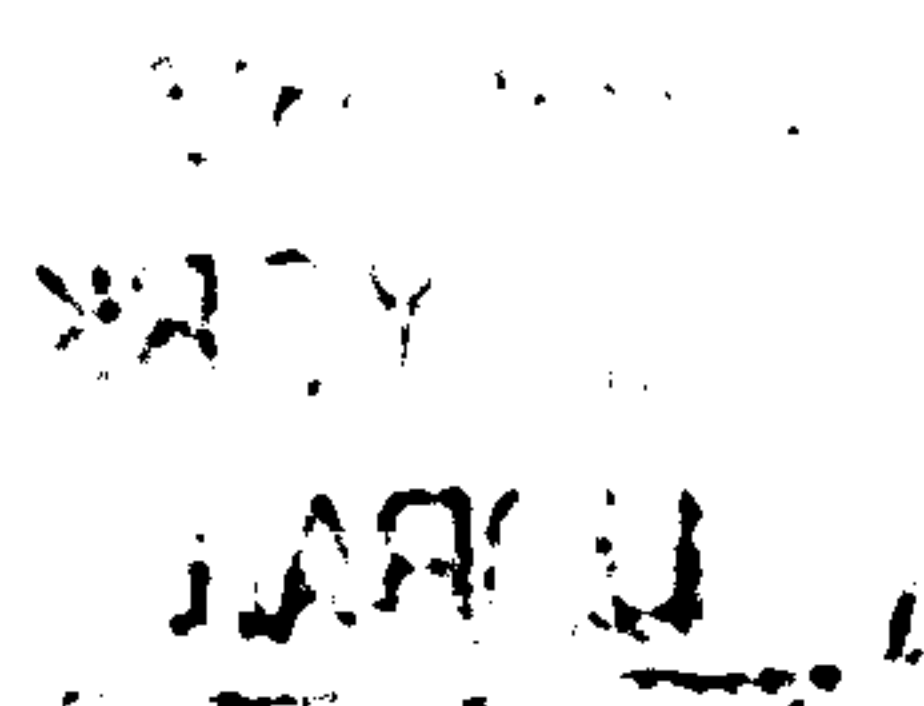


**The influence of undergraduate learning contexts on Chinese
graduate students' argumentation and critical thinking in writing**

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Abstract

The issue of critical thinking (CT) by Chinese students first aroused my interest when I was doing the research for my MA dissertation, in which CT was considered by many students to be a salient weakness of their academic writing in the UK. The CT of Chinese students in English academic writing has been discussed extensively in the literature, and researchers are becoming increasingly interested in the impact of the learning context on it. However, there has been a lack of empirical research into this area, especially in-depth qualitative studies. The purpose of this study is to investigate the undergraduate training Chinese students receive in China on their critical thinking skills in academic writing. The focus is on its usefulness as preparation for a higher degree abroad, specifically in the UK. It is the first attempt to explore this issue by seeking evidence primarily from qualitative data.

The research was divided into two stages. The first stage, Study 1, took a mixed-methods approach combining both questionnaires and interviews at a UK university, looking at the general writing experiences of Chinese students at undergraduate level in China, the writing challenges they encountered after they came to the UK, and the differences between the two countries, in an attempt to look at how far their previous experiences had affected their study abroad. The second stage, Study 2, examined in detail the learning experiences of Chinese undergraduates in China and their application of critical thinking to academic writing, by collecting data through a case study of two departments (an English department and a department of International Trade and Finance) at a Chinese university. The research instruments used were interviews, classroom observations, and text analysis of student writing samples.

The key findings from Study 1 showed that the writing experiences of Chinese students at undergraduate level in China varied greatly; academic writing in the UK was significantly different from that in China; argumentation and critical thinking were more emphasised in the UK than in China; and the supervisor played an important role in dissertation writing in China. The results of Study 2 indicated that the types of exam had affected student writing. As information-oriented exams were still prevalent in the two departments, the classes were primarily composed of teacher-dominant lectures and writing as a learning activity had not received adequate attention.

Also, the feedback on students' work was not extensive, and plagiarism was still common. The application of argumentative and critical thinking skills in the student writing samples, analysed using an evaluation framework combining Andrews's (2007) principles of argumentation and the critical thinking skills derived from Facione (2006) and Tsui (2002), was limited.

Three conclusions were drawn on the basis of the findings from both the literature review and empirical studies: (1) several key argumentative and critical thinking skills were not evident in the academic writing of the undergraduates in China; (2) training at undergraduate level in China was not conducive to the development of argumentative and CT skills; and (3) English-major students are likely to have considerably different experiences of learning and writing at undergraduate level in China from other social science students. Empirical evidence from the two studies confirms the earlier finding from the literature review that researchers perhaps need to pay more attention to the learning context than to Confucian-heritage culture. The study also draws implications and makes recommendations for Chinese students, Chinese educators and English educators, and calls for attention to, and further research into, (1) the relationship between learning stages and critical thinking abilities of students, (2) the dispositions dimension of CT, and (3) appropriate methods for teaching and learning critical thinking in China.

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List of abbreviations

APA	American Psychological Association
AUEI	Australian Education Index
BREI	British Education Index
CARLA	Center for Advanced Research on Language Acquisition
CCTDI	California Critical Thinking Dispositions Inventory
CCTST	California Critical Thinking Skills Test
CT	Critical Thinking
ERIC	Education Resource Information Center
GPA	Grade Point Average
IELTS	International English Language Testing System
PDP	Personal Development Planning
TEM4	Test for English Majors, Level 4
TEM8	Test for English Majors, Level 8
TESOL	Teaching English to Speakers of Other Languages
TOEFL	Test of English as a Foreign Language
WGCTA	Watson-Glazer Critical Thinking Appraisal

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Chapter 1

Introduction

1.1 The aim and significance of the study

The aim of the present study is to examine the influence of previous learning context(s) at undergraduate level on the application of critical thinking (henceforth CT) to academic writing by Chinese students studying abroad (in the UK) on higher degrees. There has been controversy about the meaning, generalisability, teaching and assessing of CT in the literature in this field. The issue of CT by Chinese students first aroused my interest when I was doing the research for my MA dissertation in 2004. The findings showed that a lack of CT skills was considered a salient weakness of Chinese postgraduate students in the UK by students participating in focus groups (Tian, 2004). However, due to the limited length of the dissertation, the reasons underlying this phenomenon were not explored in detail. Paton (2005) did try and examine possible contributory factors and came to the conclusion that CT is not merely a western construct. According to Paton, elements of CT can be found throughout much of the history of China, and Chinese students' lack of CT is mainly due to other factors, such as a lack of CT training, language barriers (especially with respect to writing English for academic purposes), and unfamiliarity with the subject area. However, Paton used evidence from an unscientific discipline (*fengshui*) and appealed to anecdotal evidence, and thus opened himself to challenge. The controversial issue raised by Paton, about whether Chinese students' cultural background or training is the main factor which affects their use of CT skills in writing, is worth further investigation though. In order to explore this issue, I conducted a review of the literature on CT by Chinese students (Chapter 2). Findings from the review showed that recent researchers seem to focus more on what Clark and Gieve (2006) term the "small culture", that is to say, the characteristics of the learning context, than the "big culture", the Confucian-heritage culture of China, but there is a lack of qualitative studies in this area. Due to the fact that many Chinese students come to the UK to do a Masters degree which generally needs to be finished within just one year (Home2UK, 2006), their learning experiences in China are of particular importance to their performance in the UK. However, a review of the literature on

academic writing in China (Chapter 3) showed that there has been a lack of attention to and empirical research into the training that Chinese university students receive concerning academic writing, and their application of argumentation and CT to academic writing remains unknown. As a result, the present study attempts to fill in these gaps by focusing particularly on the learning experiences of Chinese students at undergraduate level in China and the perceived influence of these experiences on students' CT in academic writing in the UK, from a largely qualitative viewpoint. The thesis reports two related studies, and the results are expected to be helpful to university teachers and perhaps even students in addition to those research aspects of higher education in English-speaking countries.

1.2 Research questions and research strategies

The literature review showed that there was very little published information on the literacy and CT background of Chinese higher-degree students in the UK and this included even basic things like how many academic pieces of writing they had produced as undergraduates, what types of text were involved and how long they were. Four fairly broad questions thus emerged as needing answers:

- RQ1 What do Chinese students write for their first degrees in China? (How often students write, what types of text are involved and how long they are.)
- RQ2 What challenges do Chinese postgraduate students at UK universities encounter in academic writing?
- RQ3 How far do they think they apply CT to academic writing in the UK?
- RQ4 What impact does the training received at undergraduate level in China have on students' CT in academic writing?

In order to answer them, a mixed-methods strategy was adopted comprising both questionnaires and interviews for Study 1 undertaken at a British university. Questionnaires were used to elicit answers to RQ1, which was broadly based but involved mostly factual information and clear-cut opinions. The interviews were designed to answer the three other more complex

questions, as well as new questions emerging from the questionnaires. The interviews also served the function of checking the reliability of findings from the questionnaire and providing complementary data on RQ1. A preliminary study was conducted in October 2005, in order to generate background data for the questionnaire and possible options for the items in it. On the basis of this, the questionnaire was designed and sent out through various channels, including the researcher's friends, the local Chinese students' association, and the tutors of particular courses, to Chinese graduate students at a university in the north of England. Altogether, 40 students responded, of whom 28 agreed to be interviewed.

The findings from Study 1 provided useful answers to all four questions emerging from the literature reviews. For example, the questionnaire showed that the writing experiences of Chinese students at undergraduate level in China varied a great deal. However, Study 1 made it clear that the training Chinese students receive at undergraduate level in China needed to be examined in much greater depth. Study 2 was accordingly designed to be conducted in China and to answer six research questions:

RQ5 What kinds of writing are emphasised at undergraduate level in China?

RQ6 How well do Chinese students apply CT skills to writing for their first degrees?

RQ7 What do Chinese teachers think about students' performance in academic writing and critical thinking?

RQ8 What is the focus of the training at undergraduate level in China?

RQ9 How do the current teaching and learning practices affect students' use of CT skills?

RQ10 What factors lie behind the differences between English-major students and other social science students in academic writing?

Because the training at undergraduate level in China is a complex phenomenon, and beyond the control of the researcher, a case study approach was adopted for Study 2 and two departments at a Chinese university were explored in detail (Yin, 2003). A case study was also used to obtain in-depth data and a fuller comprehension of the situations (see Yin, 2003, Stark and Torrance, 2004). As Study 1 had shown a significant difference between English-major students and other social science students regarding academic writing, the study was deliberately situated in the Department of Foreign Languages and the Department of International Trade and Finance.

In particular, three research methods which are commonly used in case studies were used to

tackle the six questions: interviews, classroom observations, and text analysis. Interviews were used because the questions were complex and sensitive and required intensive investigation. However, because data gathered through interviews are “indirect” and “filtered through the view of interviewees” (Creswell, 2003: 187), and may be inaccurate (Gillham, 2000b), classroom observations and student writing samples were added to compensate for these weaknesses, as they provided first-hand information (Creswell, 2003; Yin, 2003; Denscombe, 2007).

A pilot study was conducted in 2006 to test the research instruments. Altogether, two third-year English-major undergraduates, two fourth-year Finance undergraduates, two English lecturers, and one Finance lecturer were interviewed. Two classes in the Department of Foreign Languages were observed, followed by an interview with the teachers of the courses concerned. Three student assignments written by third-year students were collected from each of the two departments.

Findings from the pilot study showed that the research instruments were basically effective and could be retained in the main study. However, the findings also led to a series of small alterations to the original research instruments, such as including a working definition of CT and plagiarism in the interviews in the main study. The main study was carried out at the same university in December 2007 and January 2008, so that the research subjects had similar educational backgrounds to those in the pilot study. In total, nineteen face-to-face interviews were carried out with five students and five teachers from the Department of Foreign Languages, and five students and four teachers from the Department of International Trade and Finance. Five more classes were observed in the Department of Foreign Languages, and four classes were observed in the Department of International Trade and Finance. Ten assignments and five dissertations were collected from the Department of Foreign Languages. In order to compare and contrast student writing from the two departments, the same number of essays and dissertations were also collected from the Department of International Trade and Finance.

1.3 Synopsis of the thesis

There are ten chapters in this thesis. As the two studies were conducted independently, the research methods in each study are discussed separately. The following is a brief outline of each of the remaining chapters.

Chapter 2 discusses the issue raised by Paton (2005) about whether the cultural background or the training is the main factor which affects students' use of CT in writing. The chapter starts with a critical review of Paton's (2005) article and then reviews related studies published outside and inside Mainland China. The literature review shows that: (1) the "small culture", or the learning context in which students are situated, seems to play a more important role than the "big culture", such as the Confucian heritage of Chinese culture; (2) there is a lack of detailed empirical evidence in this area, particularly from qualitative studies; and (3) the studies reviewed do not define the key concepts studied, such as "culture" and "critical thinking", adequately or consistently. The implications for the present study are: (1) there is a need to conduct an in-depth empirical study on the learning context of Chinese students, and its impact on their critical thinking; (2) a qualitative approach could be taken to achieve this purpose; and (3) a working definition of the key term, "critical thinking", is necessary.

Chapter 3 looks at the broader context of the study, by reviewing the existing literature on the conventions of academic writing at tertiary level in the UK and in China, and on contrastive rhetoric in English and Chinese. The main findings are that: (1) research literature published in China does not reject the traditional theory of contrastive rhetoric (e.g. Wang, 2003; Ma, 2004; Hu, 2006; Zhang, 2006), while the literature published outside China has begun to challenge it (e.g. Taylor and Chen, 1991; Kachru, 1997); (2) some key linguistic and argumentational features of good academic writing are shared by both countries, but academic writing seems to be more emphasised in the UK; and (3) there is a lack of high-quality empirical studies from China on the academic writing of students and the application of argumentation and CT to it. This implies that there is a need to do an in-depth research study in these areas.

