opportunities to practice critical thinking with their children, even though they doubted about their capabilities to develop appropriate approaches. They tended to have a habitual questioning about commonly accepted beliefs or rules. They tended to take different angles to look at issues that they faced with. They said they love to consider new possibilities and are willing to be open to different opinions and ideas. They cared to create and maintain a harmonious and democratic family environment. They believed continual learning would empower them with more knowledge and understanding, and they had to reflect on their learning experience and decision making. So, from the data analysis, I found key words emerged from those participants' responses, such as reading, learning, reflecting, observing, and thinking.

**Another factor related to critical thinking development was positive family environment for children. Almost all the participants reported that they valued positive family environment, which is characteristic of democratic, harmonious, with parents from higher educational background, and open-minded parents. I found the following quotes from participants' interviews insightful and reflective of their commitment to becoming careful and responsible thinkers themselves and parent educators for their children. For example, XR did a deep self-reflection and bravely acknowledged her ignorance.**

I often do reflection on my role in the family, my role in children's education. I reflect a lot on many kinds of things. Also, I think I should never stop learning myself. Our family environment is positive for children to develop good thinking skills. Their father has a very high educational background and he himself is a critical thinker.

GL shared her deep respect for children's uniqueness and willingness to become an attentive observer.

I need to observe where his nature leads, and then I promote his positive interests and am careful with his disadvantages. Whenever our family organizes trips, we always involve our son into planning and listen to his opinions. The reason for this was to cultivate a sense of family ownership in him. My husband and I don't travel with my son as if he were one of our luggage. I disagree with those parents who care more about parental authority than [a] child's autonomy.

**ZS said something on the importance for adults to have curiosity the same way as children do. She declared that such curiosity could help adults to reveal children's great potentials. ZS said,**

I feel the process of raising children is like a growth along with my children through our mutual support and enrichment to each other's life. I am getting more and more curious as my son is curious about everything. It is fun to explore his questions together with him.

Harmonious and democratic family environment as an important aspect of children's thinking development was emphasized by AB, FY, JW, and GL. AB said,



“Our family has a democratic environment for open discussion of current news.” FY used the words, inclusive and tolerant, to mean that her family accommodates different and divergent thinking. JW reported such people relationship with extended meaning of families to include grandparents. JW reassured that only with this extended family harmony could her daughter develop more courage and freedom to express herself.

Then the whole family atmosphere is very harmonious; only then my daughter is more daring to express her opinions. They (grandparents) are not that conservative as many other seniors. I know some senior people are very stubborn, and not willing to accept young people’s opinions, only clinging to their old beliefs.

And relationships between husbands and wives are crucial for children to feel such a harmony. As GL said,

My husband and I agree on the general direction where we want our child to develop towards. In many aspects of life, we are very harmonious. So, our child will not end up in situations with dilemmas. I am sure about this.

When I probed on whether the participants found any evidence of their children’s critical thinking skills, most of the participants responded with much doubt and uncertainty. However, I did find a few responses that showed how they perceived their children were gaining critical thinking. My data analysis did not show these few responses as strong enough to be considered as a theme. However, the few responses do relate to the second research question. For example, AD shared that his son has developed his first awareness of life meaning through participating various social

activities. He said, “During his interactions with so many different people, my son started to think about his value. He told me that he saw his value in helping other people. I think he is developing his self-awareness.”

FY also found her daughter has developed a sense of empathy that means she could think from other people’s perspectives and understand other people’s differences.

I think my daughter has a sense of empathy so that she does not listen to only one-sided opinion. Her willingness to listen to her friend’s clarification of her awkward situation exhibited her ability to think critically after hearing something bad about her friend from us (even though we are adults and her parents).

JW shared how her 5-year-old daughter showed her understanding of the concept of gratitude. JW said, “She learned the concept of gratitude. And she looked very happy to find out this. I often use small things to cultivate her thinking.”

XR’s shared how her 18-year-old daughter, a high school student, has developed good organization skills, research skills, self-awareness, and strong belief in reasoning, which she thought very helpful for her academic learning, future career and problem solving. XR said,

Then they planned together when and where they should go out to take interviews, observations, to collect survey and questionnaires. She organized her peers to have discussions, and they made job allocation about who to take interviews, who to make questionnaires. She has very good organization skills, and she manages her time very wisely and efficiently, even better than her father. She got purposes for her learning, for example, she made decisions on which

subjects she took for high levels or standard levels. She has a good self-awareness. She knows where her strengths are and will spend efforts there. My daughter told me that she thinks rationality is her good strategy to deal with the issues in life.

Those participants' children were from 5 to 14 years old. From the responses, I can see those children exhibited self-awareness (AD's child), perspective taking (FY's child), and concept building (JW's child). XR's eldest child turned 18 so she exhibited many academic related critical thinking skills such as data collecting and handling, research skills, and reasoning skills.

#### **Theme 6: Perceived Challenges in Critical Thinking Development**

All the participants who acknowledged the importance of critical thinking in their children's growth and development showed their bewilderment due to the challenges they found in their practice at the same time. The challenges have been found related to external and internal sources, demanding parenting required by the new educational value (internal) and lack of cultural and social support in developing critical thinking in children (external). The data analysis revealed three types of challenges caused by the internal and external reasons, challenges due to the conflicting Chinese traditional beliefs, challenges due to the new expectation from parents for children's critical-thinking development, and challenges due to lack of external support for parents. I put them into three subthemes called: (a) conflicting Chinese traditional educational beliefs are dominant in the Chinese society; (b) parents feel it is challenging to be helpful as

expected in children's critical-thinking development; and (c) parents feel it is hard to get access to educational resources needed for children's thinking education.

***Subtheme 1: Conflicting Chinese Traditional Educational Beliefs are Dominant in the Chinese Society***

From participants' sharing of their experience with critical thinking development in their children, the most frequently heard word was pressure, either spoken directly or sensed from their verbal expressions of their life accounts. The typical expressions included conflicting educational philosophy with schools (referring to the pressure from educational authority), people around think differently (indicating no support from the people around), grandparents holding to the old tradition and belief (inferring the pressure from the existing tension between two different generations), dominant Chinese culture against critical thinking (referring to the pressure coming everywhere in the Chinese society), and teachers rarely encourage critical thinking (perceived pressure when teachers' educational belief are in conflict with parents). The following quotes are one of most representative expressions.

AD: Even though I must hold against the pressure coming from others, I still think too much consideration of my son's academic scores is utilitarianism. The school has different approach from mine, ... In terms of school teaching, I taught my son to understand it from another perspective, even though I think my approach is much better than the school one. My son understood the difference. Understanding is good enough for him; he does not have to speak it aloud. There are many conflicts in teaching philosophy between the public schools and my

family. Even though it is challenging to live with the conflicts, I think the invaluable part of these challenges is much thinking for myself in terms of how to survive them, and how to overcome them. The reality of my son's school life is life itself. The public school system is one of the life aspects for us. I prepare my son for the life reality.

In AD's expression of his frustration and challenges in the conflicting educational philosophy with his son's school, I found he himself is a very good example of critical thinker. He not only helped his son to see the reality, but also tried his best to learn his son how to stand up for any challenges in the life reality, with his personal example as a critical thinker, great understanding for his children and the courage to take initiatives of change.

HL: But in our education system, I mean the local public system, children are mostly expected to listen and to be obedient. But there must be very few, individual teachers; not very common. Those teachers who welcome children's questioning or different positions are especially few. In our culture, mostly we tell children not to say too much (i.e., not to express their opinions loudly). This is the culture.

HL described the reality of education system. When she mentioned the few individual teachers who welcome children's questioning and different opinions, it was felt from her tone that she expressed her sorrow that such teachers were so few. When she attributed this to culture, I could feel that she meant it hard to be altered. When YY

described how the traditional cultural beliefs conflicted with her educational belief at home environment, she also meant the powerful influence of cultural tradition.

We agreed that we hope our children to be able to think for themselves. So, we never request our children to listen to adults purely. But the reality is that the grandparents are the primary caregivers so that my husband and I have no chance to interfere or to object them. Grandparents' teachings, such as listening to adults, no fighting, will not help children to solve their problems. So, the result is that the boys will fight again and again, and they are never clear about what to listen to. I don't agree with such traditional teaching as listening to adults or being obedient because I think it is the easiest part. It is so easy that you don't have to think of anything yourself, what you have to do is to follow other people's opinions.

PP was brave enough to take many challenges in her cultivation of his son's thinking, but I felt the great pressure and bitterness she experienced from her sharing of personal conflicts with family members, schoolteachers, and all sorts of different people in her everyday life.

Although there have been a lot of challenges in the whole learning process, some of them were for short term. Obviously, as a parent, I have to carry them on myself. For example, my son's previous kindergarten, especially the social pressure and the surrounding differences because of his schooling, and the problems we need to face in our daily life.

*Subtheme 2: Parents Feel Challenged to be Helpful in Children's Critical Thinking Development*

The data analysis revealed that most participants who are in favor of critical thinking development perceived their knowledge and understanding of critical thinking not enough for themselves to implement a parenting for critical-thinking development. Therefore, they worried about the effectiveness of their efforts and strategies. In participants' responses I found many such word expressions like not sure how to do it (lack of knowledge of what) and feel not qualified (lack of knowledge of how). Also, participants' responses made me feel that self-confidence is a crucial factor in supporting and encouraging parents who think they are lonely fighters in the pursuit of the new educational ideal, such as AD, PP, and HL. At the same time, those participants' sharing of how they tried their best by seeking understanding, examining their personal mindset and perspectives could demonstrate brave trials and parents' hope for more positive outcomes in their children's thinking education.

All the participants were very honest and willing to do a careful examination of personal limitation in doing critical thinking with their children. FY was one of them.

I feel more challenging to develop critical thinking in myself, but I don't think this is challenging for my daughter. My challenges might come from myself since I am not clear enough how to do critical thinking, I have biases, my perspective is influenced by my academic background, and work environment, and my social community. I am influenced by the current ideological direction as well.

As an educator of higher educational institute, HL believed parents need systematic knowledge base and training in order to teach children do critical thinking. HL said: “We don’t think we are qualified do this because we don’t have such a systematic knowledge or knowledge base to do that.”

As a reflective parent, ZM was struggling because of her inability to keep consistent parenting approach to train her son’s divergent thinking. It was more difficult for her to be an ideal parent with exemplary behaviors, inspiring mindset, and unbiased perspectives. Her sharing showed she demands a lot from herself and very critical of herself. Of course, knowledge and qualified training skills were number one for her to consider. She shared:

In order to develop critical thinking in my child, I myself have to give up my old thoughts. I often brainwash myself and accept new things as if I am a child because only after parents obtain some skills or disposition, can their child achieve the goal. When I interact with my child, sometimes I am attacked by the unexpected emotions, from whatever we call it, pressure or collectivity, and then I will go back to the old state. So generally, it is very hard. To be a mother is like to be born again. Parents always have to set up a good example for their children. Parents’ behaviors exert a great influence on their children. As a parent, I need to examine myself first before criticizing my child. I feel challenged and difficult to fulfill my educational ideas for my child because I don’t think I am equipped with enough knowledge and skills.