The purposes of Chapter 4 are: (1) to derive an appropriate working definition of the concept "critical thinking"; (2) to explore the current approaches to teaching and assessing CT; and (3) to draw some implications. Six related areas of CT are reviewed: history, importance, critiques, definitions, CT training, and CT assessment. The review results in a working definition of CT, and concludes that certain aspects of training, such as class discussion and writing, could be examined

to gain insight into the CT of Chinese students. The review also makes it clear that a quantitative approach may not be appropriate, and argues for a qualitative approach instead.

Chapter 5 explains the rationale for the research design in Study 1 in the UK: stating the research aim and the research questions, and justifying why a mixed-methods approach combining both questionnaires and interviews was used. Lastly, the chapter describes and justifies the process of data collection, including the choice of research site, the design of the questionnaire and interviews, the process of sampling, ethical considerations, verification strategies, and methods used to analyse data.

Chapter 6 describes and discusses the findings from Study 1: the preliminary research, the questionnaire survey, and the interviews. The preliminary study served the function of providing evidence to underpin the questionnaire design. The questionnaire survey generated several new questions which were further explored in the follow-up interviews. In addition, the interviews investigated the challenges that Chinese graduate students encounter in the UK in academic writing.

Chapter 7 explains the rationale for the design of Study 2 in China: the research questions emerging from Study 1 and appropriate strategies and methods used to collect data to answer them. The result is a case study in two departments at a Chinese university. The chapter also discusses the trustworthiness of case studies, and the procedure for data collection and analysis in the pilot study.

Chapter 8 presents the findings of the pilot study in China, and considers what needs to be retained and what needs to be altered for the main study.

Chapter 9 first discusses the research methods in the main study: the procedure used for data collection, sampling and data analysis, ethical considerations, and the strategies used to build trustworthiness. The chapter then presents and discusses the findings from the interviews, classroom observations, and the analyses of the student writing samples.

Chapter 10 provides a short overview of the key findings from the two studies before drawing three main conclusions from them plus the literature reviews. After that, it considers the implications of the findings and makes a number of recommendations for Chinese students, Chinese educators, and English educators. Finally, it discusses the limitations of the study and makes a number of suggestions for future research.

Chapter 2

Critical thinking by Chinese students

2.1 Introduction

“With 70,000 students in the UK from Mainland China and 20,000 more from Hong Kong, China is the largest international market for UK education” (British Council Annual Report 2005-06: 58). At the same time as they enjoy a different and potentially exciting experience, Chinese students in the UK also have to deal with a range of challenges, such as cultural shock and language problems. Among all these challenges, academic writing in a second language is probably the most important and demanding task, especially when they are required to apply critical thinking skills to reading and writing. While Atkinson (1997) claimed that critical thinking is a unique western product and incompatible with Asian collectivist traditions, Paton (2005) argued that Chinese students’ lack of critical thinking in academic writing in English is due more to insufficient knowledge about the subject area and target language deficiency. He further suggested that it is not just Chinese or East-Asian students who need to be trained in critical thinking, but all first-year college and university students should be taught cognitive skills relevant to critical thinking. From this perspective, training rather than culture seems to be the key factor which affects students’ performance in critical thinking. However, more literature needs to be reviewed to see whether this is a mainstream view on this controversial issue. In addition, for those Chinese Masters students in particular who are studying in the UK for only nine to twelve months, the training realistically needs to be pre-course. So, if Paton is right, training on students’ first degrees may well be particularly important to prepare them for the study in the UK. Therefore, the main objective of this chapter is to explore whether students’ cultural background or training is the main factor affecting Chinese students’ critical thinking in academic writing in English.

The chapter will start with a discussion of Paton’s (2005) article, as he tried to answer exactly the question of what key factors affect the performance of Chinese students in critical thinking in academic work. This will be followed by the arguments from other literature published outside

China in this area, and then the literature published inside China.

2.2 A question raised by Paton: Is critical thinking merely a western construct?

In 2005, Paton published an interesting article, entitled ‘Is Critical Analysis Foreign to Chinese Students’, in which he argued strongly against the view that Chinese culture leads to the lack of a critical element in Chinese students’ academic work when studying abroad. Paton (2005) came to the conclusion that critical thinking is not merely a western product, but belongs to all the existing successful cultures in the world. Paton’s (2005) conclusion was primarily based on the following evidence.

First of all, according to Paton (2005), evidence from Needham’s (1956; 1962) *Science and Civilisation in China* shows that, in the history of science in China, there existed at least five of the six forms of scientific thinking, namely “postulational, experimental, modelling, taxonomic, and historical derivation” (p. 2), which are considered to be the basis of the concept of critical thinking in western culture by Crombie (1994, cited in Paton, 2005). He further argued that although another form, “probabilistic mode” is missing in Needham’s book, it can in fact be found in the field of ancient Chinese geology, mostly in the texts written by Shen Gua, a famous ancient Chinese geologist. Paton thus arrived at the conclusion that at least in the past 1000 years of Chinese history, key elements of critical thought did exist in Chinese culture. Indeed, Paton (2005) argued that critical thinking is one of the key reasons why human beings were able to survive a hostile environment from the beginning and continue their evolution and development throughout a long history.

Secondly, Paton (2005) suggested that critical thinking elements can even be detected in an obviously unscientific discipline – *fengshui*, which primarily explores and explains *qi* of *yin* and *yang*. The ancient Chinese showed their “critical understanding of the hydrological cycle” when considering the “human placement in relation to fertility” in burial (p. 3), and empirical thinking when seeking knowledge through observation.

Thirdly, Paton (2005) had anecdotal evidence to support his conclusion. He found from his

teaching experience at an Australian university that Chinese students, when studying abroad, encountered two main challenges in academic study: a lack of relevant subject knowledge and a lack of appropriate language proficiency. These unavoidably affected their performance in critical thinking in academic study. Therefore, it is not sensible to assert that it must be the culture that leads to the lack of critical thinking in Chinese students.

Fourthly, from the perspective of cognitive development, he argued that first year undergraduates are not mature enough to possess certain advanced critical thinking skills, such as reflective thinking and integrative thinking. For this reason, not only Chinese undergraduate students, but also the undergraduates from other countries, need to be trained to apply these skills.

However, one of Paton's (2005) arguments seems to be contradictory with respect to the others, as he pointed out that Chinese students' home culture does not encourage them to question authority, and this causes reticence when it comes to class discussion. In relation to this, it seems that Chinese students' performance in critical thinking is indeed affected by their culture. But one unanswered question in Paton's article is which period of history is more influential to the students, the more remote period as described in Paton's (2005) quotations or the more recent period as reflected in certain events such as the Tiananmen Square incident in the late 1980's, in which, according to Paton, some people were punished for their questioning of authority.

In addition to this weakness, Paton's argumentation has other obvious shortcomings. As discussed above, Paton used evidence from an unscientific and superstitious discipline to support his conclusion, which opened him to challenges from others, as critical thinking is regarded more as a form of scientific thinking, at least in western cultures. Another apparent weakness is that Paton appealed to anecdotal evidence, rather than empirical studies either conducted by himself or other people, and anecdotal evidence is normally not considered as strong support for conclusions (Brown and Rutter, 2006). Other doubts can be cast on aspects of his argumentation, for example, whether certain events such as the Tiananmen Square incident provide convincing evidence that the questioning of authority is truly not encouraged in other aspects of the home culture of Chinese students, such as education rather than politics.

Because of these shortcomings in Paton's (2005) argumentation, it seems to be still too early to give concrete answers to the question of what key factors affect the critical thinking abilities of Chinese students. However, assuming there is indeed a problem with a lack of critical thinking, the

main controversial point seems to centre on the issue of whether students' cultural background or the training they received is the major factor. Therefore, it may be well worth looking at other research literature in this area.

2.3 Culture or training or other factors? – more voices

2.3.1 Two key concepts

Culture has long been a controversial and vague concept. According to Vermeersch (1977), there were around 160 definitions before 1950. Vermeersch (1977) suggested a definition in the field of cultural anthropology: “the class of cultural objects is the class of forms determined by man” (p. 47). He further explained that

“a form I call every class of states of a material or energetic substratum which (states) are identified with one another and discriminated from other classes of states”,

and by “determined by man”, he meant

“(i) that it would not exist without man, (ii) that it is not uniquely determined by biological constraints, and (iii) that the form as such is determined by man: the process of discrimination and identification must accompany the creation or change of the form in question (they are necessary and, sometimes, sufficient conditions for it)”. (p. 47)

A more recent definition can be found on the website of the Center for Advanced Research on Language Acquisition (CARLA) (2007) at the University of Minnesota as follows,

“culture is defined as the shared patterns of behaviors and interactions, cognitive constructs, and affective understanding that are learned through a process of socialization. These shared patterns identify the members of a culture group while also distinguishing those of another group.”

As Vermeersch's (1977) definition is restricted to the field of cultural anthropology, and the

definition found on the website of the CARLA is easier to understand, the latter one is adopted for this study.

The term “training” will refer to the process of acquiring or applying knowledge or skills in schools, rather than self-learning or learning through other means.

The discussion of the literature relevant to this issue is organized as follows: literature published outside Mainland China and literature published inside China which is for or against Paton.

2.3.2 Alternative voices outside China

Generally speaking, the studies published outside China which do not support Paton (2005) can be divided into two groups: those which argue that critical thinking is culturally based, or that Chinese culture is not conducive to the development of critical thinking skills, and those whose empirical research findings do not support Paton’s (2005) conclusions.

A typical representative of the first group is Atkinson (1997) who argued that critical thinking is cultural thinking and a kind of social practice. He explained that critical thinking is an unconsciously developed social product in western cultures, and incompatible with the collective tradition in certain Asian cultures, for example, Chinese and Japanese cultures. The evidence for this assertion, according to Atkinson (1997) is Asian students’ performance at western universities, such as their difficulties with creative and innovative writing, and their reticence and lack of interaction in class, which are due to the long tradition of memorisation and recitation in these countries. Atkinson’s argument is strongly supported by Pennycook (1996a) and Canagarajah (2002a) (both cited in Paltridge, 2004) who made the same assertion that critical thinking is solely a western idea. Similarly, Cortazzi and Jin (1997) pointed out that Chinese students bring their home cultures with them when studying abroad. While British academic culture emphasises individualism, Chinese academic culture tends to stress relationships and collectivism. In addition, Cortazzi and Jin (1997) argued that Chinese students have a long tradition of respecting the teachers and text (also see Liu, 1998; Hu, 2002). The cultural differences, along with the different rhetorical patterns in the two cultures, cause the distinct behaviours of the students from these two

cultures in group discussions. However, this does not mean that Cortazzi and Jin agreed with Atkinson that collectivism is incompatible with critical thinking. In fact, they argued that memorisation and recitation is only the path to deep learning and reflective thinking, which has been emphasised in the long history of Chinese educational culture (Jin and Cortazzi, 2006). Atkinson's argument is also supported by Wan (2001) who argued that Chinese cultural values may well affect students' learning styles. For instance, Chinese culture encourages respect for authority and advocates conformity, and students are expected to respect teachers and listen quietly and carefully in class (Wan, 2001). The cultural differences, according to Wan (2001), could be one of the reasons why Chinese students find it difficult to adapt to a western academic culture.

Similar arguments regarding the influence of culture on thinking modes can be found in Albert et al.'s (2002) study and Mangena and Chabeli's (2005) research. Mangena and Chabeli (2005) argued that most of the cultures in the world do not allow children to question adults and this undoubtedly restricts students' development of critical thinking. However, it is interesting that Mangena and Chabeli's (2005) study was carried out in South Africa. This means that not only Asian students, but also students from many other cultures may well suffer the same problem.

Although other scholars or researchers have not explicitly claimed that Chinese culture lacks critical thinking elements, their arguments implied that critical thinking was a typical western product. For instance, Cuypers (2004) claimed that "in contrast with primitive cultures, or theocratic ones, our western liberal democracy places a very high value on rationality and autonomy" (p. 75). Similarly, Dam and Volman (2004) noted that "'to be critical' seems to be part of our western culture" (p. 360). Finally, according to Thayer-Bacon (2000), the origin of critical thinking can be traced back to ancient Greek philosophy, which is considered to be the source of modern western philosophy.

Empirical research into the critical thinking of Chinese students, which is likely to weaken Paton's conclusions, however, is very limited. All the four studies (see Ip et al., 2000; McBride et al., 2002; Tiwari et al., 2003; and Yeh and Chen, 2005) in this field are restricted to testing the critical thinking dispositions of students by using the California Critical Thinking Dispositions Inventory (CCTDI)¹. Ip et al. (2000) conducted a study on 122 Chinese nursing students in Hong Kong and the participants showed negative dispositions towards the sub-scales of Truth-seeking, Open-mindedness, Systematicity, CT-confidence and Maturity, and positive dispositions towards

Analyticity and Inquisitiveness. The overall mean score of 264.70 was taken as indicating that the participants were not disposed to think critically in general, as only an overall score of 280 or higher suggested a positive disposition towards critical thinking.

McBride et al.'s (2002) study is of particular importance as it attempts to compare the dispositions towards critical thinking between students from a western culture and students from Mainland China, and to explain the differences and similarities between the results. McBride et al. (2002) conducted the CCTDI test on 218 American physical education students from nine universities and 234 Chinese pre-service teachers from the Shanghai Institute of Physical Education. The results showed that American students outscored Chinese participants on the two subscales of Maturity and CT-confidence, while the two groups achieved similar scores on the subscales of Truth-seeking and Inquisitiveness. The total scores of both groups were not reported, as the reliability coefficients of three subscales – Analyticity, Systematicity and Open-mindedness – were low and these were not further analysed. Because the MANOVA result showed that culture had an impact on the dispositions, McBride et al. (2002) suggested that the differences between the two cultures on the subscales of Maturity and CT-confidence can probably be attributed to the individualistic tradition in America and collectivistic tradition in China, and different teaching and learning styles in the two countries. They pointed out that Asian students have been considered to be memorisation-oriented learners and the highly structured learning environment is not conducive to students' deep and reflective learning. However, they failed to identify reasons for the similarities between the results of the test and recommended future research in this area. They also acknowledged the limitation of the sampling in the study, especially in China, which was achieved through "purposive sampling procedures" (p. 134). Thus the results from the Chinese group may not be representative on a larger scale.

Tiwari et al. (2003) also conducted a comparative study, but this time between Hong Kong Chinese and Australian nursing students. The CCTDI questionnaire survey had 222 Chinese responses and 162 Australian responses in total. It was found that Chinese students showed a negative disposition towards critical thinking in general. Specifically, they had positive scores on Analyticity, CT-confidence, and Inquisitiveness, but were ambivalent towards Truth-seeking, Open-mindedness, Systematicity, and Maturity. In contrast, the Australian students' total scores showed that they were disposed towards critical thinking in general. Their scores on the subscales

of Analyticity, CT-confidence, Inquisitiveness, Open-mindedness and Maturity were positive, while the scores on Truthseeking and Systematicity were negative. Tiwari et al. pointed out that the low scores on Truthseeking and Systematicity in both groups could be the result of the institutional traditions and teaching and learning practices in the two places, and attributed the low scores on Open-mindedness and Maturity in Chinese students to their Confucian-heritage culture, which “does not sanction critical questioning and conflicting views” (p. 305). However, it was interesting that the authors made such comments, as Hong Kong had been under the colonial control of the UK for over 150 years and its local culture could have been largely influenced by western cultures.

In Yeh and Chen’s (2005) study using a CCTDI test on 126 nursing students in Taiwan, the pre-test results showed that the scores on Truth-seeking, Open-mindedness, Systematicity and CT-confidence were negative, while the scores on the subscales of Analyticity, Inquisitiveness and Maturity were positive. The overall mean score of the pre-test was 282.18, which, interestingly, meant that students had a positive disposition towards critical thinking. As the purpose of the study was to investigate the effectiveness of a programme on the critical thinking dispositions of students, the authors did not explain the reasons for the performance of the participants in each aspect of the CCTDI test.

A comparison of the test results in the above four quantitative empirical studies using the CCTDI suggested that Chinese students are generally disposed to being inquisitive, but lack dispositions towards Truth-seeking, Open-mindedness and Systematicity, and vary on the other subscales. There is a clear lack of qualitative empirical studies in this area, and a lack of either quantitative or qualitative studies on Mainland Chinese students. I have been unable to find any empirical research into the abilities dimension of critical thinking on Chinese students. Hence, it is very difficult to form a comprehensive perception of the critical thinking of Chinese students based on the literature reviewed so far.

2.3.3 Supporting voices outside China

First, it is clear that Facione (2006) agreed with Paton in his belief in the universal nature of

critical thinking and its independence from cultural influence. In 1988, in order to find out the key elements of critical thinking, Facione (1990) and the California Academic Press initiated the Delphi research project which involved 46 famous critical thinking professionals. In the Delphi report illustrated by Facione (1990), there are explanations of a consensus statement reached by the experts regarding different aspects of critical thinking, for example, the cognitive skills involved in critical thinking, the dispositions of a good critical thinker and its importance for human beings. On the basis of the consensus statement in the Delphi report, Facione (2006) argued that critical thinking is fundamental to a “rational and democratic society” (p. 19), and that an uncritical society will collapse sooner or later. As the meaning of the concept of critical thinking is crucial to such an argument, it seems to be necessary to explore the explanation of the concept by the experts. From the consensus statement, it is not difficult to infer that what most of the experts understood as critical thinking is not significantly different from rational thinking or traditional western philosophy. According to the Delphi group, the core critical thinking skills include analysis, interpretation, self-regulation, inference, explanation, and evaluation; and the dispositions towards critical thinking are the willingness to be inquisitive, systematic, analytical, open-minded, judicious, truth-seeking, and confident in reasoning. These skills and dispositions, according to the Delphi group, are not specifically restricted to any field or culture; good critical thinking is independent of any cultural beliefs.

Another line of evidence comes from Stapleton (2001), who attempted to find the relationship between familiarity with content and students’ performance on thinking tasks, by analysing Japanese university students’ written assignments. He gave 45 students two topics to write on: one was familiar to them and one was not. The results showed that not only the argumentation patterns, including the number, variety and depth of arguments, but also the sources of evidence for the familiar topic were significantly different from those for the unfamiliar topic. In addition, the different views of the two raters – an American teacher and a Japanese PhD student – on the same issues suggested that the assumptions of one culture were not always shared by, or could even conflict with, those of another culture. Since a person’s judgement is strongly influenced by his assumptions, Stapleton (2001) concluded that the perception that Asian students are weak critical thinkers, which is based on the performance of Asian students who grew up in one culture but study in another, is problematic. The participants in the study displayed their critical thought by

taking a standpoint and reasoning with evidence, especially when writing on the familiar topic. The fallacies found in the participants' argumentation, such as irrelevant evidence, were also very common in the writing of English-speaking students. Therefore, it does not make sense to claim that culture is the sole reason for the weak critical thought of Asian students. Familiarity with content and the assumptions developed in a social context both appear to play key roles in performance².

An alternative explanation was provided by Clark and Gieve (2006), who insisted that researchers should pay more attention to the "small culture", such as the classrooms, to seek the reasons for the performance of the Chinese students, rather than the "big culture", such as the Confucian heritage of Chinese culture, to explain the individual student's behaviour. In the past, many scholars or researchers have appealed to Confucianism as the explanation for the characteristics of Chinese students studying abroad, as perceived by English-speaking teachers as being "obedient to authority, passive in class, lacking in CT and adopting inadequate learning strategies" (Clark and Gieve, 2006: 54). However, Clark and Gieve argued that this racial stereotyping of Chinese students is due to: firstly, western scholars' biased understanding of Chinese students' behaviour based on their own assumptions; secondly, their limited understanding of the Confucian tradition; and thirdly, their ignorance of the dynamic social, cultural, and economic changes occurring in modern China. In fact, Clark and Gieve pointed out that many western researchers have been trying to apply western notions and thoughts to Chinese students, and this has frequently been found to be unfair and inappropriate. For instance, memorisation has been regarded by many western scholars as rote learning, while in China, it is only a preparation for understanding. In terms of the Confucian tradition, it cannot be seen as equivalent to what Confucius supposedly taught initially. In fact, Confucius himself advocates inquiring, deep thinking, and equality between the students and the teachers in his work (Ma, 2004). Further, Chinese students are markedly diverse due to their different personal histories and social and economic backgrounds. Hence, it is hard to predict an individual student's characteristics simply on the basis of his cultural background (Clark and Gieve, 2006). Students' performance, according to Clark and Gieve, is more affected by the "small culture" in which they are situated than the "big culture", and students can adjust their learning strategies and methods to meet the requirements of a particular institute, department, or even a teacher. The instructional materials, the assessment

methods, and the expectations of the teacher in a classroom are all of vital importance to the performance of the students. Consequently, Clark and Gieve noted that Chinese students' reliance on memorisation can be attributed in large part to the "small culture" of the institution, such as the "heavy workload, surface assessment demands or over-lecturing" (p. 61).

These points are strongly supported by Cheng (2000), who argued that the main reasons for Asian students', especially Chinese students', reticence and passivity in class are the teaching methods the teachers adopt and the lack of appropriate language proficiency. He explained that in China, students are used to teacher-centred classes and tend to keep quiet and respect the teachers, while in many western countries, classroom discussion and student participation in classroom activities are taken for granted as natural teaching and learning practices. When studying abroad, Chinese students usually do not know what is required and expected in class and what the rules of discussion are, even when they really want to participate. Research undertaken in the universities in the UK also suggests that Chinese students are generally ill-prepared for their study in the UK as the teaching and learning experience in China is markedly different from that in the UK (Rastall, 2006). For example, Rastall (2006) noted that the essay writing and library skills of Chinese students are poorly developed in China. However, according to Cheng (2000), western researchers and teachers often attribute the performance and behaviour of Chinese students to their Confucian cultural background. Cheng (2000) argued that although Confucius stressed that students should show respect for knowledge and knowledgeable teachers, many well-known Confucian sayings indicate that Confucius believed that students should not be necessarily less knowledgeable or more passive than the teacher. Inquiry into and challenging other people's views, even those of well-known scholars, are found to be encouraged in other Chinese sayings or mottoes as well. A typical example, as noted by Cheng, is the motto "*qin xue hao wen*" which means "(a good student should) study hard and always be ready to ask questions" (p. 440). Similarly, Jin and Cortazzi (2006) insisted that independent and reflective thinking have been emphasised in the long history of education in China since Confucius' time. In addition, according to Cheng (2000), Chinese students' reactions to and performances in different classes could vary significantly. This too means that the learning context is a key factor which affects students' performance.

Another reason for students' reticence in class when studying abroad is probably their lack of adequate language proficiency. Cheng (2000) pointed out that although many students have passed

the required language tests, such as TOEFL (Test of English as a Foreign Language) or IELTS (International English Language Testing System), they probably do not have the necessary language proficiency to cope with the learning tasks, such as group discussion in class, when they go abroad. In fact, high scores on these tests may well be the result of intensive training on test strategies and skills. Goode's (2007) interviews with international doctoral students also indicated that language might well be a barrier to their participation in seminar discussions, for example, expressing their own opinions, and questioning and challenging others.

If the students' previous learning experience has a profound influence on their future or further study, as Cheng (2000) suggested, it is possible that Chinese students' unsatisfactory performance in academic writing at western universities could be the result of their lack of appropriate training in this aspect before they came to the universities concerned. It is understandable if students are not ready for essays and dissertations as the primary assessment tools in many UK universities, especially in arts and humanities or social science disciplines, as they are used to the excessive examinations, often involving multiple choice format, which mainly test their memorisation of information in textbooks or class notes. Chinese students' lack of practice in academic writing in English in China was also mentioned by Jin and Cortazzi (2006). In addition, they argued that Chinese students encounter different discourse patterns when they come to the UK, where teachers often expect a deductive mode of arguing, while in China an inductive mode, is more popular. Jin and Cortazzi (2006) attributed Chinese students' weakness in critical thinking to their previous learning experiences as well. They pointed out that in China, attention to and emphasis on critical thought is not sufficient in education and students are used to respecting the authorities including the teachers, and consequently hesitate to challenge them.

Gu and Schweisfurth's (2006) studies strongly support the above discussions regarding the impact of the context and language proficiency on Chinese students' learning outcomes at universities abroad, although they still acknowledge the profound influence of the cultural background of the learners. The interaction between these factors, according to Gu and Schweisfurth (2006), forms a "holistic" approach to the understanding of the learning process of Chinese students at UK universities, which requires an "analytical and reflective attitude" (p. 75) on the part of the researchers who attempt to explore intercultural issues in education. Gu and Schweisfurth (2006) argued that, in order to understand an individual student's learning process, it

is necessary to take into account various factors such as the student's personal history, his identity and motivation, the relationship between the teacher and the student, and the complex teaching and learning context. However, Gu and Schweisfurth's (2006) studies showed that Chinese students did experience huge teaching and learning shock when they first came to the UK. In China, the classes were usually teacher-centred and students were used to accepting knowledge and answers from the teachers, while in the student-centred classes in the UK, students were expected to learn independently and participate actively in group or pair activities. In addition, their research findings showed that many students had difficulties with the different writing styles in the UK. These findings are clearly consistent with Cheng's (2000) explanations for Chinese students' reticence in class. The findings of their studies also showed that students had a strong desire to learn new knowledge and adapt to the new environment, and the constructs which are shaped by culture can indeed be transformed in the learning process. This finding reflected how important the context is in students' learning process. As long as students know the rules, they will adjust their learning strategies actively to meet the requirements.

The holistic approach suggested by Gu and Schweisfurth (2006) was also endorsed by Shi (2006). He conducted a questionnaire survey with 400 middle school students in Shanghai in 2003, in order to explore students' attitudes towards aspects of English language teaching and learning. Interestingly, the participants in the study were very active and critical, rather than being passive and obedient. The responses indicated that students, especially the older ones, were critical of the teachers, the textbooks, and even themselves. In contrast to the assertion that the classes in China are mostly teacher-centred and lecture-oriented, findings showed that students preferred interaction and various activities in class. However, results uncovered features of Chinese students reported in other literature, such as respect for the knowledgeable teachers, the diligence and perseverance of the students, and stress from exams. Shi (2006) acknowledged that the results of the study may not represent the situation in other poorer places in China, as Shanghai is one of the most developed areas of the country. Shi suggested that a holistic perspective should be taken when looking at the learning cultures in China, in the sense that all aspects of the culture should be taken into account. Learning culture is, Shi argued, a dynamic and complex concept, which encompasses a range of factors such as social, economic, age, regional, and gender influences. Traditional Confucianism, which also experienced several stages of development and transformation, should not be the sole

explanation of the performance and characteristics of contemporary Chinese students. The current popular culture in China has been significantly influenced by western ideas, especially from American culture.