ZM's sharing echoed what is in the heart of many young parents in Chinese society. Like FY and XR, ZM had the same feeling that it is very important for parents themselves to become a critical thinker, and at the same time this is the most difficult part to accomplish. Those participants acknowledged that they belonged to a generation without critical thinking. That means they themselves were mostly influenced by the traditional educational beliefs, and they should critically examine their perspectives, opinions, and beliefs inculcated on them when they were young.

***Subtheme 3: Parents Feel it is Hard to get Access to Educational Resources***

Some parents shared their concerns about the access to an education for thinking due to lack of educational resources, financial support, lack of free time from their demanding business or work. That might explain why HL argued that education aiming for critical thinking is for higher level talent, because parents will be required to spend a lot of money and time on extra curriculums and other extended afterschool training and projects. The similar concerns were expressed by the following participants as well.

AD: People can find other educational resources as supplementary but not many people can afford the time and money needed for the extra classes or expensive alternative schools or international schools. In China, if something is free, you cannot expect much quality from it.

AB's sharing of her children's education showed a few public schools do follow the educational ideal with the aim to expand children's knowledge base at the same time to broaden their perspectives, and to prepare them to be independent thinkers and life-

long learners. But AB said only students from a couple of key schools can have such a privilege.

Key schools have more educational resources such as edge technology, various extra curriculum activities, academic support from higher education institutes; key schools have more good teachers with advanced technology skills, progressive educational ideals, and emphasis on developing different skills in students; key schools are more advanced in educational innovations, such as English contests, opera club, more emphasis on local language and so on; many key schools have key classes which enjoy even more resources and more quality teachers.

### **Theme 7: Parents' Divergent Perception of Schooling Role in Critical Thinking**

#### **Development**

RQ 3 is related to the parental perception of children's schooling in critical thinking development. From the data analysis, I could see all the participants shared their thoughts regarding the schools' attitude and approach to critical thinking development. It was hard to see a consistent theme of parental perception of schooling's role in the development of critical thinking because there were divergent thoughts about this question. I attribute such a diversity of perception to the difference of their children's schooling (i.e., public schools, key public schools, and international schools). Based on the participants' responses about three types of schools (i.e., public schools, key public schools, and international schools), I extract three subthemes from the data analysis.

From participants' sharing, I understood that they had different perceptions regarding how their children's schooling is helpful for critical thinking development and

whether the schooling had a clear target for the development of critical thinking.

Generally, the perceptions can be categorized according to three different types of schools (i.e., common public schools, key public schools, and international schools). In the following passages, I will first summarize what shared perception is about the same type of schooling and then the corresponding quotes from the participants.

***Subtheme 1: Common Public Schooling is not Helpful for Critical Thinking Education***

For the participants whose children attended common public schools, the education of public schools is not at all helpful for children to develop thinking skills. There were such words used by those participants to describe their perception, including very traditional, too much focus on academic learning (limited to the primary subjects such as mathematics, English language, and Chinese language). They also perceived that the purpose of public schooling was not for such an education for students to develop understanding and thinking. One participant thought that critical thinking was not relevant to academic learning so that she did not expect schooling as one of the players in developing critical thinking in students. It was FY; she said, “In the foundational education students need to accept what they are given; they should not look at knowledge in a critical way, especially in elementary schools.” The quotes representing the perception of common public schooling include:

AD: Actually, I don't think critical thinking is necessary in the current public school system. Because if we (they) hope the schools run well, they have to be like Victorian factories so that they can accommodate 40-50 students per classroom. (It refers to a very traditional way that the schools run.) My son's

favorite subjects were history and geography, but his teachers did not think that was a good choice. They (teachers and the school) thought such subjects as Chinese language, mathematics, and English language are more important. The selection criteria for national exams are based on those subjects. In this sense, my son is very weak academically (academic success means only the success in mathematics, English, and Chinese). LQ said:

There might be critical thinking from a child's nature, however, during his/her growth process he/she may need such an environment, family or schooling. If parents don't guide him, then a child might be guided by teachers, right? As you mentioned about the school environment. In reality, there is no such a favorable school environment for my daughter.

Here AD expressed his understanding that public schools run like factories which produce products according to very narrow standards. Students' learning is understood as only based on their exam scores on the primary subjects as Chinese, math, and English. LQ did not feel a favorable school environment is available for her daughter's thinking development.

HL expressed her perception that public schools as in-system school are very conservative and slow to change. She reported, "The school doesn't take new information of education innovations. And I think because it is an in-system school, so it is slow to change and very passive."

*Subtheme 2: Key Public Schools Lead the Educational Reform for Critical Thinking*

*Education*

The participants whose children attended key public schools; they perceived that Chinese education reform is indeed pushing for a quality education which aims for children's critical thinking. They shared a lot about how their children's schools worked hard to develop students' knowledge base as well as deeper understanding with innovated teaching methods and the advanced technology, such as mind-map making, group discussion, in-depth literature reading and writing both in Chinese and English, study tours with focused topics, smart TVs, iPads, many learning apps on the computer, and so on. The participants' perception of such schooling was that its purpose was to develop both knowledge breadth and depth for students, build up multiple perspectives and understandings regarding specific topics, to cultivate different learning skills and thinking skills through various extra curriculum activities, and develop multiple assessment tools such as presentation, essay writing, and group assignment for the enhancement of knowledge application and understanding.

The teachers let students to write essays and make mind maps for thinking development; they also develop students' multiple perspectives, encourage distributed thinking and independent thinking. English and Chinese teachers give extended homework with the contents expanded well beyond the textbooks. A transdisciplinary teaching approach was employed. I like such pedagogical strategy; it expands both students' knowledge depth and breadth. The effectiveness of teaching depends a great deal on individual teacher's capability.

The same participant acknowledged the negative aspects of such quality education reform. For example, the schools' educational innovations are quite demanding for parents. Parents were required to check different technological apps on their phones every day for their children's different progressive reports and homework. They were also required to accompany their children to various extra curriculum clubs, activities, and tours. Also, this participant said that it was not easy to get into such key schools. So, both parents and children felt privileged to be in such schools, even though they all felt very tired. The quotes of AB's responses are listed below.

I am tired and happy as well because I know my children are privileged to have so many advanced educational resources; parents are involved in school life in the form of parent teacher association (PTA) events and other assignments, I am super busy, but I think children can achieve better with parental support.

***Subtheme 3: International Schooling Provides Education for Critical Thinking and Other Important Skills for Life Long Learning***

When the participants whose children attended international schools were asked of the probing question, "can you recall how your child's schooling put great emphasis on students' critical thinking development," they expressed their positive attitudes toward international schooling in its effectiveness in building up students' various learning skills and thinking skills. They also believed the availability of various cultures is helpful for the development of divergent thinking and knowledge of different perspectives. A couple of participants specifically mentioned about the inquiry-based learning approaches which they believe can improve questioning, exploring, connecting, and analyzing skills. The

following includes the quotes from the participants' responses. PP gave positive comments on the overall educational goal of international school cultures as inclusive, emphasizing the development of the whole child.

The international school environment itself contains multiple and diverse cultures, beliefs. Such an environment will be helpful to open multiple perspectives in students. International schools cultivate not only critical thinking but other characters and skills for quality education, including the spirit of sports, social skills, aesthetics learning, and so on.

JW specifically focused on the approach of teaching and learning in international schooling which focuses on concept learning by exploration and connecting with children's prior knowledge.

I feel in academic aspect the school's pedagogical approach is related to critical thinking development. For example, the math learning does not start from abstract concepts, they start from pieces of information about math based on students' life experience (to develop understanding of the concept). Based on concepts, I understand that learning can start from recognizing topics. With topics as starting points, learning is meaning making. So, this learning is not equal to copying all the facts; the purpose of learning is to get understanding.

XR restated her opinion about the important role of schooling in children's thinking education.

I think my children's schools play more important role in this (critical-thinking development). (I have seen) a lot in my daughter's schooling. She learned

differently after she was transferred to the current international school. For example, she organized her learning very well. When they were asked to finish a group project, they planned together about when and where they should go to take interviews, do observations, collect survey and questionnaires. My daughter organized her peers to do discussions, and they made job allocation and procedures.

### **Theme 8: Parental Perception of the Challenges for Public Schools to Develop Critical Thinking**

Theme 8 is related to how Chinese parents perceived public schools' challenges in providing an education for cultivation of children's thinking skills. Theme 8 was limited only to those responses by the participants whose children attended common public schools instead of key public schools and international schools. Those common public schools' challenges were perceived more by parents of upper graders, such as upper primary and secondary students, than parents of lower graders, such as preschool students and lower primary students. A couple of participants whose children were lower than preschool level did not have any specific opinions on the challenges public schools might have. They were not sure about the specific pedagogy and educational philosophy aiming for children's thinking development.

The data analysis showed that those participants whose children attend only public schools perceived the great challenges for public schools to develop an education for thinking, even though they acknowledged the intention of Chinese educational reform for a quality education. Different from those participants whose children attended



international schools and key public schools, the participants who experienced only common public schools did not perceive that the education reform for thinking development is happening. While yearning for their children's development in thinking, understanding, and making judgement rather than memorizing and studying for exams, I could see those participants' responses that they have reflected carefully about the issue. They shared their thoughts about the possible reasons why the results of quality education reform are not obvious. The emerged key words included large population, big class size, lack of educational resources, lack of trained teaching staff with the mindset for a quality education, and lack of affordable quality education resources. The representative responses are listed below.

With a professional background as a teacher, AB said she fully understood how difficult it is for all the public schools have equal access to quality education resources with such a large population of students in China.

There is a large population in China; so, there are not enough educational resources. Good schools are only for academically good students. Due to the lack of higher education resources, the high-stake entrance exams are existing. The competition for good schools and universities is fierce because good education (diplomas from top universities) promises good careers.

AD and HL expressed their concerns that only few families can afford to budget for an education that can give children more diverse learning opportunities and pay expensive clubs for getting broader perspectives. AD shared, "People can find other educational resources as supplementary but not many people can afford the time and

money needed for the extra classes or expensive alternative schools or international schools.” HL said:

I think it is necessary to cultivate such abilities from young age. Otherwise, a person will not get them immediately. But such education should be for the development of talents of higher level. It will be different for the talents of common or lower level. Besides, that kind of education costs a lot, money, time, efforts, and so on.

XR perceived the challenges from another perspective (i.e., the existence of high-stake exams allows cram schools to continue torture parents and students). Since she ever mentioned during the interview that the education for cultivation of critical thinking needs to take time, and students should not be rushed in their learning. As she said, “So, I only see a self-contradictory education reform. While they talk about quality education on one hand, they still use national exams and cram schools to push for academic results of standardized examinations on the other hand.”