Jones's (2005) empirical study, although on a very small scale and only "indicative", also provided strong supporting evidence for Clark and Gieve's (2006) and Cheng's (2000) conclusions regarding the important influence of the learning context on students' performance. Jones's (2005) study was carried out with four Chinese-speaking international students and four English-speaking local students at an Australian university. All the eight students were in their first year of an economics course. They were given a critical thinking task in which they were required to make (anonymous) critical comments on the other students' responses. Each student was interviewed afterwards to investigate the relationship between critical thinking and the learning context. The results showed that despite the differences in language and previous learning experiences, all the participants displayed very similar understanding of critical thinking, as long as the requirements of the task were explained clearly. Chinese students showed their abilities to adapt to the new learning context by trying to find out the requirements of the task actively, although the task was completely new to them. This also indicated that Chinese students were not passive at all. Students', including both Chinese and local students', low level of critical thought due to their limited knowledge about the subject area was consistent with Stapleton's (2001) findings as well. However, the findings, as acknowledged by the author herself, were limited to the small scale. Consequently, the characteristics showed by the Chinese-speaking students, who were from Hong Kong and Malaysia, may not represent students from Mainland China.

To sum up, most of the above discussion regarding the critical thinking of Chinese students or their performance in academic study in an English-speaking environment attempts to argue against the assertion that Chinese or Asian students' lack of critical thinking or being passive in class is due to their cultural background. In order to demonstrate that this statement is wrong or at least one-sided, a range of evidence has been provided. It seems that the learning context is of major concern to the experts or researchers (for instance, Cheng, 2000; Gu and Schweisfurth, 2006; Jones, 2005), although they may have used other terms such as "small culture" (see Clark and Gieve, 2006). Since the context is very important to the students' learning practice, they pointed out that the lack of similar learning experience before Chinese students went abroad is one of the

key reasons for their behaviour and performance in overseas universities (see Cheng, 2000; Jin and Cortazzi, 2006; and Gu and Schweisfurth, 2006). Other reasons include: inadequate language proficiency (see Cheng, 2000; Gu and Schweisfurth, 2006; Jones, 2005); unfamiliarity with content (see Stapleton, 2001; and Jones, 2005); biased judgements because of different assumptions (see Stapleton, 2001; and Clark and Gieve, 2006); western researchers' limited understanding of Confucian values (see Clark and Gieve, 2006; Cheng, 2000; and Shi, 2006); researchers' ignorance of the dynamic nature of culture and society (for example, Shi, 2006); and unawareness of the diversity of Chinese students (for instance, Gu and Schweisfurth, 2006). Even though Facione's (2006) argument does not indicate any attempt to argue against such a statement, it could serve as a strong premise for the conclusion that people of the culture which has the longest history in the world have to be good critical thinkers. There are also researchers, such as Gu and Schweisfurth (2006) and Shi (2006), who suggested the need for a "holistic" perspective and reflective and analytic attitudes towards such an issue. Taken together, this research suggests that, even if the samples are not always representative, many Asian students do not appear to lack critical thinking skills at all.

2.3.4 Alternative voices inside China

Unfortunately, there has been very little interest shown in the relationship between traditional Chinese culture and critical thinking in the literature published in China. Only one journal article that I could find attributed Chinese students' lack of critical thinking to traditional Chinese culture (see Li and Liu, 2006). They argued that there is a lack of critical elements in Chinese cultural history due to the long rule of feudalism in China. In the old feudal society, there was a strict hierarchy system, in which a lower level official must be subordinate to the higher levels of officials, and a son must be subordinate to the father. In such a society, the authorities were highly protected while rational thinking and the sciences were not paid enough attention by the people in power.

The limited empirical studies in this area are not encouraging. Luo and Yang (2001) translated the California Critical Thinking Dispositions Inventory (CCTDI) into Chinese and used it to test

students at a comprehensive university in Mainland China. The results showed that the participants had no dispositions towards critical thinking in general, and both the mean total score and the sub-scores of Chinese students ($n=382$) were distinctly lower than the scores of American university students ($n=267$) in the original CCTDI manual. The same two authors later translated the California Critical Thinking Skills Test (CCTST) into Chinese and tested students from a university in Mainland China as well (see Luo and Yang, 2002). The mean score of the Chinese students was 14.07 ($n=382$, $SD=4.308$) while the mean score of American students provided in the original manual was 15.98 ($n=781$). Luo and Yang (2002) suggested that measures should be taken to improve the critical thinking of Chinese students if the above results were confirmed in future studies on a larger scale. However, Luo and Yang (2001) also found that different understanding of certain items due to cultural differences had affected the test results of the Chinese students, particularly the sub-scores of open-mindedness.

He et al. (2006) administered the CCTDI test to 217 Chinese nursing students in Shanxi province in China. The mean total score suggested that the participants generally did not have positive dispositions towards critical thinking. Only the mean score on the Maturity subscale was positive, while the mean scores on the other six subscales were all negative (below 40). There seem to be two problems with this study, namely that (a) the authors appeared unclear about the two dimensions of abilities and dispositions, as they talked about abilities in the title but tested dispositions in the real study; and (b) the source of the testing material was not indicated in the study and therefore the reliability of the results was questionable.

Zhu et al. (2006) examined the critical thinking of nursing students ($n=160$) from four nursing colleges in four different cities in China. They used a Chinese version of WGCTA (Watson-Glazer Critical Thinking Appraisal) to test the abilities and used CCTDI to test the dispositions. The mean score of WGCTA was 51.15, which was lower than several reported scores for college students in America. For example, as Zhu et al. (2006) noted, the most recent reported result of WGCTA in America was in 1997, with a mean score of 56 ($n=391$). Zhu et al. (2006) argued that the comparative deficiency in critical thinking abilities of Chinese participants was likely to be due to the following reasons: the lack of an agreed definition of critical thinking in China; the absence of a critical thinking teaching programme in the colleges involved in the study; the traditional teacher-centred classroom, which hampers the development of critical thinking; the lack of critical

thinking abilities and dispositions in the teachers; the applicability of the tests used; low awareness of the importance of the tests in the student participants and therefore the lack of appropriate attitudes and cooperation from them. The study, however, has the same problem as He et al.'s (2006) because there is no indication of the source of the testing materials used in the study. It would also be useful if the authors explained in detail whether the testing materials were appropriate to the particular testees. Although there was no discussion of the relationship between traditional Chinese culture and the critical thinking of Chinese students, the study results seemed to differ from Paton's (2005) conclusions, as the tests were administered to Chinese students in China who suffered from neither language problems nor a lack of subject knowledge due to a different learning context. One point that was consistent with Paton's (2005) argument, however, was that the authors, like Paton, attributed the lack of critical thinking in the participants to the education system and to inadequate training in critical thinking.

2.3.5 Supporting voices inside China

A piece of convincing evidence for the existence of critical thinking in ancient Chinese culture comes from Guan's (2001) illustration and explanation of critical elements in Mohist thought. According to Guan (2001), the pre-Qin Mohist thoughts over 2,000 years ago were the founders of critical thinking in China. In the debate with all pre-Qin schools of thought, the Mohist school analysed and evaluated the logic of the arguments of different schools in detail and formed their own critical thinking mode. This critical thinking mode seemed to be reflected in their critical attitudes towards the following three questions: "what is the evidence?", "which words or sentences are not clear enough?", and "is the analogy appropriate to the argumentation?". Guan (2001) further explained the three questions and the Mohist thoughts on these questions in detail. For the first question, Mo-tse advocated unambiguous evidence for the conclusions and recommended that people should always ask "why" questions. Guan (2001) argued that, in contrast to the Confucian school which originated in the same period and remains at the level of discussion of phenomena, the Mohist school tried to explore the underlying reasons. For the second question, the Mohist school emphasised the need for clear and distinct words and sentences

in arguments, and required definitions for ambiguous words. For the third question, the Mohist answer was very similar to inductive reasoning in western philosophy. Mo-tse emphasised the comparability of subjects in analogy making, which is consistent with the stress on the representative nature of the samples in inductive reasoning (e.g. Brown and Rutter, 2006). Interestingly, similar ideas to the Mohist emphasis on the context, the scope of a concept in argument and open-mindedness can also be found in many contemporary articles regarding Chinese learners (e.g. Cheng, 2000; Gu and Schweisfurth, 2006). Unfortunately, the critical thinking and spirit which are embedded in Mohist thought have vanished with the decay of Mohism in history, which is, Guan (2001) argued, a huge loss to Chinese culture. From this perspective, it is hard to answer the question of how much Mohist thought has influenced modern culture in China, especially the educational culture. It could be argued that even though ancient China did not lack critical thinking, this could not serve as a strong piece of evidence that contemporary Chinese people, or in particular, Chinese students, do not lack critical thinking either. It may well be worth looking in more detail at the impact of more recent cultural history, or specifically the current educational culture, on the thinking styles of Chinese students.

Other supporting voices inside China tend to focus on the problems of the modern education system, especially higher education, and highlight the inadequate attention paid to critical thinking in education in China, claiming that this is not conducive to the development of critical thinking. If this conclusion is valid, it would strongly support Paton's (2005) argument that a lack of training is one of the reasons for the deficiency in critical thinking among Chinese students.

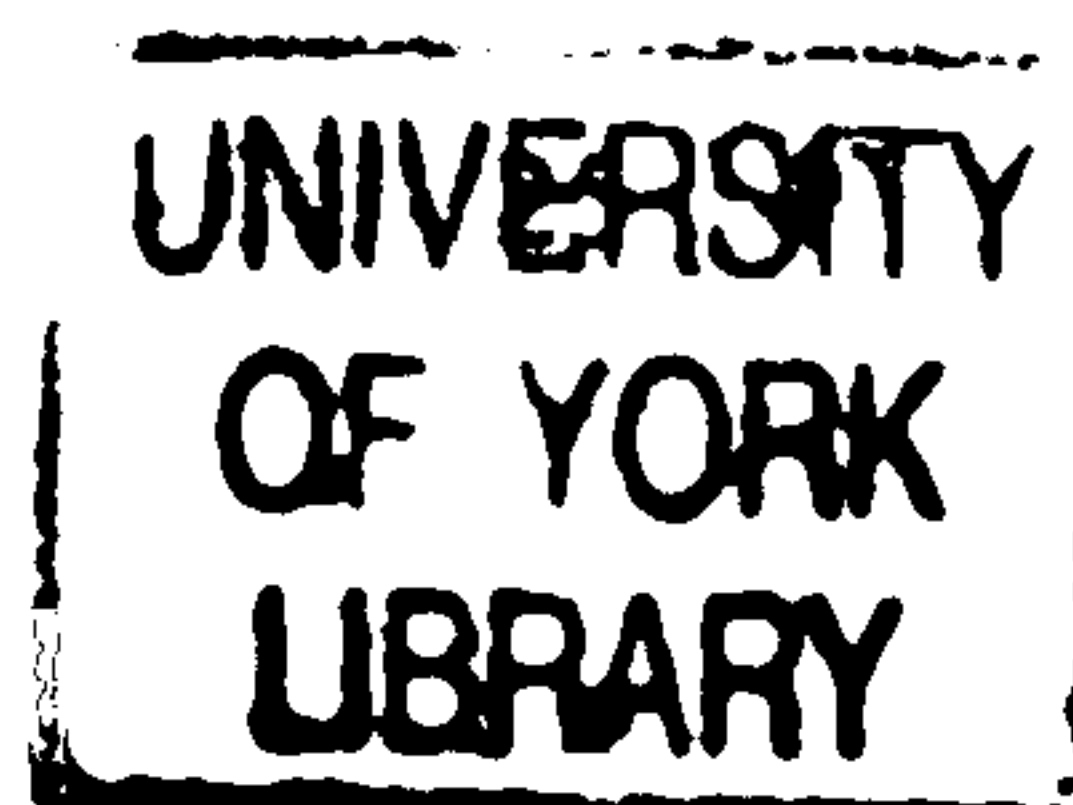
According to the literature, there are two fundamental problems with the education system in China. Firstly, critics argued that education has been teacher-centred for a long time. In such a mode, teachers and textbooks are the authorities and should not be challenged, and the task of students is to master as much knowledge as possible (for example, see Yang, 2003; Zuo, 2004; and Li, 2005). Yang (2003) pointed out that Chinese students are used to waiting for the "feeding of spiritual food" from their teachers and the purpose of the exams in China is only to test whether students can re-present the knowledge learned from the teacher or textbooks accurately. Therefore, in this traditional "memorisation-oriented educational culture" (p.73), repetition and memorisation are the primary learning strategies and students have no chance to reflect on what the teacher has taught (Yang, 2003). Zuo (2004) even argued that in such an educational culture, the individuality

of the students has been largely neglected and they eventually become the “slaves of the knowledge” (p. 93). Hence, Yang (2003) advocated a thorough revision of traditional educational culture in China. However, there are four evident shortcomings to their argumentation. First, the authors seem not to be very serious in their own attitude towards academic writing, as there appears to be evidence of plagiarism in at least two of the articles. Secondly, most of the theories in the literature come from western literature and there seems to be no attempt to develop new theories or ideas. Thirdly, when applying western theories to a markedly different culture, as in China, there is no explanation of the applicability of the theories. Finally and most importantly, there is a clear lack of convincing evidence to support their claims. Most of their arguments are based on their personal understanding of the educational system, their experiences, and common sense, instead of empirical research findings or authoritative reports from experts.

The second problem with Chinese educational culture, according to Du (2004), is an over-emphasis on knowledge accumulation and therefore there has been a distinct tendency to overlook the development of practical abilities in students, something which is closely related to the teacher-centred teaching mode. As a result, creativity, flexibility and critical spirit are, Du argued, rarely seen in students in China, as their thinking mode is restricted to a preset structure.

Inadequate attention paid to critical thinking in Chinese education might be reflected in two areas: the lack of research in China and the ignorance by the teachers of pedagogical theory and practice. The lack of research has been discussed by many researchers such as Luo (2000), Hong (2003) and Luo and Yang (2001). According to Luo and Yang (2001), although a report on critical thinking can be found in the area of child psychology as early as the 1960s, the current research into this area in China is far from sufficient, and largely lags behind the social and economic development of the country.