When I read once again other participants’ responses for avoidance of biases, especially those participants from common public schools, I got some evidence that Chinese government is still pushing the quality education reform aiming for the cultivation of independent thinkers, life-long learners, and responsible citizens. With the existing challenges and limitation in resources, many schools are still striving hard toward the reform ideal with available resources. From AB, FY, and GL’s sharing, I could see those school administrators have taken initiatives to reform their schools’ teaching strategies and curriculum to engage students with transdisciplinary learning,

peer learning, study tours, and various extra curriculum learning activities. For example, AB said, “Quality education reform is happening in China indeed, even though with limited scale.” FY said:

Chinese education system has been improved a lot; it is not rote learning anymore. Schools organize field trips and study tours to improve the quality of education. The quality education reform stipulated policies to reduce homework, abolish entrance exams for junior middle schools, allow the development of private schools, encourage communities to organize cultural and science festivals, and so on.

GL had similar thoughts:

I think my son’s school is doing well in this respect. The changes I noticed include the newly added fields for children to plant vegetables and other greenery. Students water them regularly, observed, and take notes of plant growth. Another change is the new curriculum involving a group of children from different grades. They go to attend cross-disciplinary classes. I never heard about such things before. This resembles learning at universities; students go to the lectures of other year levels and specialization.

I’d like to use AB’s words to conclude my data analysis for RQ 3. AB said, The current challenges and difficulties of Chinese education reform are good problems. In the process of any educational reform, there are always necessary setbacks and good problems for policy makers and school administrators to reflect and work out solutions together with teachers and parents.

## Summary

The eight themes that were generated through data analysis helped me to find the answers to my research questions: Themes 1, 2, and 3 gave answers to RQ 1 on Chinese parents' perception of the concept of critical thinking; Themes 4, 5, and 6 provided answers to RQ 2 on Chinese parents' perception of the parental role in children's critical thinking development; and Themes 7 and 8 made it clear on RQ 3 that is about how Chinese parents perceived the role of their children's schooling in critical-thinking development.

Generally, participants gave a clear account of how they understood the concept of critical thinking based on their personal schooling experience, parenting experience, and their reading and learning related to critical thinking. There was a unanimous opinion about the important role of critical thinking in children's education and development. Most parent participants thought parents should take the primary responsibility in children's education, so they put great pressure on themselves for children's growth and thinking education. Therefore, they reported many difficulties and challenges for them to nurture thinking skills in their children, including personal limitation, obstacle of traditional educational beliefs, and lack of educational resources. In terms of the schooling's role in children's thinking education, most parents do not see any positive outcomes from the Chinese education reform for quality education. In Chapter 5, I interpret the research results and their connection to the existing relevant literature on this topic, and also consider the limitation and the advancement of the current qualitative study.

## Chapter 5: Discussion, Conclusions, and Recommendations

The purpose of this qualitative study was to explore how metropolitan Chinese parents perceive the concept of critical thinking and its pedagogy, how they perceive the parental roles in developing children's critical thinking, and what they perceive are influential factors in children's critical-thinking development. The data analysis in Chapter 4 generated the following eight themes:

Theme 1: Critical thinking as a very new concept for the 21st century Chinese people.

Theme 2: Perception of critical thinking is informed by personal experiences.

Theme 3: Parents' perception of critical thinking as important for children's growth.

Theme 4: Parental role is perceived as influential in children's development of critical thinking.

Theme 5: Perceived effective strategies for critical-thinking development.

Theme 6: Perceived challenges in critical-thinking development.

Theme 7: Parents' divergent perceptions of schooling role in critical-thinking development.

Theme 8: Parental perception of the challenges for public schools to develop critical thinking.

In Chapter 5, I interpret the findings in relationship to the conceptual framework and empirical literature. Chapter 5 also contains a description of the limitations of the current study and tentative recommendations for future study in the area of critical-

thinking education. I also discuss the implications of the research and the possible social change that it might bring about.

### **Interpretation of the Findings**

The purpose of the interpretation of the findings is to confirm, disconfirm, or extend the knowledge of the research topic. The results of the present study confirmed what the previous literature indicated about the conceptualization of critical thinking based on the Western research tradition and extended the knowledge on children's critical-thinking development by shedding some light on Chinese parents' perceptions of critical thinking and its pedagogy. However, the findings disconfirmed the conceptualization of critical thinking based on Confucian ideas. In this section, I compare the results with the conceptual framework for the study and the empirical literature reviewed.

### **Findings in Relation to the Conceptual Framework of the Study**

The concept of critical thinking has its origin in Western research tradition (Ennis, 1991; Fisher, 2001; Kuhn, 1999). With many available definitions in scholarly sources, I chose the following Western definition of critical thinking defined through a Delphi analysis: "critical thinking is a purposeful, self-regulatory judgement which results in interpretation, analysis, evaluation, and inference, as well as explanation of the evidential conceptual, methodological, criteriological or contextual considerations upon which that judgement was made." (Facione, 1990, p.6). The definition reflects a consensus of renowned education researchers and philosophers (Ennis, 1985; Lipman, 1988; Paul, 1990). During the literature search, I found another conceptualization of critical thinking

in line with Confucianism (see Tan, 2017). Considering the population chosen for the current research belongs to the Confucian heritage culture, I included Tan's (2017) definition of critical thinking from the Confucian perspective in the conceptual framework as well:

within Confucianism, critical thinking is understood around two primary ideas, li and ren (rites and virtue). Confucian ideas of li and ren offer characteristics of critical thinking as judgement, and critical thinking is experiential act of thinking in particular situations. Confucianism has a broader interpretation of such critical thinking (i.e., within the authentic context of real life, the observation of li and ren contains flexibility and adaptability), thus the act of thinking has a higher purpose, moral values, or virtue of humanity (p. 334).

None of the eight themes reflected parents' conceptualization of critical thinking according to Confucianism. Themes 1, 2, and 3 directly reflected the participants' conceptualization of critical thinking according to Western research tradition (i.e., the expert consensus through a Delphi analysis but not the Confucian conceptualization). Themes 4 to 8 were not focused on the conceptualization of critical thinking by the participants, but they could be interpreted as indirectly related to critical-thinking conceptualization. The way the participants perceived the concept of critical thinking did influence their perceptions of strategies for critical-thinking development. Themes 4, 5, and 6 related to Chinese parents' perceptions of strategies for critical-thinking development. These perceptions were determined by how the participants perceived the concept of critical thinking. Themes 7 and 8 were about the parental concerns of public

schooling for critical-thinking development. I found the perceptions of the challenges of Chinese public schooling also related to how the participants perceived of Chinese traditional culture and educational mode as obstacles for students' critical thinking. In this way, I interpreted Themes 4 to 8 in their indirect relationship with the Western-oriented conceptualization of critical thinking.

Theme 1 reflected the participants' feeling that the concept of critical thinking was new to them as well as to many other Chinese people of their generation. The perception of critical thinking as a new concept for Chinese people reflected their awareness that the concept was the result of the education borrowing from Western education values after China launched an education reform aiming for a quality education. Some Chinese education researchers like Bi et al. (2018) and Dong (2012) indicated a lack of understanding of critical thinking by educators, teachers, and education administrators and called for teachers and education administrators to have more professional training in terms of the meaning of critical thinking and its pedagogy if it became one of the educational goals of quality education reform.

Theme 2 reflected participants' perceptions of critical thinking as a beginning to a challenge of inculcated ideas and beliefs and to develop the courage to ask questions. All the participants thought that children need to be given more freedom to ask questions and find more possibilities through independent inquiry. The participants also mentioned reflection and consideration of multiple perspectives for decision making. In general, the participants believed that children's natural curiosity should be respected and encouraged during their learning process. Such perception of critical thinking is in line with the



definition according to the Western research tradition, and many Chinese scholars also have argued that the understanding of critical thinking should begin from the Western research tradition (see Chen, 2017, 2018; Chen et al., 2017; Huang et al., 2015).

Theme 3 confirmed that parents were influenced by the Western definition of critical thinking that emphasizes the importance of critical thinking in one's inquiry for learning and contribution to a democratic society as a responsible citizen (Halpern, 2014; Kuhn, 2008; Lipman, 2003; Paul, 1984, 1990). All 11 participants who thought critical thinking is an important aspect of development and skill for children gave detailed accounts of why they thought it important (e.g., critical thinking as a sign of a democratic society and critical thinking as important for making reasonable and responsible judgement in the aspects of one's social learning, cognitive learning, and citizen life).

I included a definition of critical thinking by Lipman (1988) in the conceptual framework. Lipman defined critical thinking as skillful and responsible thinking that facilitates judgement, as reliant on criteria and self-correction, and as sensitive to context. Two participants mentioned they knew about Lipman's P4C and expressed their great interest in it, and their responses reflected their perceptions that the purpose of P4C is to develop children's thinking as well as that of adults. However, neither of the two participants perceived critical thinking as in relationship with the three criteria included in Lipman's definition of critical thinking: criterion based, self-correction, and sensitivity to context.

As far as the Confucian conceptualization of critical thinking by Tan (2017) is concerned, most participants' perception of critical thinking as an educational value was

contradictory to traditional Confucian teaching. According to Confucian teaching, children are mostly required to be quiet and told not to ask too many questions (Sum & Kwon, 2020). Only one participant responded that she thought Confucianism might also encourage critical thinking, but Confucianism was banned for more than 10 years during the Cultural Revolution period in Mainland China and the large part of its tradition was lost afterwards (Zhang & Schwartz, 1997). So, as the participant mentioned, her generation and her parents' generation did not really get the opportunity to understand the essence of Confucianism. (See Chapter 2 for a discussion of elements of critical thinking in Confucianism.)

Themes 4, 5, and 6 indirectly reflected the participants' perceptions of the conflicting influence of Chinese traditional educational beliefs on Western-oriented critical-thinking development for children. Themes 7 and 8 could be explained through the participants' perceptions of critical thinking according to the Western definition. Based on such a perception, the participants thought that the current Chinese public school system is not appropriate for the development of students' critical thinking. None of the participants mentioned anything that happened during their home interactions with their children and the schooling that made them think that Confucian ideas might also contribute to children's development of critical thinking. Themes 4 to 8 confirmed that Chinese parents' perceptions of critical thinking is not in line with the Confucian conceptualization of critical thinking as defined by Tan (2017).

### **Findings in Relationship to the Reviewed Empirical Literature**

I found two topics in the literature review that are related to Themes 3, 4, 5, 6, 7, and 8: Studies regarding the parental role in student development and academic achievement and studies of critical thinking/disposition development in schooling. Theme 3 reflected Chinese parents' perceptions of the role of critical thinking for children's overall development (i.e., critical thinking is equally important as academic achievement). Theme 4 emerged from participants' perceptions of the influential role parents may play in children's critical-thinking development. This theme confirmed the findings of studies I reviewed on parental involvement and engagement in children's education. Many researchers have argued for the nondirect relationship between parent involvement or engagement and student achievement (Goodall & Montgomery, 2016; Guo, 2014; Guo et al., 2018; Long & Pang, 2016). Kim's (2020) meta-analysis on parenting in East Asian countries showed only specific types of parenting were positively related to student achievement, including parental high expectations, parent communication with children regarding their school activities, reading with children, and parents taking children for study tours. From the participants' interviews in the current study, I could see that these Chinese parents have high expectation for their children in both their development and academic achievement, which was in alignment with some previous studies (see Guo, 2014; Hu, 2009; Kim, 2020; Li & Li, 2019).