Attention paid by the teachers to pedagogical theory and practice is not sufficient either. As Zhu (2002) noted, this is due to the over-emphasis on knowledge accumulation and excessive examining in school. Students learning at higher levels seem to be more obedient to the authorities because they have not received appropriate training in critical thinking. Liu and Wu (2004) pointed out that the research and teaching of critical thinking in China are only restricted to a small number of disciplines such as Logic, and it is crucial that the objectives and curriculum of higher education should take into account critical thinking elements. Liu (2000) argued that in real life, teachers are



only concerned about students' understanding of knowledge, but not whether that knowledge is true or false and why it is taught. All the questions have standard answers. Teachers are the masters of knowledge and they are responsible for the amount of the knowledge students can learn from them. Like teachers, the knowledge in the textbooks is not questionable either. Consequently, teachers scarcely ask students to question the truthfulness, accuracy or value of the knowledge learned. Wu (2004) too noted that the introduction of the critical thinking theories from western countries was first seen in China only three or four years before the publication of his article. It is a very fresh area which needs more attention and efforts from researchers and educators.

Luo and Yang's (2002) study supports Paton's (2005) conclusion by showing the effectiveness of training in critical thinking. In their study, the student participants' critical thinking abilities were improved markedly by a three month training course in critical thinking.

2.4 Questions arising from the review

Several questions arise from the above review and are well worth further investigation. First of all, there is little effort by any of the researchers to use or adopt a definition from other studies of the concept of culture. In addition, few attempts were made to explain the scope of the concept in most of the research studies when the researchers were trying to explain the relationships between culture and critical thinking. Because of this, it is very difficult for readers to judge whether the author is talking about ancient or traditional culture, such as Confucianism, or more recent culture, which has been markedly influenced by western cultures. It is therefore unsurprising that there are self-contradictory comments regarding the influence of culture on critical thinking, such as those in Paton's (2005) argument. It seems that the concepts of "big culture" and "small culture" (see Clark and Gieve, 2006) are better solutions to the controversial question of whether culture is the main factor which affects students' performance in critical thinking. However, readers could ask more questions, for example, what are the relative effects of "small culture" and "big culture" and how far the two interact and affect each other. From the literature review, the researchers in this area tend in many cases to be more concerned about the "small culture", or the specific learning

context. Although evidence shows that there were critical thinking elements in ancient Chinese culture, it is hard to judge whether it still exists in the contemporary mainstream culture, since, as noted in Guan's (2001) article, some aspects of ancient cultures have been lost or discarded over the course of a long history.

Secondly, there is a significant lack of empirical studies in this area, especially qualitative studies on the learning context of Chinese students and its influence on students' critical thinking. Because of this, many researchers have appealed to anecdotal evidence, common sense, or even evidence from unscientific subjects like *fengshui* in their arguments, which are not very convincing to support their conclusions.

Finally, the review has shown that there is a need for a clear definition of the concept of critical thinking in research studies. Due to the different understandings of the concept, researchers could arrive at different conclusions. Hence, it is hard for readers to form a clear perception of the real situation: for example, whether Chinese students do lack critical thinking, or whether their cultural background or the learning context is the key factor which affects their performance.

2.5 Implications for the present study

The literature review and the above questions arising from the review make it clear that it would be academically useful to conduct an in-depth research study on the learning context of Chinese students and its influence on their critical thinking. As in most of the literature, researchers tend to believe that "small culture" is more relevant to the learning outcomes of students, while acknowledging the broader influence of traditional Chinese culture on the critical thinking of the students, this study will focus on the "small culture", or the specific learning context in which the participants are situated. Specifically, since the samples used in previous studies have been very selective and qualitative data have been overlooked, and since many Chinese students tend to do a Masters degree at an overseas university, after they have finished their first degree in China, there is a need to do a qualitative study on the learning experience of undergraduates. Statistics in the survey from the Home2UK Website (2006) showed that there were 10,949 postgraduate students

and 10,636 undergraduate Mainland Chinese students in the 40 UK universities in the 2005/06 academic year. Since Masters courses in UK universities generally have to be completed in just one year, students' learning experiences at Chinese universities or colleges are likely to play a key role in preparing these students for in particular advanced study abroad. As very little is currently known for sure about Chinese students' experiences at undergraduate level, it is important to begin by asking a number of fairly broad and basic questions:

- RQ1 What do Chinese students write for their first degrees in China? (This will need to cover how often they write essays, what sort of text they write, and how many words they write for essays and dissertations.)
- RQ2 What challenges do Chinese students studying on postgraduate courses at UK universities encounter in academic writing?
- RQ3 How far do they think they apply critical thinking to academic writing in the UK?
- RQ4 What impact does the training received at undergraduate level in China have on students' critical thinking in academic writing?

In order to further understand these issues and put them in a larger context, before the design of empirical studies, it is important to look at the conventions of academic literacy in the UK and in China in general, especially at undergraduate level, which might help to explain performance of students in academic writing. Hence, the next chapter will compare the conventions of academic writing in the two countries. More detailed sub-questions will be allowed to emerge as the study proceeds. As an explicit definition of critical thinking is crucial to the study, a separate chapter will be devoted to exploring this concept and developing a working definition for the study.

Notes

1. CCTDI (the California Critical Thinking Dispositions Inventory) was developed on the basis of the Delphi Report in order to test the CT dispositions suggested by the CT professionals in the Delphi Research Project initiated by Facione and the California Academic Press in 1988. This will be further explained in Chapter 4 Sections 4.5.8. and 4.7.

2. The meaning of word 'performance' can be very broad or narrow, e.g. exam results, depending on the context in which it appears. For example, in Stapleton's (2001) study, the word 'performance' refers to the argumentative and critical thinking skills students had shown in essay writing.

Chapter 3

Academic writing in the UK and in China

3.1 Introduction

As noted in Chapter 2, the main purpose of the study is to explore the critical thinking of Chinese students in academic writing in the UK and to examine the impact of “small culture”, namely the training students receive at undergraduate level in China, on their critical thinking skills in academic writing. In order to achieve a better understanding of the issues and put them in a broader context, it is necessary to look at the conventions of academic writing at tertiary level in the two countries, through a review of the existing literature. To examine the UK literature, three databases, AUEI (Australian Education Index, 1979 to 2008), BREI (British Education Index, 1975 to date), and ERIC (Education Resource Information Centre, 1966 to 2008), were searched for the relevant journal articles, using the key words “academic writing” in titles and abstracts. Ten articles relating to the research question were collected. Other relevant literature came from the university library and the bibliographies at the end of the articles, and two were recommended by colleagues. In terms of the literature in Chinese, one of the three biggest digital-journal providers in China, Wan Fang Data (1998 – 2006), was used. The same key word “academic writing” in Chinese was used at first, but the results were not satisfactory and adequate. As a result, I broaden my search with the key word “writing”, and 28 articles were selected for the review. The chapter begins (Section 3.2) with an examination of the conventions in the UK, looking at the place of teaching skills in academic writing in the UK, the nature of academic writing in western countries, the key features of good academic writing in the UK, and the major problems that UK students have encountered in meeting academic requirements. Section 3.3 then investigates the same issues in higher education in China. Finally, the existing literature on comparative studies in writing across cultures is examined.

3.2 Academic writing in the UK

3.2.1 Significance of the teaching of academic writing skills in higher education

A review of the literature shows that writing plays an important role in higher education in the UK. Warburton (2006) argued that those who are not good at academic writing may not be able to survive certain humanities and social science subjects. McIlroy (2003) viewed it as a key transferable skill university students need to develop. According to Lea and Street (2000), reading and writing, as the two components of academic literacy practices at tertiary level, are the primary means by which university students learn their subject knowledge and demonstrate understanding of what they have learned. Similarly, Lillis (1997) pointed out that academic writing, particularly in the form of essays, is the dominant literacy practice in higher education. As a result, it is not surprising that various forms of writing, such as essays, reports, dissertations and theses, are used as the key methods of assessment in higher education in the UK (Chia, 2002; Nesi et al., 2004). Particularly in such disciplines as the social sciences, essays have traditionally been viewed as the main way to evaluate students' learning outcomes (Hoadley-Maidment, 2000; Drew and Bingham, 2001).

Although academic writing is considered to be an important aspect of higher education in the UK, it has nevertheless been argued that there has been a lack of appropriate attention given to it. According to Andrews (2007), in England and Wales, the study of rhetoric has given place to the study of literature, and has as a result been largely neglected for more than one hundred years, whereas in Scotland and North America, rhetoric has been studied more continuously. Similarly, Nesi et al. (2004) argued that research into academic study and composition in the UK is in its infancy, compared with its long history and a wealth of publications on the subject in the US. Muchiri et al. (1995) also argued that it is only in the US and Canada where composition is a well established discipline in higher education. While the study of composition in North America is targeted more at native English speakers, in other places the study of academic writing tends to be restricted to the areas of teaching and learning English as a foreign language (Muchiri et al., 1995).

Lea and Street's (2000) findings from the interviews with the academic staff at two universities in south-east England during 1995-96 suggest that there were no agreed criteria for good academic writing among tutors, and students were not told explicitly what was expected of them in their writing.

3.2.2 The nature of academic writing

At a global level, a significant amount of research has been conducted on various aspects of academic writing, such as genre, departmental requirements, discourse communities, contrastive literacy, critical thinking, and teaching and assessment, from the perspective of second language education (see Paltridge, 2004). As far as the nature of academic writing is concerned, Paltridge's (2004) review of the literature showed that researchers' interpretations of academic literacy vary, and a main controversial issue seems to be about whether it is a set of transferable skills or a process of socialisation into a community of practice.

The impact of context on patterns of rhetoric has been much discussed and explored in the literature. For instance, Swales's theory of speech versus discourse communities (1990, cited in Hoadley-Maidment, 2000) considers each academic discipline to be an individual community, in which there are not only forms of discourse but also rules of discourse construction, which are understood and acknowledged by the members of that community. Similarly, Fairbairn and Winch (1996) pointed out that there are clear differences between academic writing in different disciplines. For example, a scientific project report which often requires graphs and tables to explain results is obviously different from a piece of writing which relies solely on a literature review, as in some history studies. Lea and Street's (2000) findings from interviews with 23 humanities, social sciences, and natural sciences staff at two universities in south-east England during 1995-1996 found that views on the key elements of good academic writing by students were affected by their own disciplinary history and conceptualizations of disciplinary knowledge. Even though some generic terms such as "structure" and "argument" were frequently mentioned by the teacher interviewees as important aspects of academic writing, the underlying assumptions about them made by staff from different disciplines varied markedly (Lea and Street, 2000).

Another piece of evidence comes from Andrews et al.'s (2006) finding from a pilot study with academic staff and students at two universities in the UK and one university in the US, that argumentation modes differed greatly across institutions, disciplines and even individuals. They concluded that in the UK in particular, students' written arguments were significantly constrained by disciplinary norms. Zhu's (2004) findings from interviews with ten Business and Engineering teachers at an American university also showed that the degree to which academic writing in general was emphasised in the two disciplines differed a great deal.

However, although writers such as Zhu (2004) and Lea and Street (2000) discovered in their findings the importance of context on academic writing, they also acknowledged that there are rules or common features of good academic writing regardless of the subject. For instance, Zhu's (2004) findings showed that certain basic and general writing skills were frequently mentioned by the teacher participants in the interviews, despite the fact that they came from different disciplines. Zhu found consensus with respect to:

audience awareness, logical organization, paragraph development, clarity, sentence structure, grammar, and mechanics (p. 37)

Other writers, such as Emden and Becker (2003), Cottrell (1999), and Fairbairn and Winch (1996), mainly interpreted academic writing as a key study skill for college or university students, or as a core method of assessment in the social sciences (see Hoadley-Maidment, 2000). The most frequently mentioned elements of good academic writing by these writers can be categorised into two groups: linguistic features and argumentative features. According to Hoadley-Maidment (2000), there are linguistic patterns which differentiate a piece of academic writing from other types of writing. For example, in order to maintain an impersonal style, writers tend to use more abstract nouns and passive verbs, and to avoid the personal pronouns "I" and "we" in academic writing. Emden and Becker (2003) suggested some other linguistic features, such as avoidance of abbreviations, use of formal punctuation, use of certain phrases such as "neither...nor", and preference for long words. Lewis and Reinders (2003) considered basic linguistic features, such as spelling, punctuation and grammar to be the "mechanics" of writing (p. 120).

The other important aspect of good academic writing is the demonstration of certain argumentative features (see Andrews, 2007; McIlroy, 2003; Cottrell, 1999; Lea and Street, 2000;

Emden and Becker, 2003; Nesi et al., 2004; and Warburton, 2006). For example, Andrews (2007) pointed out that argumentation is the “default genre of assessment” (p.1), particularly in disciplines such as the humanities and social sciences. Hoadley-Maidment’s (2000) findings from a questionnaire study of a very limited sample, six health and social welfare lecturers at the Open University in the UK in 1995, showed that argumentative essays were the most important form of student academic writing, and the ability to produce academic arguments was considered to be the criterion for judging whether students had understood their subject knowledge appropriately and whether they had developed certain cognitive skills required at tertiary level. However, the sample size of the study makes the generalisation of her findings to a larger scale very difficult.