Theme 5 pertains to participants' perceptions of effective ways to develop critical thinking in their children, which reflects the types of parenting included in empirical literature (Budsankom et al., 2015; Huang et al., 2015; Kim, 2020). For example, they

reported that they had regular communication with their children and considered this crucial for critical-thinking development since they believed children need to have opportunities to express themselves. The content of their parent-child communication went beyond school activities to their life issues and a variety of affairs in society and everyday life.

However, little empirical research has contributed to the understanding of how parental involvement or engagement can be influential in critical-thinking development in their children, even though many participants in the current study perceived parental role as important for children to develop critical thinking. Budsankom et al. (2015) conducted a meta-analysis of the factors influential for higher order thinking skills (HOTS) that focused on 71 higher education institutions in Thailand. They found three factors had a direct effect on HOTS: students' psychological characteristics, classroom environment, and intellectual characteristics. Family characteristics were found to have insignificant effects on HOTS, but they had indirect effects on HOTS through students' psychological characteristics. As a conclusion, the researchers suggested that the democratic parenting style and support of the family will help students improve their attitudes towards learning, achievement motivation, and self-trust, which affect HOTS. The specific strategies suggested in their study corresponded to the participants' responses in the present research. They perceived they were taking care of children closely and fairly; providing children with opportunities to share their thoughts and ideas, make decisions, and solve problems; and encouraging children to participate in activities in and out of the classroom.

Budsankom et al. (2015) showed the relationship between family environment and students' HOTS in the Thai context. However, the parenting style in China may not be same as in Thai culture since the traditional Chinese Confucian culture is still influential in current Chinese parenting. Chen's (2016) and Wang's (2014) qualitative studies of parenting in China suggested that the parenting in China was influenced by Confucianism but experienced many changes due to China's economic reform and globalization. Many empirical studies contributed to the strategies and understanding of how critical thinking can be taught in the school environment (Abrami et al., 2015; Aizkovitsch-Udi & Cheng, 2015; Chen et al., 2017; Fung, 2017; Lee et al., 2016; Li, 2020; Liu, 2016, Ordem, 2017; Qi, 2018; Song, 2018; Wilson, 2016; Xia, 2018; Xu, 2019; Yao, 2019). However, parental involvement and engagement has only been extensively studied regarding its relationship to student academic achievement as shown in many previous research studies (Boonk et al., 2018; Goodall & Montgomery, 2016; Guo, 2014; Guo et al., 2018; Jeynes, 2014; Long & Pang, 2016; Piquart, 2016; Wang, 2014).

Participants expressed their thoughts regarding the challenges in parenting and schooling which are reflected in Themes 6, 7, and 8. Participants' responses suggested that most public schools did not put much emphasis on the development of students' critical thinking except a few key schools in each district of first tier cities which according to the participants cannot provide the need for a large population of students in China. However, the findings reflected in Themes 6, 7, and 8 confirmed a few studies that also highlighted the challenges that Chinese education reform is facing with (Bi et

al., 2018; Tan, 2016, 2017, 2019). Those researchers argued that China's education reform is based on the theoretical framework borrowed from the Western tradition, namely, constructivism, but Confucian ideas as the dominant educational ideology are in the conflict with the Western educational ideas. As Tan (2016) indicated there was an uneasy co-existence of constructivist ideas, assumptions, practices with traditional Confucian beliefs and logics in Chinese schools. Participants' responses of the present research reflected the existence of such a challenge in today's China for critical-thinking development, one of important western educational values.

I have not found much research contributing to understanding Chinese parenting under the new requirement presented by the Chinese educational reform in the framework of Western educational theories such as constructivism. According to the assumptions of constructivism, there was a call for creation of the partnership of school, parent, and communities in China, as suggested by Epstein (2010). But it is still at its beginning stage considering the many challenges facing teachers, schools, parents, and communities, such as resource allocation, size of the class, traditional Confucian beliefs, traditional transmission approach, emphasis on content mastery, and preferred assessment modes. As the Chinese education practitioner, Shi (2018) argued, the misunderstanding of parent-school-community partnerships has caused Chinese school teachers to recruit PTA members for various schoolwork, such as cleaning campus and classrooms, purchasing, gardening, mechanics job, and volunteers for exam proctoring among others.

### **Limitations of the Study**

There are limitations in any research study. The limitations of the present study are mainly in the relationship to the nature of qualitative study. They were reflected in the small size of the research population, the existence of researcher's bias, and language and cultural differences in data analysis. The small size of the population (12 participants in total) will limit transferability of the research findings. For example, the findings from such a small-scale research may not be representative enough for a comprehensive interpretation of Chinese parents' perception of critical thinking and its pedagogy in the context of China's education reform. Besides, it was hard to get a diversified population due to the small size of the research population. For example, the participants from the present research all have higher or above higher educational background and lived in first tier cities. The data collection was conducted in Chinese language and the collected data were translated into English with a free online translation software, Baidu Translator. Even though the translation software was helpful in verbatim translation, discrepancies in the interpretation of the findings caused by cultural differences between the two languages may have happened. I served as a tool of data collection; my subjectivity and biases are another possible factor to influence the validity of the study.

### **Recommendations**

The purpose of the present generic qualitative study was to explore Chinese parents' perceptions of critical thinking and its pedagogy. I employed open-ended, semi structured interview questions to collect data from the Chinese participants. The findings of the present study confirmed the gap in the literature (i.e., the lack of understanding in

how parental engagement and involvement is related to students' development of critical thinking in the context of China's education reform). The findings also reflected the lack of understanding of critical thinking and its pedagogy on the side of Chinese school teachers, as suggested in the studies done by Bi et al (2018), Dong (2012), and Tan (2016, 2017, 2019). The present generic qualitative study also extended the knowledge of Chinese parents' perception of critical thinking development. Parents, as one of the important stakeholders in education, should be considered in any education reform.

As Babbie (2007) indicated, the strengths of qualitative research include deeper understanding of a specific case or a concept through a close and in-depth interviews and observation of a specific group of people. From the data collection process, I have learned the value of such strength when I noticed participants' voluntary sharing and responding to the probing questions. Their detailed sharing of their personal experiences and reflective thoughts about the topic of the research was very helpful to get understanding of some Chinese parents' perspective on the research topic.

I recommend other researchers who is interested in the qualitative research inquiry into such a topic to take a more diverse research population. It can involve participants from more diverse population, not only metropolitan, but other second or third-tier cities, and even rural parents as well. The future research can also take a quantitative research methodology (i.e., to study the relationship between parental engagement and involvement and the students' critical thinking development). For such a quantitative research, I recommend a large-scale survey to examine the relationship between parental involvement and critical thinking development, especially emphasizing



on factors of parental support and involvement as well as parents' socioeconomic status and educational background. The literature review in the present study confirmed the lack of quantitative studies contributing to the relationship between parental engagement and involvement and students' critical-thinking development. It might help education practitioners and policy makers to take a serious consideration of parental role in any education reform with the support of more empirical data. Also, a mixed methodology could be even more helpful in extending the results from the quantitative study by getting more in-depth understanding of some significant contributing factors of parental role to children's critical thinking development. Such a mixed-method research could also take a purposeful selection of parents considering the factors of family socioeconomic status parental educational backgrounds, and children's schooling type and academic achievement to make a deeper exploration of the differentiated perception of critical thinking and its pedagogy.

### **Implications**

The Chinese education reform has been considered as characteristic of education borrowing from western countries, especially English-speaking countries (Han & Ye, 2017; Tan, 2015, 2016, 2019; Tan & Chua, 2015; Tan & Hairon, 2016; Tan & Reyes, 2016).). As a result, Chinese education policy makers included educational goals and values into the curriculum reform guidance and policy explanation (Ministry of Education of the People's Republic of China (MOE), 2001, 2016), such as scientific spirit with courage to question and inquire, teaching as a way to respect students' curiosity and personal interest, learning skills for a lifelong learning instead of rote-learning for exams,

and learning for a meaningful and healthy personal and social life. In the official document *Outline of Basic Education Curriculum Reform* (MOE, 2001), Chinese education policy makers highlighted the primary issues of the existing curriculum system across the country, such as overemphasis on knowledge transmission, textbook-based learning and repetitive learning approach, and exam-driven learning with a focus on selection of academically strong students. These documents reflected the Chinese government called for a transit from an exam-driven education with rote learning to a quality education with lifelong learning skills and character development. Under such a context, the findings of the present study reflected some understanding of the contents and forms of the Chinese education reform from Chinese parents' perspective.

The findings of the current study reflected Chinese parents are aware of the call of the Chinese education reform and confirmed that Chinese parents' attitudes were positive towards such Western educational values as critical thinking in Chinese students' development in academic learning, social learning, and citizen life. On the other hand, it can be inferred from the findings that Chinese parents were not well informed about any school initiatives to reform teaching and learning according to the constructivist perspective, and schools did not work well enough to develop partnership with parents for a thinking education. However, the empirical research has suggested that parents have played indirect role in developing students' critical thinking, such as higher order thinking.

Such findings will be helpful for school administrators considering the importance of parental partnership in a successful education reform that aims to develop well-

rounded students and future citizens with rational thinking and judgement making. Based on the present research findings, I recommend all the stakeholders should work together to improve communication between policy makers and parents as well as between school administrators, teachers, and parents.

From the research methodological perspective, the present qualitative study was helpful in providing educational researchers more understanding in terms of the critical-thinking education with parental voices represented. The detailed descriptions of participants' background, research setting, data collection process made the replication of the present qualitative research in other type of settings possible.

### **Conclusion**

In Chapter 5, I interpreted the findings from the generic qualitative study that was conducted under China's internationalized society and education reform as the research background and context. As a small scale generic qualitative research, the present study has some limitations, but the emergent themes from the data analysis shed some light on Chinese parents' perception of critical thinking, its role for the child's development and its pedagogy. The interpretation of the findings confirmed the gap identified in the present literature review. In the recommendation section, I make some suggestions for further qualitative and quantitative research on this research topic.

I think one of important aspects of the present research in relationship to the positive social change is that the research results highlighted the importance of the parental role in the child's overall development including the thinking development. According to the ecological perspective of children's development (Bronfenbrenner,

1986), many other microsystems play their role in the child's development. In discussing students' development of educational values such as critical thinking, I think researchers cannot limit the research of the concept and its pedagogy within only one single microsystem: schools. As one of very important stakeholders and main microsystems in the child's development, parents play their role that should not be overlooked. Also, parental engagement and involvement should be studied with the consideration of the specific cultures that parents and their children are in. The research results did not reflect Chinese parents' perception of critical thinking and its pedagogy as in line with traditional Chinese Confucian teachings. I think further research should be made focusing on the clarification of the cultural influences on parents' perception.