Unlike linguistic features, argumentative features seem to be more complex, more difficult to define and explain, and perhaps more discipline-oriented. According to Cottrell (1999), “arguments are reasons (which can include facts) given to support a point of view” (p. 168). This evidence-based nature of argument is also highlighted by other writers such as Fairbairn and Winch (1996), and McIlroy (2003). Cottrell (1999) gave five key aspects of good argumentative writing:

1. State a point of view or opinion, and a clear line of reasoning to support it.
2. Offer evidence or examples to support your argument.
3. Show where the evidence comes from, and that it is reliable.
4. Show that you have considered any possible arguments which might contradict your case or opinions.
5. Be able to demonstrate convincingly why your argument or position is the best. (p. 175)

According to a series of studies undertaken in the 1990s, Andrews (2007) drew the conclusion that one can isolate seven principles regarding argumentation in academic writing at tertiary level:

1. “Use a single authorial voice”
2. “Tread an interesting line between the ‘personal’ voice and the impersonal voice”
3. “Have a vertical and paradigmatic structure and organization”, which requires “classification and categorisation”, and “clarity of ideas, definitions, understanding of hierarchies of ideas, making distinctions between phenomena, etc.”
4. “Have logical or quasi-logical structure momentum: one idea or paragraph must lead to another and have some clearly defined connection to it.”
5. Be “explicit in the connections”.
6. Demonstrate “aspects of the discourse of essay or paper writing”, such as “the use of a certain kind of diction”, “an academic tone”, “a detached, disinterested energy”, and being evidence-oriented.

7. Show “evidence of critical thought”. (p. 6)

In order to clarify Point 7, Andrews introduced four aspects of a critical approach to argumentation: the ability to evaluate different sources; the awareness of contradictory views to one’s own; a tendency to be sceptical in reading; and being as objective as possible. A comparison of these two theories shows that Cottrell’s (1999) aspects of argumentative writing are in effect included in Andrews’s (2007) principles of argumentation. Taking into account contradictory views, discussed by Cottrell and Andrews, was also emphasised by McIlroy (2003), who argued that arguments need to face the challenge of any counter-arguments, and by Emden and Becker (2003) who suggested that a writer should take into account conflicting views and show the strengths of his own.

However, despite the importance of argumentation highlighted by writers such as Andrews (2007), the topic has been largely neglected in England and Wales. The results from Andrews et al.’s (2006) interviews with university students in biology, history and electrical engineering in the UK showed that students’ knowledge of argumentative skills mainly depended on their previous formal training at secondary level, for example on A-level courses, and they generally lacked sceptical thinking in their studies. In addition, the interviews with both staff and the students indicated that there was a discrepancy between what the staff expected and what the students really did. Many students did not even realise that argumentation was required in their disciplines.

In addition, academic argumentation is not without criticism. For instance, Giltrow (2000) noted that argument has been criticised for “being masculinist, Eurocentric, and middle-class, or hierarchical and linear” (p. 129). She also argued that argument varies across cultures, institutions, and disciplines, but this situated nature of argument has not been adequately explained and thus can confuse student writers. Her argument, however, strongly supported the earlier discussion in this section of the importance of context in academic writing.

Not only has argument as a form of academic writing been criticised, but also the overall conventions of academic writing. Lillis’s (1997) case study of a group of six ethnic minority students on a language studies course in England showed that the dominant conventions of academic writing in higher education imposed severe constraints on the participants’ writing, in particular on what and how they could write, and with the result that participants felt they should present a “neutral” tone in their writing, rather than expose any cultural “identity”.

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3.2.3 Plagiarism as a problem with student writing

Brown et al.'s (2008) literature review showed that there has been an increasing concern about the quality of academic writing of university students in the UK, particularly with respect to inappropriate referencing and citation. Various explanations for the nature and seriousness of plagiarism in academic writing can be found in the literature. The books reviewed about study skills for university students all mention this issue (Fairbairn and Winch, 1996; Lewis and Reinders, 2003; Levin, 2004; and Warburton, 2006). Lewis and Reinders (2003) provided a definition of plagiarism as “using others’ ideas and words without clearly acknowledging the source of that information” (p. 123). A similar definition comes from Fairbairn and Winch (1996) that plagiarism is “using ideas that derive from others, as if they are your own” (p.39). This means even if the original words in the literature have been paraphrased, the source still needs to be acknowledged. In his guidelines for academic writing for Accounting, Finance and Management students at University of Exeter, Chia (2002) also clearly noted that students need to give sources of any material referred to or cited. Lewis and Reinders (2003) further noted that in the UK, students can be punished by receiving a lower or unclassified grade, or even by being suspended.

However, even though the penalties of being found guilty of plagiarism are emphasised by departments, it seems to be a very common practice among students. Franklyn-Stokes & Newstead (1995) carried out a questionnaire survey of 128 undergraduates in two science departments at a UK university and identified various cheating behaviours including:

allowing coursework to be copied (72%); paraphrasing without acknowledgement (66%); altering and inventing data (66% and 60% respectively); increasing marks when students mark each other’s work (65%); copying another’s work (64%); fabricating references (54%); and plagiarism from a text (54%). (p. 169)

One reason for this, according to Brown et al. (2008), could be a lack of training in referencing skills. Brown et al.’s questionnaire survey of 57 undergraduates at a university in England in 2005 showed that generally students did not have sufficient confidence about

referencing appropriately, particularly the materials on the Internet, and most of them had not received much training in referencing. Another reason reported by some of the respondents in the questionnaire was that they were unable to trace sources accurately.

The popularity and convenience of the Internet has been mentioned as another reason underlying plagiarism (for example, Brown et al., 2008). Lewis and Reinders (2003) noted that it is common for students in the UK to search and copy materials on the Internet without giving the sources, and some websites even explicitly offer sources for students to copy. A further reason is that students are often confused by the fact that academic staff often provide differing explanations of the terms “plagiarism” and “originality” (Levin, 2004).

To sum up, academic writing in higher education is regarded as an important part of student learning and remains a key form of assessment in the UK, particularly for subjects in the humanities and social sciences. However, there has been a concern about insufficient attention being paid to researching the skills needed. As regards the nature of academic writing, although the complexity and disciplinary specificity of much academic writing is widely recognised, there does seem to be reasonable agreement that there are nevertheless basic rules and common features of good academic writing that apply across subjects, and that these comprise linguistic and argumentative features. However, there is evidence that training in argumentation has been somewhat neglected in the UK, and general conventions of good academic writing have been blamed for their negative influence on L2 student writing. Plagiarism is treated as a very serious issue in higher education in the UK, and almost all the literature reviewed on student study skills has mentioned and emphasised this issue. However, plagiarism and inappropriate borrowing have been found to be prevalent among university students in the UK. The main reasons for this phenomenon, according to the literature, are the popularity of the Internet, and inadequate training in referencing and citation.

3.3 Academic writing in China

A review of the literature published in China indicates that student writing is generally not given

sufficient attention by Chinese academic staff, and it seems to be of more concern to those teachers who teach English or Chinese languages than to other teachers. Of the 35 articles selected for the review, 28 concerned student writing in higher education, and seven focused on norms for publication. Among the 28 articles on student writing, 25 were written by teachers from a department of English or Chinese language and literature, one by two editors of a journal, and only two were written by teachers from business management or economics areas. The titles of the articles show that most of the writers from English departments were concerned about students' use of the English language, while the teachers of Chinese language or literature were more interested in teaching methods and improving students' general writing, rather than their academic writing skills. Students' academic writing is simply not the main focus of the bulk of the literature.

3.3.1 The significance of academic writing in higher education

Of the 35 articles, only five concern the importance of student writing in higher education. According to these five articles, the importance of student writing in higher education has in fact been addressed by the Chinese government. Shen (2001) pointed out that the government recently added a new course on academic writing to the curriculum for English-major students, and suggested that, by doing so, it has recognised the importance of academic writing in higher education. Huang et al. (2005) also noted that there was a notice from the Ministry of Education of China that student writing skills should be emphasised in higher education generally. Liang (2005) suggested a reason for this, arguing that student writing plays an important role in the current trend for "education for all-round development" (p. 62) advocated by the State Council of China in 1999. According to "the decision of the State Council of PRC about further education reform and all-round development of quality education" given on the website of China.com.cn, all round development of quality education aims to improve morality, intelligence, physical fitness and sense of arts of students, and students' creativity and ability to apply knowledge to practice. Liang (2005) argued that writing can enhance students' political and moral consciousness, mental health, creative thinking ability, and overall literacy level.

In addition, the place of academic writing is also reflected in the government's regulation on

the importance of dissertations in higher education, by specifying that those who fail their dissertations cannot obtain their degrees (Lian and Shi, 2003). Lian and Shi (2003) pointed out that recently in some universities or colleges, students have been required to write term essays from the first year. According to Lian and Shi (2003), although this is still unusual in China, it indicates an increasing emphasis on academic writing in higher education.

The important place of writing in such subjects as the Chinese language, Chinese literature, or journalism and communication, is agreed on by Huang et al. (2005) and Chen and Ma (2002). As Chen and Ma (2002) noted, the quality of student writing is one of the main criteria for evaluating the outcome of teaching and learning in departments of Chinese literature and culture.

3.3.2 The nature of academic writing

Nine articles reviewed mention aspects of, or criteria for, a piece of good academic writing. Five of the seven were written by journal editors, and four were by teachers from a department of Chinese language and literature. The backgrounds of the writers imply that the attention given to writing or academic writing in China by academic staff from other disciplines is not sufficient. Among these nine articles, only one focuses on aspects of dissertation writing; the other eight concentrate more on general problems with manuscripts submitted to academic journals, or criteria for judging a paper.

However, the discussions in the literature do concern various aspects of academic writing relevant to the present study, such as language, referencing, creativity or originality, and argumentative skills.

Appropriate use of language is considered in three papers to be one of the main aspects of good writing (Zhao and Yin, 2001; Lian and Shi, 2003; and Yang, 2004). Zhao and Yin (2001) suggested that accuracy of language requires the use of appropriate words, variety in the use of punctuation, and a range of connectives. They believed that accurate, concise and fluent written language reflects the writer's ability to use the language, think logically and explain relevant terms appropriately. Similarly, Lian and Shi (2003) suggested that language in student dissertations should be accurate and concise, and have an academic tone, so that dissertations are differentiated

from other forms of writing. Yang (2004) also proposed that language in academic writing needs to be clear and fluent for the reader to understand the main ideas in the texts without difficulty.

Creativity or novelty in writing is also regarded as a key element of good writing. Zhang (2005) argued that in order to improve creative thinking in the subject of Chinese culture and literacy, a series of reforms in teaching methods should be undertaken to free students from preconceived modes of writing. Li and Chen (2003) argued that the purposes of academic research are to find new questions, try new research methods, and make contributions to the relevant field of study, thereby promoting the overall development of science and civilization. As a result, novelty and creativity should be considered as a key feature of academic writing, especially in published work (Li and Chen, 2003). Having said that, they pointed out that many writers in China carry out the same research and arrive at the same conclusions because they have not conducted a thorough literature review. Zhao and Yin (2001) argued likewise, that creativity is the core feature of a scientific or technological paper, which means that the most recent research findings or inventions should be reported. This is also a feature which differentiates a scientific or technological report from school textbooks, which only convey existing findings and knowledge to students (Zhao and Yin, 2001). This combination of novelty and creativity is also strongly advocated by Ye (2003) who argued that scientific research needs to display new ideas, new theories, new views, tackle issues from new perspectives, use new methods, and raise new questions.

Aspects of argumentation are also discussed in the literature. First of all, it is proposed that there should be clear research questions in academic writing (Lian and Shi, 2003; Li and Chen, 2003; Ye, 2003; Yang, 2004). Lian and Shi (2003) focused on undergraduate dissertations and argued that they should have a clear objective, that is, the student should explain why he is writing on the topic and what questions need to be tackled. Yang (2004) suggested that a good research question is the pre-requisite of a high-quality publication. According to Li and Chen (2003), writers who wish to publish their works should avoid vague, broad, and unoriginal research topics and questions, so that readers would be interested in reading the article. In this connection, Ye (2003) added that a broad research topic should be avoided, especially when the writer does not have sufficient evidence to support his or her views.

In addition, a well-argued paper should be evidence-oriented. Lian and Shi (2003) argued that

in order to be persuasive, undergraduates' dissertations should have reliable and/or trustworthy evidence to support the conclusions. Yang (2004) proposed that any assertions in published scientific articles should be made on the basis of concrete evidence, and in addition, any interpretations of other people's research findings should be accurate. Li and Chen (2003) further specified that in both social science and natural science papers, evidence should be accurate, authentic, representative, sufficient, and logically organized, adding that any research findings need to stand up to criticism and counter-arguments. According to Zhao and Yin (2001), reliable evidence comes from an experiment or examination which can be repeated and tested, accurate explanations or interpretations of concepts, terms and definitions used in the process of analysis, and objective evaluations of other people's findings. Moreover, persuasive arguments also involve a logical structure or reasoning process, clear viewpoints by the writer, and theories emerging from the arguments (Li and Chen, 2003; Yang, 2004).

Aspects of a critical dimension are also mentioned in three papers as features of a good piece of academic writing (e.g., Lian and Shi, 2003; Yang, 2004; Chen, 2006). Lian and Shi (2003) suggested that students should view issues from a comprehensive, developmental, open-minded, and analytical approach in their dissertations, while Yang (2004) advocated that, when using other people's findings, an objective and sceptical attitude should be adopted, since many people are likely to believe whatever is written in the literature simply because it is published. Finally, Chen (2006) suggested that postgraduate students need to be aware of both strengths and weaknesses of other people's studies, so that they can learn from them and improve the quality of their own research.

In terms of referencing, the review shows that a standard presentation form with appropriate referencing compatible with international criteria is preferred (Zhao and Yin, 2001; Zhen *et al.*, 2004), and plagiarism or inappropriate borrowing is regarded as immoral behaviour and should be strictly forbidden (Yang, 2004; Yang, 2005). According to Zhao and Yin (2001), journal editors prefer works which conform to the regulations from the government on the presentation of academic publications, covering topics such as the size of books and magazines, technical terms, referencing and citation, graphs and tables, and punctuation. Zhen *et al.* (2004) suggested that the standardization of student dissertations should cover three areas: the structure of the dissertation, appropriate referencing, and the assessment procedure – aspects which are mostly borrowed from

western academic conventions. As regards the structure of the paper, they recommended a presentation mode popularly used in the western academic world, which includes research questions, literature review, methodology, data collection and analysis, discussion and conclusions. They were also in favour of a referencing system popular in America, the APA (American Psychological Association) system in addition to a system widely used in China – GB7714-87. In terms of the assessment procedure, they proposed peer and anonymous review, particularly for doctoral theses.

As far as plagiarism is concerned, Yang (2004) advocated an honest attitude towards academic work and the avoidance of plagiarism. Yang (2005) discussed the issue of plagiarism in detail in his speech at the China University of Political Science and Law. He pointed out that plagiarism had become prevalent in China since the mid-1990s and was a very serious problem in academia, and suggested that harsh punitive measures should be taken immediately to deal with it.

3.3.3 Problems with student writing

As stated earlier, the writers of the literature reviewed come from very limited disciplines, primarily Chinese language and literature, English language and literature, and Economics and Management. Thus, their discussion of problems with student writing mainly focuses on essays and dissertations of students in these subjects.

In terms of the problems with student writing in departments of Chinese language and literature, the review strongly suggests that student writing is not satisfactory. Shen (2003), for example, complained that students generally lack motivation and interest in writing, do not think writing is important, and do not know how to write dissertations or other different types of text. According to her experiences, the main problems with student dissertations are: an inability to choose appropriate topics or to track down relevant literature, a lack of in-depth analysis, and inappropriate forms of presentation. In addition, she noted that plagiarism was prevalent among her students. However, Shen's (2003) assertion is simply based on her own experience, and thus lacks strong empirical evidence. Her worries about students' lack of interest and ability in writing different types of text are, however, consistent with Mo and Meng's (2004) research findings. In

2004, in order to investigate student writing practice, Mo and Meng (2004) conducted a questionnaire survey of 455 undergraduates from the Department of Chinese Language and Literature at Hunan Institute of Science and Technology. Their findings showed that the students lacked the basic writing skills required by the department; most did not have an interest in writing, especially the different types of text involved; they lacked motivation; and they did not display appropriate understanding of the importance and nature of writing. Zhou (2001) also expressed a worry that undergraduate students even in the area of Chinese language and literature are not competent in writing different types of text, citing letters and résumés in particular. In addition, Zhang (2005) noted that a common problem with student writing in the area of Chinese language and literature is that there is a lack of creativity, imagination, and originality. Finally, student dissertations are not satisfactory either, including those written by both undergraduates and graduates (Huang, 2006).

Some of the above problems, such as students' lack of ability to find reading materials and the poor quality of many student dissertations, have been claimed to be common among students from departments of Economics and Management as well (Sun, 2004). Sun (2004) claimed that students generally have no explicit objectives in writing dissertations, do not know how to conduct literature reviews, have no idea of writing procedures, and cannot think and work independently.

As regards problems with student writing in English departments, English language proficiency, particularly the influence of the students' first language – Chinese – on English writing, is discussed in two of the papers reviewed (Wang, 2003; Shen, 2005). According to Wang (2003), among the four basic language skills, writing has proved the most difficult for Chinese students to master. He pointed to the results of standardised English tests, such as TEM4 (Test for English Majors, Level 4) and TEM8 (Test for English Majors, Level 8)¹, noting that the marks students obtain for the writing part are markedly lower than for other parts. He claimed that students do not know what words need to be used or how to weave everything together to make a logical argument, and that students' thinking style in their first language has largely affected their use of English (Wang, 2003). Similarly, Shen (2005) argued that students' deficiency in English mainly comes from the fact that they cannot find appropriate words to express their ideas, do not have sufficient knowledge of English grammar, and cannot think in English. In addition, Shen (2001) was also concerned about students' lack of ability to write different types of practical texts.

such as job applications and résumés in English, and about their particular difficulties in academic writing. Unfortunately, all the above arguments, except for Mo and Meng's, seem to be based simply on the writers' personal experiences, as they did not report empirical studies or even use research findings from other studies to support their conclusions.

3.3.4 Reasons for problems with student writing

A range of reasons is given in the literature for students not having writing skills required by their department or university. Sun (2004), for instance, noted that the requirements and criteria for dissertations from the various departments are often not clear. Shen (2003) argued that students in Chinese language and literature do not have sound evidence to support their arguments because they do not read widely and their understanding of the area or topic remains at a superficial level. However, again, there is a lack of sound evidence in both Sun's (2004) and Shen's (2003) arguments. Mo and Meng's (2004) findings from their questionnaire survey of 455 undergraduates from the Department of Chinese Language and Literature at Hunan Institute of Science and Technology (discussed above) showed that Literature students could not see the benefits of writing. Of the reasons suggested, however, the two most frequently mentioned are bad habits formed in high schools, and the inadequate training received at university.

Training in writing in high schools is considered to be one of the main reasons for students' lack of ability to write different types of text, such as job application letters, and essays and dissertations at university. Shen (2003) argued that teacher-centred classes in high schools have largely restricted students' creative and independent thinking. She claimed that teachers in high schools tend to tell students that there is only one correct answer to a question, and this, in the long run, results in a tendency to guess what answer teachers want from their composition and then write it. Zhang (2005) made a similar point that, due to the training in high schools, university students in China are inclined to study in a rigid way, by mechanically reciting what teachers teach in class or what they read in textbooks. This, to Zhang, is the main reason why university students lack creative thinking and imagination in writing (Zhang, 2005). Wang (2001), on the other hand, noted that unsatisfactory outcomes of training in writing in high schools can be primarily

attributed to the exam-oriented nature of education in high schools. Both teachers and students in high schools are busy preparing for exams in which writing is not regarded as a main format for testing (Chen and Ma, 2002). Again, these arguments are not data-based, and thus are not entirely convincing.

The main problems with writing courses for students in Chinese language and literature in universities, as reflected in the literature, are rigid teaching methods, a lack of opportunity for students to practice, loose connections between the course and students' particular subjects, and inappropriate writing textbooks. There are several reports that traditional writing courses are dominated by the teacher's presentation and the students' mechanical reciting of writing theories, with little active student participation or actual writing practice (Peng, 2002; Shen, 2003; Zhai, 2004; Wang, 2005; Zhang, 2005; and Yan, 2006). Furthermore, the tradition of using models to explain features of good writing in class tends to inhibit students' creativity and confidence in their own writing (Wang, 2001), which strongly supports Shen's (2003) view that teacher-centred classes restrict students' creative and independent thinking. In addition, for those students whose subjects are not in the area of Chinese language and literature, writing courses fail to serve the function of helping them write successfully in their subjects (Zhou, 2001). Moreover, popular writing textbooks in China appear to focus more on writing theories and thus are not practical or user-friendly (Li, 2006).

To sum up, the literature review shows that writing is considered by the Chinese government and academic staff from Chinese language and literature departments to be an important part of higher education in China, in as much as it forms part of the government policy of promoting education for all-round development (see Liang, 2005). A piece of good academic writing is expected to demonstrate part or all of the following characteristics: writing in clear and accurate language; referencing appropriately; thinking creatively; weaving evidence logically to make a coherent argument; and being objective and sceptical in reading. Student writing in departments of Chinese language and literature is generally held not to be satisfactory, in as much as students lack the ability to write different types of text and dissertations, plagiarism is prevalent among them, and their writing shows a lack of creative and novel ideas. Students of English are also claimed to be incapable of writing different types of text and dissertations. In addition, they suffer from poor second language knowledge and skills and the interference of their first language with English.

These problems, according to the studies in the literature review, are mainly attributed to the fact that students bring over their “bad habits” from high school, and current writing courses are conducted in a traditional but ineffective manner.

Except for Mo and Meng (2004) who conducted a questionnaire survey, it needs to be stressed that all the above writers appeal only to their personal experience, rather to research findings by themselves or others. As a result, the above conclusions drawn on the basis of the literature review can at best be seen as suggestive and tentative, and the area needs to be further investigated.

In addition, due to the fact that discussions of the problems with student writing in the literature are limited to a small number of disciplines, mostly Chinese language and literature and English language, the situation of student writing in other disciplines is unknown, particularly as regards essay writing skills. Even the report of desirable features of academic writing are mostly elicited from discussions about norms for academic publications, thus may not be applicable to student writing.

3.4 Different thinking styles in the two cultures and their influence on writing

Even a cursory review of the literature suggests that Chinese scholars who publish in Mainland China hold different views on the relationship between culture and language or contrastive rhetoric from many of those who publish overseas. While the traditional view that cultural differences affect rhetorical patterns and thinking styles is still maintained in Mainland China, publications outside China have begun to criticise and challenge this traditional approach to contrastive rhetoric, a theory which was originally proposed by Kaplan in 1966 (Connor, 2004; Kubota and Lehner, 2004; Paltridge, 2004).

The review of the papers published in Mainland China supports the traditional view that western arguing is linear or deductive, analytical, rational or logical, and direct, while eastern (including Chinese) people think and argue in a more circular or spiral, comprehensive, indirect, and inductive way (Wang, 2003; Ma, 2004; Hu, 2006; Zhang, 2006). Thus, Wang (2003) for

example argued that Chinese people prefer to think in a circular thought pattern, in which there is always a central idea, whereas western people tend to think in a linear pattern, where a topic sentence or the main idea is normally given at the beginning, followed by a structured reasoning process. Wang (2003) believed that the differences in thinking patterns have had a considerable effect on Chinese students' writing of English. This is consistent with Ma's (2004) assertion that Chinese students encounter interference from their mother language in their writing in English. She proposed that English teachers should shift their attention from simple linguistic problems with students' writing, to the underlying reasons for different thinking patterns in the two languages. She suggested that in western philosophy, people believe that seemingly complicated phenomena can be broken down into a set of simple concrete elements which can be elicited and analyzed, and thus western people emphasise rational thinking and evidence. According to Ma (2004), this approach to thinking originates from Aristotle's notion of linear thinking, and abstract and rational thinking have become embedded in English language. Hu (2006) noted that in addition to the difference between linear and circular thinking, eastern culture tends to encourage comprehensive holistic thinking, while western culture encourages analytical thinking. Zhang (2006) linked thinking with direct expression, arguing that western people prefer direct and explicit expressions, while Chinese people are more indirect and implicit. As a result, deductive thinking is very popular in English writing, in which topic sentences or main ideas are placed before explanations or evidence (Zhang, 2006). In contrast, Chinese people tend to put reasons before results, explanations before conclusions, and backgrounds before requirements. In addition, Zhang (2006) noted that western people tend to think in a rational and abstract manner, and appeal to strong evidence derived for the most part from empirical studies and reliable data, while Chinese people prefer to think in a concrete way, and rely on an integral combination of concrete forms, impressions, and sound to convey ideas and information. He further proposed that human beings are at the centre of Chinese thinking and the Chinese language, whereas objective evidence is at the centre of English thinking and the English language. Therefore, he concluded that Chinese people use more active constructions than passive ones, whereas the latter are often preferred in English academic writing. However, Zhang's (2006) arguments equate western thinking with English thinking, and thus fail to recognise possible differences in thinking patterns among various "western" cultures.

The preference for direct expression in English, in contrast with indirect expression in Chinese, is also mentioned by Guo and Wang (2004), who argued that Chinese discourse patterns encourage variety and the “golden mean”, by which they meant a balance between the positive and negative sides of a matter and an implicit expression of the writer’s own standpoint. However, this “golden mean” rule cannot explain Ma’s (2004) claim that Chinese students prefer unconditional conclusions, whereas in English writing, this is not encouraged.

The review of literature on cross-cultural differences in writing published outside China shows that, even though there is evidence to support the view that there are cultural differences in rhetorical patterns, critics are challenging the basis of the traditional theories, such as the version of contrastive rhetoric suggested by Kaplan (1966).

The concept of contrastive rhetoric was first introduced by Kaplan in 1966 (Kachru, 1997; Connor, 2004; Paltridge, 2004). The key ideas are that: (1) the rhetorical patterns in paragraph development differ across cultures, as writing is considered to be a cultural product and reflects the underlying logical patterns of thinking in the culture; (2) L2 students’ first languages are assumed to interfere with their writing in the target language; and as a result, (3) the rhetorical patterns of the learners’ first languages should be compared with those in the target language, in this case English, and be taught at the same time as the grammatical patterns are introduced. Kaplan (1966) maintained that while western thinking is “essentially a Platonic-Aristotelian sequence” (p. 3) following a linear and direct pattern, some oriental (Chinese and Korean) thinking patterns tend to be indirect, in the sense that “things are developed in terms of what they are not, rather than in terms of what they are” (p. 11). This is strongly supported by Silva (1997, cited in Paltridge, 2004) who argued that L2 students’ writing in English differs from that of L1 students’ in important ways: for instance, in L2 students’ writing, textual patterns, argumentative structure, use of the existing literature, reader orientation, use of textual cohesion devices, even sentence structure and word choices are different. Another piece of evidence which supports Kaplan’s (1966) theory comes from Liu (2005), who conducted a comparative analysis of online instructional materials on argumentative writing for school writers in China and in the US. Liu (2005) found that unlike the American materials which emphasised “anticipating the opposition” (p. 12), Chinese materials highlighted analogies and dialectical logic, which have its root in the ancient Chinese culture, such as “the dialectics of Laozi and the Yin-Yang tradition which believes in the unity and interplay of

opposites” (p. 14).