In conclusion, the present small scale generic qualitative research that was conducted through interviews with a group of Chinese metropolitan parents made some contribution to the knowledge of Chinese parents' perception of educational values prescribed in China's educational reform. However, further research with different research population considering other factors such as cultural and educational backgrounds, and socioeconomic status, is recommended.

## References

- Abrami, P., Bernard, R. M., Borokhovski, E., Waddington, D. F., Wade, C. A., & Persson, T. (2015). Strategies for teaching students to think critically: A meta-analysis. *Review of Educational Research*, 85(2), 275–314.  
<https://doi.org/10.3102/0034654314551063>
- Aizikovitsh-Udi, E., & Cheng, D. (2015). Developing critical thinking skills from dispositions to abilities: Mathematics education from early childhood to high school. *Creative Education*, 6(2015), 455-462.  
<https://doi.org/10.4236/ce.2015.64045>
- Aoki, K. (2008). Confucius vs. Socrates: The impact of educational traditions of East and West in a global age. *The International Journal of Learning*, 14(11), 35–40.  
<https://doi.org/10.18848/1447-9494/cgp/v14i11/45519>
- Atabaki, A. M. S., Keshtiaray, N., & Yarmohammadian, M. H. (2015). Scrutiny of critical thinking concept. *International Education Studies*, 8(3), 93-102.  
<https://doi.org/10.5539/ies.v8n3p93>
- Austin, L.&, & Shen, L. (2016). Factors influencing Chinese students' decisions to study in the United States. *Journal of International Students*, 6(3),722-732.  
<https://doi.org/10.32674/jis.v6i3.353>
- Babbie, E. (2007). *The practice of social research* (11th ed.). Thomson Higher Education.
- Benner, A.D., Boyle, A. E., & Sadler, S. (2016). Parental involvement and adolescents' educational success: The roles of prior achievement and socioeconomic status. *J*

*Youth Adolescence*, 45, 1053-1064. <https://doi.org/10.1007/s10964-016-0431-4>

Bi, J., Dong, Y., & Han, Y. (2018). Six prerequisite questions for teaching critical thinking in basic education. *Education Exploration*, 2(2018), 17-22.

Bonney, C. R., & Sternberg, R. J. (2011). Learning to think critically. In P. A. Alexander & R. E. Mayer (Eds.), *Handbook of research on learning and instruction* (pp. 166-196). Routledge. <https://doi.org/10.4324/9780203839089.ch9>

Boonk, L., Gijsselaers, H. J. M., Ritzen, H., & Brand-Gruwel, S. (2018). A review of the relationship between parental involvement indicators and academic achievement. *Educational Research Review*, 24(2018), 10-30.

<https://doi.org/10.4324/9780203839089.ch9>

Bronfenbrenner, U. (1986). Ecology of the family as a context for human development: Research perspectives. *Developmental Psychology*, 22(6), 723-742.

<https://doi.org/10.1037/0012-1649.22.6.723>

Branstetter, L., & Lardy, N. (2008). China's embrace of globalization. In L. Brandt & T. Rawski (Eds.), *China's great economic transformation* (pp. 633-682). Cambridge University Press. <https://doi.org/10.1017/cbo9780511754234.017>

Brookfield, S. (1991). On ideology, pillage, language and risk: Critical thinking and the tensions of critical practice. *Studies in Continuing Education*, 13(1), 1-14.

<https://doi.org/10.1080/0158037910130101>

Budsankom, P., Sawangboon, T., Damrongpanit, S., & Chuensirimongkol, J. (2015). Factors affecting higher order thinking skills of students: A meta-analytic structural equation modeling study. *Educational Research and Reviews*, 10(19),

2639-2652. <https://doi.org/10.5897/err2015.2371>

Butler, H. A., Pentoney, C., & Bong, M. P. (2017). Predicting real-world outcomes: Critical thinking ability is a better predictor of life decisions than intelligence. *Thinking Skills and Creativity*, 25, 38-46.

<https://doi.org/10.1016/j.tsc.2017.06.005>

Cassidy, C., & Christie, D. (2013). Philosophy with children: Talking, thinking and learning together. *Early Child Development and Care*, 183(8), 1072-1083.

<https://doi.org/10.1080/03004430.2013.773509>

Castro, M., Expósito-Casas, E., López-Martín, E., Lizasoain, L., Navarro-Asencio, E., & Gaviria, J. L. (2015). Parental involvement on student academic achievement: A meta-analysis. *Educational Research Review*, 14, 33-46.

<https://doi.org/10.1016/j.edurev.2015.01.002>

Chao, C., Hegarty, N., Angelidis, J., & Lu, V. (2017). Chinese students' motivations for studying in the United States. *Journal of International Students*, 7(2), 257-269.

<https://doi.org/10.32674/jis.v7i2.380>

Chen, L. (2017). Understanding critical thinking in Chinese sociocultural contexts: A case study in a Chinese college. *Thinking Skills and Creativity*, 24, 140-151.

<https://doi.org/10.1016/j.tsc.2017.02.015>

Chen, P., Tolmie, A. K., & Wang, H. (2017). Growing the critical thinking of schoolchildren in Taiwan using the Analects of Confucius. *International Journal of Educational Research*, 84, 43-54. <https://doi.org/10.1016/j.ijer.2017.02.002>

Chen, T. (2018). *Investigation and research on critical thinking of normal school*

*students: Take S university as an example.* [Master's thesis, Shan Xi Normal University]

Chen, Y. (2016). *Chinese parents' perspectives of parenting: Children's education and future prospects* [Master's thesis, University of Eastern Finland].

[http://epublications.uef.fi/pub/urn\\_nbn\\_fi\\_uef-20161093/urn\\_nbn\\_fi\\_uef-20161093.pdf](http://epublications.uef.fi/pub/urn_nbn_fi_uef-20161093/urn_nbn_fi_uef-20161093.pdf)

Cheng, C. (2016). A theory of learning in Confucian perspective. *Educational Philosophy and Theory*, 48(1), 52-63

Cheng, K. (1998). Can education values be borrowed? Looking into cultural differences.

*Peabody Journal of Education*, 73(2), 11-30.

[https://doi.org/10.1207/s15327930pje7302\\_1](https://doi.org/10.1207/s15327930pje7302_1)

Cleveland, J. (2015). *Beyond standardization: Fostering critical thinking in a 4th grade classroom through comprehensive Socratic circles* [Doctoral dissertation, Arizona State University].

[https://repository.asu.edu/attachments/150448/content/Cleveland\\_asu\\_0010E\\_14664.pdf](https://repository.asu.edu/attachments/150448/content/Cleveland_asu_0010E_14664.pdf)

Crede, J., Wirthwein, L., McElvany, N., & Steinmayr, R. (2015). Adolescents' academic achievement and life satisfaction: The role of parents' education. *Frontiers in Psychology Developmental Psychology*, 6(52), 7-8.

<https://doi.org/10.3389/fpsyg.2015.00052>

Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches.* (4th ed.). SAGE.



- Daniel, M., & Auriac, E. (2011). Philosophy, critical thinking and philosophy for children. *Educational Philosophy and Theory*, 43(5), 415-435.  
<https://doi.org/10.1111/j.1469-5812.2008.00483.x>
- Davies, M. (2015). A model of critical thinking in higher education. In M. B. Paulsen (ed.), *Handbook of theory and research* (pp. 41-92). Springer International Publishing Switzerland. [https://doi.org/10.1007/978-3-319-12835-1\\_2](https://doi.org/10.1007/978-3-319-12835-1_2)
- Dello-Iacovo, B. (2009). Curriculum reform and ‘quality education’ in China: An overview. *International Journal of Educational Development*, 29 (2009), 241–249. <https://doi.org/10.1016/j.ijedudev.2008.02.008>
- Dennehy, E. (2015). Learning approaches and cultural influences: A comparative study of Confucian and western-heritage students. *Journal of Further and Higher Education*, 9(6), 818-838. <https://doi.org/10.1080/0309877x.2013.869561>
- Dewey, J. (1910). *How we think*. D. C. Heath & Co.  
[https://pure.mpg.de/rest/items/item\\_2316308/component/file\\_2316307/content](https://pure.mpg.de/rest/items/item_2316308/component/file_2316307/content)
- Dewey, J. (1922). *Democracy and education*. The Macmillan Company.
- Dong, Y. (2012). Three fundamental misconceptions of critical thinking. *Journal of Higher Education*, 33(11), 64-70.
- Du, J. (2015). Socio-cultural changes and citizenship education in China: A historical review. *International Journal of Arts & Sciences*, 8(6), 481-492.
- Dunne, J., & Pendlebury, S. (2003). Practical reason. In N. Blake, P. Smeyers, R. Smith & P. Standish (Eds.), *The Blackwell guide to the philosophy of education* (pp. 194–211). Blackwell Publishing.

<https://doi.org/10.1111/b.9780631221197.2002.00014.x>

Dwyer, C. P., Hogan, M. J., Harney, O. M., & Kavanagh, C. (2017). Facilitating a student-educator conceptual model of dispositions towards critical thinking through interactive management. *Education Tech Research Dev*, 65(2017), 47–73.

<https://doi.org/10.1007/s11423-016-9460-7>

Dwyer, C. P., Hogan, M. J., & Stewart, I. (2014). An integrated critical thinking framework for the 21st century. *Thinking Skills and Creativity*, 12, 43-52.

<https://doi.org/10.1016/j.tsc.2013.12.004>

Ennis, R. H. (1985). A logical basis for measuring critical thinking skills, *Educational Leadership*, 43(2), 44-48.

<https://jgregorymcverry.com/readings/ennis1985assessingcriticalthinking.pdf>

Ennis, R. H. (1991). Critical thinking: A streamlined conception. *Teaching Philosophy*, 14(1), 5–25. <https://doi.org/10.5840/teachphil19911412>

Ennis, R. H. (1996). Critical thinking dispositions: Their nature and accessibility. *Informal Logic*, 18(2&3), 165-182. <https://doi.org/10.22329/il.v18i2.2378>

Epstein, J. (1995). School/family/community partnership: Caring for the children we share. *Phi Delta Kappan*, 76, 701-712.

<https://doi.org/10.1177/003172171009200326>

Epstein, J. (2010). School/family/community partnership: Caring for the children we share. *Kappan Classic*, 92(3), 81-96.

<https://doi.org/10.1177/003172171009200326>

Facione, P. A. (1990). *Critical thinking: A statement of expert consensus for purposes of*

- educational assessment and instruction - The Delphi Report*. American Philosophical Association. <https://philpapers.org/archive/FACCTA.pdf>
- Facione, P. A. (2011). Critical thinking: What it is and why it counts. *Insight Assessment*, 2001(1), 1-30. <https://doi.org/10.4135/9781526408129.n1>
- Fisher, A. (2001). Critical thinking: An introduction. In A. Fisher, (ed.), *Critical thinking* pp.1-17. Cambridge University Press. <https://doi.org/10.22329/il.v22i2.2583>
- Florea, N. M., & Hurjui, E. (2015). Critical thinking in elementary school children. *Procedia - Social and Behavioral Sciences*, 180, 565 – 572. <https://doi.org/10.1016/j.sbspro.2015.02.161>
- Fonga, C. J., Kima, Y., Davisa, C. W., Hoanga, T., & Kim, Y. W. (2017). A meta-analysis on critical thinking and community college student achievement. *Thinking Skills and Creativity*, 26(2017), 71–83. <https://doi.org/10.1016/j.tsc.2017.06.002>
- Forawi, S. A. (2016). Standard-based science education and critical thinking. *Thinking Skills and Creativity*, 20, 52-62. <https://doi.org/10.1016/j.tsc.2016.02.005>
- Fung, D. (2017). The pedagogical impacts on students' development of critical thinking dispositions: Experience from Hong Kong secondary schools. *Thinking Skills and Creativity*, 26 (2017), 128-139. <https://doi.org/10.1016/j.tsc.2017.10.005>
- Geisinger, K. F. (2016). 21st century skills: What are they and how do we assess them? *Applied Measurement in Education*, 29(4), 245-249. <https://doi.org/10.1080/08957347.2016.1209207>
- Gong, H. (2019). Seeking an accurate understanding of educational internationalization

for a steady movement towards a bilingual education. *Jiangsu Education*, 82(2019), 10-15.

Goodall, J., & Montgomery, C. (2014). Parental involvement to parental engagement: A continuum. *Educational Review*, 66(4), 399-410.

<https://doi.org/10.1080/00131911.2013.781576>

Griner, J., & Sobol, A. (2014). Chinese students' motivations for studying abroad. *The Global Studies Journal*, 7(1), 1-14. [https://doi.org/10.18848/1835-](https://doi.org/10.18848/1835-4432/cgp/v07i01/40893)

[4432/cgp/v07i01/40893](https://doi.org/10.18848/1835-4432/cgp/v07i01/40893)

Guo, J. (2014). Educational expectations of parents and children: Findings from a case of China. *Asian Social Work and Policy Review*, 8(2014), 228-242.

<https://doi.org/10.1111/aswp.12037>

Guo, N., Lu, J., Chen, Z., & Xiao, H. (2018). The problems and suggestions on education of transition from kindergarten to primary school in Zhoushan city. *Journal of Language Teaching and Research*, 9(4), 822-829.

<https://doi.org/10.17507/jltr.0904.20>

Guo, Y. (2012). Teaching English for economic competitiveness: Emerging issues and challenges in English education in China. *Canadian and International Education*, 41(2), 28-50. <https://doi.org/10.5206/cie-eci.v41i2.9202>

Guo, X., Lv, B., Zhou, H., Liu, C., Liu, J., Jiang, K., & Luo, L. (2018). Gender differences in how family income and parental education relate to reading achievement in China: The mediating role of parental expectation and parental involvement. *Frontiers in Psychology*, 9(2018), 1-12.

<https://doi.org/10.3389/fpsyg.2018.00783>

Halpern, D. F. (2014). Thinking: An introduction. In D. F. Halpern (Ed.), *Thought and knowledge. An introduction to critical thinking*. (pp. 1-55). Taylor & Francis.

<https://doi.org/10.4324/9781410606433>

Han, S., & Ye, F. (2017). China's education policymaking: A policy network perspective. *Journal of Education Policy*, 32(4), 389-413.

<https://doi.org/10.1080/02680939.2017.1291998>

Harris, A., Jones, M., & Adams, D. (2016). Qualified to lead? A comparative, contextual and cultural view of educational policy borrowing. *Educational Research*, 58(2),

166-178. <https://doi.org/10.1080/00131881.2016.1165412>

Henze, J., & Zhu, J. (2012) Current research on Chinese students studying abroad.

*Research in Comparative and International Education*, 7(1), 90-104.

<https://doi.org/10.2304/rcie.2012.7.1.90>

Hu, G. (2009). The craze for English-medium education in China: Driving forces and looming consequences. *English Today*, 25(4), 47-54.

<https://doi.org/10.1017/s0266078409990472>

Huber, C. R., & Kuncel, N. R. (2016). Does college teach critical thinking? A meta-analysis. *Review of Educational Research*, 20(10), 1-38.

<https://doi.org/10.3102/0034654315605917>

Huang, L., Wang, Z., Yao, Y., Shan, C., Wang, J., Zhu, M., Lu, Y., Sun, P., & Zhao, X. (2015). Exploring the association between parental rearing styles and medical students' critical thinking disposition in China. *BMC Medical Education*, 15(88).

<https://doi.org/10.1186/s12909-015-0367-5>

Huang, L., Liang, Y., Hou, J., Thai, J., Huang, J., Li, J., Zeng, Y., & Zhao, X. (2019).

General self-efficacy mediates the effect of family socioeconomic status on critical thinking in Chinese medical students. *Frontiers in Psychology*, 9(2578), 1-7. <https://doi.org/10.3389/fpsyg.2018.02578>

Hwang, K. (2013). Educational modes of thinking in Neo-Confucianism: A traditional lens for rethinking modern education. *Asia Pacific Educ. Rev*, 14(2013), 243–253.

<https://doi.org/10.1007/s12564-013-9243-3>

Jeynes, W. H. (2014). A meta-analysis: The relationship between father involvement and student academic achievement. *Urban Education*, 50(4), 387-423.

<https://doi.org/10.1177/0042085914525789>

Joseph, A. (2019). *Critical thinking across the disciplines: Understanding and application* (Doctor's dissertation, University of Plymouth).

<https://pearl.plymouth.ac.uk/handle/10026.1/13587>

Kahlke, R., M. (2014). Generic qualitative approaches: Pitfalls and benefits of methodological mixology. *International Journal of Qualitative Methods*, 13(1),

37-52. <https://doi.org/10.1177/160940691401300119>

Kim, S. W. (2020). Meta-analysis of parental involvement and achievement in east Asian countries. *Education and Urban Society*, 52(2), 312–337.

<https://doi.org/10.1177/0013124519842654>

Kuhn, D. (1999). A developmental model of critical thinking. *Educational Researcher*, 28(2), 16-26.

- Kuhn, D. (2008). *Education for thinking*. Harvard University Press.
- Kwak, D., Kato, M., & Hung, R. (2016). The Confucian concept of learning revisited for east Asian humanistic pedagogies. *Educational Philosophy and Theory*, 48(1), 1–6. <https://doi.org/10.1080/00131857.2015.1100883>
- Lam, C. (2017). Confucianism and critical rationalism: Friends or foes? *Education Philosophy and Theory*, 49(12), 1136-1145. <https://doi.org/10.1080/00131857.2016.1225561>
- Larsson, K. (2017). Understanding and teaching critical thinking—A new approach. *International Journal of Educational Research*, 84(2017), 32–42. <https://doi.org/10.1016/j.ijer.2017.05.004>
- Lau, D. C. (1979). *The analects of Confucius translated with an introduction*. Penguin Books.
- Lee, J. H., Lee, Y., Gong, S. L., Bae, J., & Choi, M. (2016). A meta-analysis of the effects of non- traditional teaching methods on the critical thinking abilities of nursing students. *BMC Medical Education* 16(240), 1-9. <https://doi.org/10.1186/s12909-016-0761-7>
- Li, L. & Wegerif, R. (2014). What does it mean to teach thinking in China? Challenging and developing notions of Confucian education. *Thinking Skills and Creativity*, 11, 22-32. <https://doi.org/10.1016/j.tsc.2013.09.003>
- Li, Y. (2020). Teaching strategies of critical thinking in high school mathematics learning. *Elite Teachers Online*, 9(2020), 59-60.
- Li, Y., & Li, J. (2019). Parental involvement in the domain of formal school education: A

- review of research paradigm, trend and reflection. *Education Research Monthly*, 8(2019),11-19.
- Lipman, M. (2011). Philosophy for children: Some assumptions and implications. *Ethics in Progress*, 2(1), 3-16 <https://doi.org/10.14746/eip.2011.1.2>
- Lipman, M. (1988). Critical thinking: What can it be? *Analytic Teaching*, 8(1), 5-12. <https://journal.viterbo.edu/index.php/at/article/view/403/197>
- Lipman, M. (2003). *Thinking in education*. Cambridge University Press.
- Liu, B. (2016). *Experiential learning and the cultivation of critical thinking in liberal studies in Hong Kong secondary school*. (Bachelor's thesis, the University of Hong Kong). <http://hdl.handle.net/10722/231122>
- Liu, J., McMahon, M., & Watson, M. (2015). Parental influence on child career development in Mainland China: A qualitative study. *The Career Development Quarterly*, 63(1), 74-87. <https://doi.org/10.1002/j.2161-0045.2015.00096.x>
- Long, H., & Pang, W. (2016). Family socioeconomic status, parental expectations, and adolescents' academic achievements: A case of China. *Educational Research and Evaluation*, 22(5-6), 283-304. <https://doi.org/10.1080/13803611.2016.1237369>
- Maxwell, J. A. (2013). *Qualitative research design: An interactive approach* (3rd ed.). Sage Publications.
- Maxwell, J. A. (2014). *Research design Qualitative, quantitative, and mixed methods approaches* (4th ed.). Sage Publications. <https://doi.org/10.5539/elt.v12n5p40>
- McPeck, J. (1981). *Critical thinking and education*. Martin Robinson & Company Ltd.
- McPeck, J. (1991). What is learned in informal logic? *Teaching Philosophy*, 14, 25-34.



<https://doi.org/10.5840/teachphil19911414>

McPeck, J. (1994). Critical thinking and the “trivial pursuit” theory of knowledge. In K. Walters (ed.), *Re-thinking reason: New perspectives in critical thinking*. (pp.101-119). State University of New York Press.

<https://doi.org/10.5840/teachphil19858499>

Merriam, S. B. (2002). Introduction to qualitative research. In S. B. Merriam (ed.), *Qualitative research in practice: Examples for discussion and analysis*. Jossey-Bass.

MOE. (2001). Outline of basic education curriculum reform (trial).

[http://old.moe.gov.cn/publicfiles/business/htmlfiles/moe/s8001/201404/xxgk\\_167343.html](http://old.moe.gov.cn/publicfiles/business/htmlfiles/moe/s8001/201404/xxgk_167343.html)

MOE. (2016). The core skills for Chinese students’ development. *Chinese Education Journal*, 10(2016). <https://doi.org/10.12677/qrb.2014.11004>

Mok, K. H. (1997). Privatization or marketization: Educational development in post-Mao China. *International Review of Education*, 43(5-6), 547-567.

[https://doi.org/10.1007/978-94-011-5202-0\\_11](https://doi.org/10.1007/978-94-011-5202-0_11)

Noone, C., Bunting, B., & Hogan, M. J. (2016). Does mindfulness enhance critical thinking? Evidence for the mediating effects of executive functioning in the relationship between mindfulness and critical Thinking. *Frontiers in Psychology*, 6(2043), 1-12. <https://doi.org/10.3389/fpsyg.2015.02043>

OECD (2016). *PISA 2015 results (Volume I): Excellence and equity in education (Summary)*, OECD Publishing. <https://doi.org/10.1787/bc6256e2-en>

- Ordem, E. (2017). Developing critical-thinking dispositions in a listening/speaking class. *English Language Teaching*, 10(1), 50-55. <https://doi.org/10.5539/elt.v10n1p50>
- Paradise, J. (2012). International education: Diplomacy in China. *The Brown Journal of World Affairs*, 19(1), 195-205.
- Patton, M. Q. (2015). *Qualitative research & evaluation methods: Integrating theory and practice* (4th ed.). Sage Publications.
- Paul, R. W. (1984). Critical thinking: Fundamental to education for a free society. *Educational Leadership*, 42(1), 4-14. <https://eric.ed.gov/?id=EJ306669>.
- Paul, R.W. (1990). Critical thinking: What, why and how. In A. J. A. Binker (Ed.), *Critical thinking: What every person needs to survive in a rapidly changing world*. (pp. 45-56). Sonoma State University.  
<https://doi.org/10.1177/019263659107553325>
- Pinquart, M. (2016). Associations of parenting styles and dimensions with academic achievement in children and adolescents. *Education Psychological Review*, 28(2016), 475-493. <https://doi.org/10.1007/s10648-015-9338-y>
- Porumbua, D., & Necoib, D. V. (2013). Relationship between parental involvement/attitude and children's school achievements. *Procedia Social and Behavioral Sciences*, 76(2013), 706-710.  
<https://doi.org/10.1016/j.sbspro.2013.04.191>
- Qi, J. M. (2018). The influence of critical thinking ability on student's English writing: An empirical case study. *Journal of Kaifeng Institute of Education*, 38(9), 1-3.
- Qiu, J. (2003). *On teaching critical thinking at the stage of compulsory education*.

(Master's thesis, Shanghai Normal University).

- Ravitch, S. M., & Carl, N. M. (2016). *Qualitative research Bridging the conceptual, theoretical, and methodological*. Sage Publications.
- Ren, L., & Edwards, C. P. (2015). Pathways of influence: Chinese parents' expectations, parenting styles, and child social competence. *Early Child Development and Care*, 185(4), 614-630. <https://doi.org/10.1080/03004430.2014.944908>
- Robinson, J., & Guan, X. (2012). The changing face of international education in China. *On the Horizon*, 20(4), 305-312. <https://doi.org/10.1108/10748121211272443>
- Rodgers, C. (2002). Defining reflection: Another look at John Dewey and reflective thinking. *Teachers College Record*, 104(4), 842-886. <https://doi.org/10.1111/1467-9620.00181>
- Rošker, J. S. (2017). Editor's foreword: Confucianism and education. *Asian Studies*, 5(21), 5–8. <https://revije.ff.uni-lj.si/as/article/download/7446/7163>
- Rubin, H. J., & Rubin, I. S. (2012). *Qualitative interviewing* (3rd ed.) Sage Publications.
- Ryan, J. (2016). 'Asian' learners or 'internationalized' learners? Taking advantage of international cultural academic flows. *East Asia*, 33(2016), 9–24. <https://doi.org/10.1007/s12140-015-9246-2>
- Ryan, J., & Louie, K. (2007). False dichotomy? "Western" and "Confucian" concepts of scholarship and learning. *Educational Philosophy and Theory*, 39(4), 404-417. <https://doi.org/10.1111/j.1469-5812.2007.00347.x>
- Saldaña, J. (2016). *The coding manual for qualitative researchers* (3rd ed.). Sage Publications.

- Sanchez Sorondo, M., Malinvaud, E., & Lena, P. (2007). *Globalization and education*. Walter De Gruyter.
- Siegel, H. (1988). *Educating reason: Rationality, critical thinking and education*. The Routledge.
- Saravanamuthu, K., & Yap, C. (2014). Pedagogy to empower Chinese learners to adapt to Western learning circumstances: A longitudinal case-study. *Cambridge Journal of Education*, 44(3), 361-384. <https://doi.org/10.1080/0305764x.2014.914154>
- Schulte, B. (2019). Curse or blessing? Chinese academic responses to China's PISA performance. In G. Steiner-Khamsi & F. Waldow (Eds.) *Understanding PISA's attractiveness: Critical analyses in comparative policy studies*. (pp. 177-197). Bloomsbury Publishing. <https://doi.org/10.5040/9781350057319.ch-009>
- Schulte, B. (2018). Allies and competitors: Private schools and the state in China. In G. Steiner-Khamsi & A. Draxler (Eds.), *The state, business and education*. (pp.68-84). Edward Elgar Publishing. <https://doi.org/10.4337/9781788970334.00010>
- Shi, W. H. (2018). On parent becoming part-time teacher: A misunderstanding of parent-school partnership. *China Teacher's Newspaper*, 3, 1.
- Sigurðsson, G. (2017). Transformative critique: What Confucianism can contribute to contemporary education. *Student Philosophy Education*, 36(2017), 131–146. <https://doi.org/10.1007/s11217-015-9502-3>
- Sit, H. H. W. (2013). Characteristics of Chinese students' learning styles. *International Proceedings of Economics*, 62(8), 36-39. <http://www.ipedr.com/vol62/008-ICLMC2013-M10004.pdf>

- Slethaug, G. (2010). Something happened while nobody was looking: The growth of international education and the Chinese learner. In R. J. and Slethaug, G. (Ed), *International education and the Chinese learner*. (pp.15-36). Hong Kong University Press. <https://doi.org/10.5790/hongkong/9789888028450.003.0002>
- Song, C. (2018). *An empirical study on high school students' critical thinking dispositions*. (Master's thesis, Shandong Normal University).
- Stupplea, E. J.N., Maratosa, F. A., Elandera, J., Hunta, T. E., Cheungb, K. Y. F., & Aubeeluckc, A. V. (2016). Development of the Critical Thinking Toolkit (CriTT): A measure of student attitudes and beliefs about critical thinking. *Thinking Skills and Creativity*, 23 (2017), 91–100. <https://doi.org/10.1016/j.tsc.2016.11.007>
- Sum, E. S. W., & Kwon, O. N. (2020). Classroom talk and the legacy of Confucian culture in mathematics classroom. *Teaching and Teacher Education* 88(2020), 1-11. <https://doi.org/10.1016/j.tate.2019.102964>
- Szenes, E., Tilakaratna, N., & Maton, K. (2015). The knowledge practices of critical thinking. In M. Davies & R. Barnett (Eds.), *The Palgrave handbook of critical thinking in higher education*. (pp. 573- 591). Palgrave Macmillan. [https://doi.org/10.1057/9781137378057\\_34](https://doi.org/10.1057/9781137378057_34)
- Tan, C. (2012). The culture of education policy making: Curriculum reform in Shanghai. *Critical Studies in Education*, 53(2), 153-167. <https://doi.org/10.1080/17508487.2012.672333>
- Tan, C. (2016). Teacher-directed and learner-engaged: Exploring a Confucian conception of education. *Ethics and Education*, 10(3), 302-312.

<https://doi.org/10.1080/17449642.2015.1101229>

Tan, C. (2015). Education policy borrowing and cultural scripts for teaching in China.

*Comparative Education*, 51(2), 196-211.

<https://doi.org/10.1080/03050068.2014.966485>

Tan, C. (2016). *Educational policy borrowing in China. Looking west or looking east?*

Routledge.

Tan, C. (2017a). Chinese responses to Shanghai's performance in PISA. *Comparative*

*Education*, 53(2), 209-223. <https://doi.org/10.1080/03050068.2017.1299845>

Tan, C. (2017b). A Confucian conception of critical thinking. *Journal of Philosophy of*

*Education*, 51(1), 331-342.

Tan, C. (2017c). Constructivism and pedagogical reform in China: Issues and challenges.

*Globalization, Societies and Education*, 15(2), 238-247.

<https://doi.org/10.1080/14767724.2015.1105737>

Tan, C. (2017d). Teaching critical thinking: Cultural challenges and strategies in

Singapore. *British Educational Research Journal*, 43(5), 988–1002.

<https://doi.org/10.1002/berj.3295>

Tan, C. (2019a). PISA and education reform in Shanghai. *Critical Studies in Education*,

60(3), 391-406. <https://doi.org/10.1080/17508487.2017.1285336>

Tan, C. (2019b). Sensemaking and sensegiving in schooling reform: South Korea and

China. *Globalization, Societies and Education*. January, 1-11.

<https://doi.org/10.1080/14767724.2019.1567302>

Tan, C., & Chua, C. S. (2015). Education policy borrowing in China: Has the West wind

overpowered the East wind? *Compare: A Journal of Comparative and International Education*, 45(5), 686-704.

<https://doi.org/10.1080/03057925.2013.871397>

Tan, C., & Hairon, S. (2016). Education reform in China: Toward classroom communities. *Action in Teacher Education*, 38(4), 315-326.

<https://doi.org/10.1080/01626620.2016.1226205>

Tan, C., & Reyes, V. (2016). Curriculum reform and education policy borrowing in China: Towards a hybrid model of teaching. In C. P. Chou & J. Spangler (eds.). *Chinese education models in a global age. Education in the Asia-Pacific region: Issues, concerns and prospects*. (pp. 37-50). [https://doi.org/10.1007/978-981-10-0330-1\\_3](https://doi.org/10.1007/978-981-10-0330-1_3)

Tan, G. (2012). The one-child policy and privatization of education in China. *International Education*, 42(1), 43-53.

<https://trace.tennessee.edu/internationaleducation/vol42/iss1/3>

Tan, L. (2016). Confucius: Philosopher of twenty-first century skills. *Educational Philosophy and Theory*, 48(12), 1233- 1243.

<https://doi.org/10.1080/00131857.2016.1182416>

Tan, P. (2011). Towards a culturally sensitive and deeper understanding of “rote learning” and memorization of adult learners. *Journal of Studies in International Education*, 15(2), 124-145. <https://doi.org/10.1177/1028315309357940>

Tang, T. H. (2018). Different is not deficient: Contrasting stereotypes of Chinese international students in US higher education. *Studies in Higher Education*, 43(1),

22-36. <https://doi.org/10.1080/03075079.2016.1152466>

- Tran, T. T. (2013). Is the learning approach of students from the Confucian heritage culture problematic? *Education Research Policy Practice*, 12(2013), 57-65. <https://doi.org/10.1007/s10671-012-9131-3>
- Tous, M. D., & Haghighi, S. (2016). Developing critical thinking with debate: Evidence from Iranian male and female students. *Informal Logic*, 36(1), 64-82. <https://doi.org/10.22329/il.v36i1.4357>
- Vygotsky, L. S. (2012). *Thought and language*. The MIT Press.
- Wang, H. (2014). The relationship between parenting styles and academic and behavioral adjustment among urban Chinese adolescents. *Chinese Sociological Review*, 46(4), 19-40. <https://doi.org/10.2753/csa2162-0555460402>
- Wang, J. (2018). Pedagogy and research of critical thinking in China: Issues and reflection. *Henan Social Sciences*, 2(2018), 97-101.
- Wang, N. (2015). China in the process of globalization highlighting the humanities spirit in the age of globalization: Humanities education in China. *European Review*, 23(2), 273-285. <https://doi.org/10.1017/s1062798714000738>
- Wang, V. C. X., & King, K. P. (2008). Transformative learning and ancient Asian educational perspectives. *Journal of Transformative Education*, 6(2), 136-150. <https://doi.org/10.1177/0002764208322760>
- Wang, Y. C. (2014). In search of the Confucian family: Interviews with parents and their middle school children in Guangzhou China. *Journal of Adolescent Research*, 29(6), 765-782. <https://doi.org/10.1177/0743558414538318>



- Wechsler, S. M., Saiz, C., Rivas, S. F., Vendramini, C. M. M., Almeida, L. S., Mundim, M. C., & Franco, A. (2018). Creative and critical thinking: Independent or overlapping components? *Thinking Skills and Creativity*, 27(2018), 114-122.  
<https://doi.org/10.1016/j.tsc.2017.12.003>
- Wen, H., Xiao, Y., & Zhang, L. (2017). School district, education quality, and housing price: Evidence from a natural experiment in Hangzhou, China. *Cities*, 66(2017), 72-80. <https://doi.org/10.1016/j.cities.2017.03.008>
- Wilder, S. (2014). Effects of parental involvement on academic achievement: A meta-synthesis. *Educational Review*, 66(3), 377-397.  
<https://doi.org/10.1080/00131911.2013.780009>
- Wilson, K. (2016). Critical reading, critical thinking: Delicate scaffolding in English for academic purposes (EAP). *Thinking Skills and Creativity*, 22(2016), 256–265.  
<https://doi.org/10.1016/j.tsc.2016.10.002>
- Wong, L. J. (2004). School autonomy in China: A comparison between government and private schools within the context of decentralization. *International Studies in Educational Administration*, 32(3), 58-73.
- Xia, Q. (2018). *Understanding critical thinking from the perspective of knowledge view and school education reform*. (Doctor's dissertation).
- Xu, C. (2019). Developing students' reading and thinking skills within the framework of China's social core values. *Reference for Elementary Teaching*, 07(2019), 22-23.
- Yamamoto, Y., Holloway, S. D., & Suzuki, S. (2016). Parental engagement in children's education: Motivating factors in Japan and the U.S.. *School Community Journal*,

- 26(1), 45-66. <http://www.schoolcommunitynetwork.org/SCJ.aspx>
- Yamato, Y., & Bray, M. (2006). Economic development and the market place for education. *Journal of Research in International Education*, 5(1), 57-82.
- Yang, J. Z. (2016). *When Confucius “encounters” John Dewey: A historical and philosophical analysis of Dewey’s visit to China* (Doctor’s dissertation, University of Oklahoma). <https://hdl.handle.net/11244/45406>
- Yao, F. (2019). Student critical thinking development target and assessment. *Jiangsu Education*, 2019(51), 7-10.
- You, Y. (2018). The seeming ‘round trip’ of learner-centered education: A ‘best practice’ derived from China’s new curriculum reform? *Comparative Education*, 55(1), 97-115. <https://doi.org/10.1080/03050068.2018.1541662>
- You, Y. (2019). The ‘new Orientalism’: Education policy borrowing and representations of east Asia. *Compare: A Journal of Comparative and International Education*, 50(5), 742-763. <https://doi.org/10.1080/03057925.2018.1559038>
- Young, N. A. E. (2018). Departing from the beaten path: International schools in China as a response to discrimination and academic failure in the Chinese educational system. *Comparative Education* 54(2), 159-180. <https://doi.org/10.1080/03050068.2017.1360566>
- Zhang, Z., & Kumari, B. (2014). I came, but I’m lost: Learning stories of three Chinese international students in Canada. *Canadian and International Education*, 43(2), 1-14. <https://doi.org/10.5206/cie-eci.v43i2.9252>
- Zhang, T., & Schwartz, B. (1997). Confucius and the cultural revolution: A study in

collective memory. *International Journal of Politics, Culture, and Society*, 11(2), 189-212.

Živkovi, S. (2016). A model of critical thinking as an important attribute for success in the 21st Century. *Procedia - Social and Behavioral Sciences*, 232(2016), 102 – 108. <https://doi.org/10.1016/j.sbspro.2016.10.034>

### Appendix: Individual Interview Protocol

Before we start, I would like to offer a brief explanation and definition of the concept of critical thinking: the following definitions reflect the general belief in critical thinking based on my literature review. By sharing the definitions, I'd like to give you some basic idea on what critical thinking is and how the concept has been studied by education researchers across the world and invite you to explore their relevance to you.

*Critical thinking in Western tradition:* critical thinking is a purposeful self-regulatory judgement. In this process, skills are involved, such as interpretation, analysis, evaluation and inference, as well as explanation of the relevant evidence, methods, and criteria.

Lipman who started the program of Philosophy for Children defined critical thinking as skillful and responsible thinking that facilitates judgement. Critical thinking relies on criteria and self-correction and is sensitive to context.

*Critical thinking in Confucianist tradition:* an educational researcher, Mr. Tan's study of Confucianism claimed that the concept of critical thinking does exist in Confucian ideas. According to Tan, critical thinking is understood around two primary ideas, li and ren (rites and virtue). Confucian ideas of li and ren offer characteristics of critical thinking as judgement.

Do you have any questions about these definitions? Now, let's get started.

Interview protocol for RQ 1: How do metropolitan Chinese parents perceive the concept of critical thinking and its importance in child rearing and cultivation?

- 1) How do you understand critical thinking, based on those definitions?

- 2) What value do you see of critical thinking in your child's education? Can you explain why critical thinking is important for your children? Or, in what aspects do you think critical thinking is an important skill for your child to develop?
- 3) What experiences do you have in which you think your child exhibits the characteristics of critical thinking? Can you describe such an experience? Can you name a few characteristics?
- 4) What do you think is the role of critical thinking in your child's learning? In these cases, can you name a few skills that you think are developed thanks to the critical thinking?
- 5) Have there been any unpleasant experiences you have had in which your child exhibits critical thinking? Can you tell me about them?
- 6) What role of schooling do you see in your child's/children's critical thinking development?

Interview protocol for RQ 2: How do metropolitan Chinese parents perceive/consider their role in developing children's critical thinking?

- 1) What the factors, do you think, matter most for your child, and are most helpful to develop his/her critical thinking, from your personal experiences?
- 2) What the family environmental factors, do you think, are most beneficial for your child's critical-thinking development from your experiences?

- 3) What strategies do you think are effective for your child's critical thinking development from your experience?
- 4) Can you please describe some challenges that you met or predict in developing your child's critical thinking?

Interview protocol for RQ 3: What do metropolitan Chinese parents perceive as the influential factors in children's development of critical thinking in their schooling?

- 1) What scenarios or experience can you recall when and how your child's schooling put great emphasis on students' critical thinking development?
- 2) Are there ways you think your child develops critical thinking from his/her schooling? Can you tell me about them?
- 3) In what aspects do you see your child's school strive to develop students' critical thinking?
- 4) What schooling factors do you think are influential for students to develop critical thinking?
- 5) What differences do you see in your child's school's approaches compared to your parent approaches towards critical thinking development?

Is there anything else you would like to add?

对于批判性思维概念定义的简要介绍：

以西方哲学理论为基础的定义：批判性思维是一种有目的性的、需要自我掌控的做评判的行为。此判断行为需要解释、分析、评价、推论的过程，也涉及对于判断产生所基于的或作为佐证的概念、方法、标准或实际情况的解释。

李普曼（儿童哲学创始人）的定义：批判性思维是一种充满技巧并认真责任的思考行为，这种思考行为帮助形成判断，批判性思维要以一定的标准为参照，思考者要自我矫正，并要考虑具体场景。

以东方人文理论为基础对于批判性思维的定义：新加坡的谭教授的研究现实，儒家文化中也有批判性思维的概念。基于儒家思想的批判性思维主要涵盖“礼”和“仁”两个大方面。“礼”和“仁”的思想中所产生的判断，也囊括了在实际生活场景下的思维活动。

研究问题一：中国大都市的家长们对“批判性思维”的理解如何呢？他们对“批判性思维”在孩子教育上的重要性看法如何呢？

- 1) 你们是怎样理解“批判性思维”这个概念的？可以根据您的所听、所读或者个人经历分享一下吗？
- 2) 在孩子的教育问题上，什么是您最关心的，又有哪些是您特别看重的呢？
- 3) 您能解释一下，为什么您觉得“批判性思维”对孩子的教育来说很重要？或者您可以解释一下从哪些方面讲，孩子需要一种“批判性思维”的技能。
- 4) 请您讲述一下，以往某些个人经验中，您觉得发现了孩子表现出了“批判性思维”的特征。
- 5) 看到孩子表现出来“批判性思维”，请从您的角度概括一下“批判性思维”有哪些特征呢？
- 6) 您觉得，孩子发展出来这样的“批判性思维”对孩子本人的学习有什么样的作用呢？

- 7) 如果说“批判性思维”对孩子的学习有积极的作用，请您说说您孩子的哪些学习技能是由于他/她的“批判性思维”而发展出来的。
- 8) 那么到目前，您孩子的这种“批判性思维”给您带来哪些不悦或令人不愉快的经历？请您详细讲讲。

研究问题二：在培养孩子批判性思维这件事情上，中国大都市家长们对自己在其中所起的作用如何理解。

- 1) 从您的个人经验来看，您认为什么因素是比较重要，并且最有可能帮助您孩子发展“批判性思维”呢？
- 2) 从个人经验而言，您认为哪些家庭环境因素有益于孩子发展“批判性思维”？
- 3) 那么从您的成功经验来看，可以分享一下，您觉得什么样的方法比较有效地发展孩子的“批判性思维”？
- 4) 请您描述一下，在培养孩子“批判性思维”的过程中遇到的挑战，或者您预估将来会面临什么挑战？

研究问题三：中国大都市的家长们认为，学校教育中有哪些因素影响孩子们批判性思维的发展。

- 1) 请您描述一下，您记得哪些事情或哪些经验使您觉得，您孩子的学校是重视发展学生“批判性思维”的。
- 2) 您认为，学校教育中有哪些方面是在发展您孩子的“批判性思维”？请您详细谈谈。
- 3) 您认为学校教育在哪些具体的方面让您感受到，学校在尽一切努力培养学生们的“批判性思维”？
- 4) 从您的观点出发，您认为学校教育中的哪些因素会影响到孩子“批判性思维”的发展？



- 5) 如果对学校教育中培养学生“批判性思维”和您家长的培养方式做对比的话，您看出哪些不同之处呢？