Another concept used to describe the cultural differences in communication is to categorise western cultures as “Low Context” cultures, and eastern cultures as “High Context” cultures (East, 2006). In Low Context cultures (the western cultures), the argument is direct and the relevant information is explicitly given, while in High Context cultures (the eastern cultures), the argument is often indirect and information is implicit. This is consistent with Kaplan’s (1966) categorisation of the western and eastern thinking as direct and indirect, and Hinds’s (1987, cited in Kubota and Lehner, 2004) classification of English and Asian languages as “writer responsible” and “reader responsible” respectively, which indicates that English writers often assume that it is their responsibility to make clear what they write, whereas in Asian languages, it is often the reader’s task to interpret the meaning of the text.

However, the new currents in the study of contrastive rhetoric tend to emphasise the complex and dynamic nature of writing and culture, and criticise Kaplan’s theory for its ethnocentrism, misinterpretation of culture as a static concept, and failure to address factors such as disciplinary and genre differences (Taylor and Chen, 1991; Kachru, 1997; Connor, 2004; Kubota and Lehner, 2004). A comprehensive review of the studies which have challenged the underlying assumptions of traditional contrastive rhetoric is provided by Kubota and Lehner (2004). According to Kubota and Lehner, critics have been challenging the “reductionist, deterministic, prescriptive, and essentialist orientation” (p. 10) of the traditional theory of contrastive rhetoric, criticising Hinds’s (1987, cited in Kubota and Lehner, 2004) concept of “reader responsibility” in Japanese for its failure to recognise the importance of context and background knowledge shared by both the writers and readers in comparative text analysis. In addition, some critics have also raised the issue of comparability of texts, arguing that it is problematic for traditional comparative rhetoric to compare contemporary and idealized English with classical or “essentialized textual features of other languages” (p. 10), since this tends to ignore the variety and complexity within any one language (Kubota and Lehner, 2004). Kachru (1997) focused on a slightly different point and challenged Kaplan’s assumption that there are identifiable conventions of writing in English, pointing out that English itself varies a great deal across English-speaking countries, such as America, Britain, New Zealand, Australia, and India. Taylor and Chen (1991) conducted a text analysis of three groups of introductions to published scientific articles written respectively by

English scientists writing in English, Chinese scientists writing in English, and Chinese scientists writing in Chinese. While their study did not identify clear differences in rhetorical patterns between the introductions written by English and Chinese scientists, they did find that there were disciplinary differences in rhetorical patterns regardless of the nationalities of the writers, thus suggesting that perhaps more attention needs to be paid to the disciplinary features in rhetorical studies than to broad cultural differences. According to Connor (2004), Kaplan later modified his position and acknowledged that different rhetorical patterns could be caused by different conventions of writing.

3.5 Conclusions and implications

The above discussions of contrastive rhetoric between English and Chinese, or between western and eastern thinking modes, in the literature published in China and outside China suggest that: while Chinese writers have no objection to the traditional view that western or English thinking is primarily linear, direct, analytical, and inductive, and eastern or Chinese thinking is spiral, indirect, comprehensive, and deductive, literature published outside China has begun to challenge the assumptions behind this. The writers criticise the traditional contrastive rhetoric for its ethnocentrism, misinterpretation of culture and writing as a static and homogeneous concept, and ignorance of other factors such as disciplinary and genre differences.

The review of the 50 studies on aspects of academic writing in higher education in the UK (22) and in China (28) has shown that there are both similarities and differences between the two countries. A comparison of the qualities of good academic writing shows that some linguistic features and argumentative skills, even some critical thinking skills such as reflective thinking, are shared. In addition, the poor quality of student writing and the frequency of plagiarism are of great concern to analysts and academics from both countries.

However, the review also seems to show that academic writing plays a more important role in higher education in the UK than in China. In the UK, university students cannot succeed on degree programmes in some subjects in the humanities and social sciences without appropriate academic

writing skills. However, there are no such reports in the literature from China. Furthermore, conventions of academic writing have been investigated much more intensively and extensively in the UK than in China. There is a broad range of discussions and debates regarding the nature of academic writing in the UK. While writers recognise that there are common features of academic writing across disciplines or subjects, they also admit that the context plays an important role in rhetorical patterns in writing. However, in China the published voices are mainly from journal editors, teachers of English or Chinese language and literature, who are more concerned about general writing skills or language use than student academic writing. As a result, the situation with respect to student academic writing in China and the employment of argumentative and critical thinking skills in writing is not clear. Furthermore, there is a general lack of high quality empirical evidence in the literature from China, suggesting that the arguments and conclusions concerned must be treated as tentative. Therefore, an in-depth study of student academic writing and the application of argumentative and critical thinking skills to writing seems to be both needed and overdue. In addition, training has been regarded as a major reason for students' poor performance in writing both in the UK and in China. As a result, a further look at the training students receive in China and its effect on student writing also seems necessary and worthwhile.

Notes

1. TEM4 (Test for English Majors, Level 4) aims to assess the English language proficiency of English-major students who have finished the courses set for English majors at Level 4. It tests students' four language skills as well as their understanding and use of English grammar and words. It also aims to evaluate the quality of teaching and learning, and promote communication between universities. TEM8 (Test for English Majors, Level 8) aims to assess the English language proficiency of third or fourth-year English-major students who have finished the courses set at Level 8. It is the highest level of English language test in China. It is held in March each year and is divided into two sessions: a morning session for listening, reading and error correcting, and an afternoon session for translating and writing. (from <http://www.hrexam.com/tem8.htm>)

Chapter 4

Critical thinking: A review of the literature

4.1 Introduction

The purposes of this chapter are: firstly, to derive an appropriate working definition of the concept critical thinking (CT); secondly, to explore the current approaches to teaching and assessing critical thinking; and lastly, to draw some implications for the present study.

Critical thinking has been a controversial term for a long time, especially in the decades since the 1960s. The controversies mainly centre on the following areas: the definition, generalisability, teaching and assessing of CT, and the relationship between CT and other higher-order thinking skills such as creative thinking, problem solving, and rational thinking, as suggested by Johnson (1992).

However, in order to place these controversies in a meaningful context, it is necessary to review briefly the history of CT and its importance in education, especially in western countries.

4.2 A short history of critical thinking

Scholars have traced aspects of CT as an educational ideal in western countries back through the following historical periods: “the eighteenth century Enlightenment, the Renaissance, the medieval focus on logical argumentation, the North African and Roman preparation of jurists and lawyers, and the Aristotelian and Socratic concern for logic, rhetoric, and warranted assertibility” (Facione et al., 1995: 2). However, in more recent history, it is argued that Bloom’s (1956) taxonomy of educational objectives had a particularly significant impact on the development of CT in western countries, especially in America (Ennis, 1987; Reichenbach, 2001). Bloom’s taxonomy includes six steps of thinking: knowledge, comprehension, application, analysis, synthesis, and evaluation, which will be discussed in more detail later in Section 4.5.1. Another name which is closely

associated with the development of contemporary CT is Robert Ennis, who published a famous article *A Concept of Critical Thinking* in 1962, which generated considerable enthusiasm for, as well as leading to, debates about CT in western countries to the present day (Thayer-Bacon, 2000). After Bloom and Ennis, many other theorists developed their own theories, and a significant amount of literature can be found on various aspects of CT, such as its definition, its generalisability, and the teaching and assessment of CT. Inasmuch as the focus of this study is how Chinese students function in western universities, the discussion in this chapter will concentrate on the importance of CT in western countries.

4.3 Critical thinking as an ideal

A review of the literature shows that even though scholars disagree at times about the exact nature of CT, it is nevertheless perceived by virtually all as an ideal from individual, educational, and social perspectives in western countries.

Firstly, from the perspective of individual achievements, CT is seen as one of the key factors which affect people's performance in both their personal and social life. Hare (1999) justified CT as an essential individual skill from three perspectives: first, from an ethical perspective, CT differentiates us human beings from other animals; secondly, from a practical perspective, CT is a key tool for a person to survive and succeed in a competitive society; finally, from an intellectual perspective, CT is considered to be necessary for one to make an outstanding achievement in one's area. In short, a person who is willing to use CT skillfully is expected to be more successful. One problem with Hare's (1999) first perspective (ethics) is that he seems to confuse the scope of CT with thinking in general. Hare's point about the intellectual value of CT, does however have some empirical support. In a study of 1,196 US college students in 1989/90, Facione (1990b) found that students' critical thinking abilities had a significant correlation with both their GPA (Grade Point Average) and reading comprehension scores (Facione, 1990b).

From the perspective of education, there is consensus among many theorists that CT should be seen as a valid educational ideal, especially in higher education (e.g. Facione et al., 1995;

Bissell and Lemons, 2006; Hare, 1999; Woodward-Kron, 2002). The emphasis on CT in education can be seen from the tremendous enthusiasm western countries have shown for CT in recent decades. In North America, for example, the notion that CT is an educational goal is embodied in government policies, university or college goal statements, and assessment criteria (Facione et al., 1995). To be able to reason well is an essential skill for all academic subjects at school and particularly at university (Thomson, 2002; Mangena and Chabeli, 2005). At university, students are required to demonstrate their critical analysis in their work, particularly in academic writing (Woodward-Kron, 2002). These requirements can be found in course guidelines, assessment criteria, and the feedback on students' written assignments, even though the meaning of the concept CT may be unclear to both staff and students (Kiely, 2004). In the past few decades in the UK, there has been a movement to create a "thinking curriculum", in order to promote the critical thinking by students (Fisher, 1998: 5). The publications in this area in the UK concern both the theories and practice of critical thinking (Costello, 2000). Moreover, in UK universities, a critical dimension in argument is regarded as a prerequisite qualification for a piece of writing to be graded as very good or distinguished, and is necessary for those students who want to further their studies at Masters or doctoral level (Andrews, 2007).

Furthermore, according to Facione (2006), CT is the force behind liberal education, which aims to liberate students from passively accepting knowledge from academic authorities. In a liberal education system, students are expected to think for themselves, to challenge current theories, and even make contributions to their field. Paul (1992, cited in Dam and Volman, 2004) even argued that CT should be the *only* objective of education, and proposes an overall reform of the education system in the US including curriculum, assessment, and teaching methods. Siegel's two-component theory of CT also suggests that CT should be the primary educational ideal, which means that CT should not just be the aim of education, but also the means of delivering it; a graduate should not only possess CT skills, but also have the disposition¹ to use the skills (Cuypers, 2004).

With respect to the importance of CT in a society, it is viewed by many in the US as the fundamental spur to motivate the continual development of the country. In particular, this is reflected in the following three areas. First, it is reflected by the growing enthusiasm for CT in citizenship education which aims to provide responsible and sensible citizens for a society.

According to Facione et al. (1995), CT plays an important role in equipping the college graduate with appropriate knowledge and skills to “exercise his rights and responsibilities of citizenship” (p. 2). From this perspective, the role of higher education in society is clear: it exists not just for itself, but more to aid society; it should be committed to providing contributing members of that society. Secondly, CT is considered by some to be so important that it can decide the fate of a country. Marshall and Tucker (1992, cited in Facione, 2006) suggested that only those nations which stress the acquisition of these skills by all the members of society can survive in the future, for the competitiveness of a nation is more or less decided by what kind of people it has. Facione (2006) even alleged that a society which encourages uncritical thinking will collapse sooner or later. Finally, CT is regarded as the fundamental spirit of a democratic society, in which people are driven by rational, reflective thinking and truth seeking (Facione, 2006; Dam and Volman, 2004; Cuypers, 2004). From this perspective, CT does not belong to any one nation or country, but to the whole human race.

4.4 Critiques of critical thinking theories

Although CT has been the subject of considerable positive, even wild enthusiasm, it has also become the target of critique in recent years. It has been argued for example, that CT, with its focus on cognitive thinking skills and rationality, neglects the effect of the imagination, emotions and feelings on the thinking process, and since rational thinking has at times been treated as more associated with men’s thinking, it has also been criticised as being gender-biased (Dam and Volman, 2004; Thayer-Bacon, 2000). However, Hare (1999) noted that no studies to date have found that women show a particular lack of rational thinking or reasoning abilities, and in fact, CT has a strong connection with imaginative and creative thinking. Hare (1999) suggested that one needs imagination when thinking about the pros and cons of taking a position regarding a question, “since one is going beyond what is given and not merely offering a stock response” (p. 93), and this process involves creativity as well. Further, a critical scrutiny of a problem may generate new and original solutions. Other critics seem to be unsatisfied with the fact that an excessive emphasis

on cognitive skills leads at times to a down-playing of content knowledge (Dam and Volman, 2004). In response to this critique, Hare (1999) explained that although a degree of subject knowledge is frequently needed in CT, certain principles of CT can be applied to any subject. Fisher (1988) framed the problem in a slightly different way, complaining that most existing CT theories neglect a key issue in argument: what evidence or what sort of evidence should be provided to justify the conclusion. CT has also been criticised for neglecting the social and political context in which it occurs, by those who argue that CT should serve as the main weapon to eliminate social injustice (Dam and Volman, 2004). Thayer-Bacon (2000) similarly criticised traditional CT theories for ignoring social relationships between people. In Thayer-Bacon's (2000) opinion, all human beings are socially related to each other, and knowledge is constructed by people in their effort to explain their experiences with each other. However, Thayer-Bacon's emphasis on social relationships cannot explain an event such as Newton's finding of the law of gravitation. If the apocryphal story that Newton discovered the law by observing the falling of apples is true, it is obvious that the knowledge derived more from his curiosity and interaction with nature, rather than from social relationships between people. Hence, Thayer-Bacon's (2000) theories may apply to certain social science areas, but will probably encounter problems in explaining specific rules or laws in science. Lastly, Thayer-Bacon (2000) pointed out the problem with the traditional view that CT is neutral and unbiased, because human beings are "fallible, flawed and limited" (p. 3). Traditional CT's refusal to acknowledge other qualities of knowing such as feelings, imagination, and intuition is, to Thayer-Bacon (2000), a general western cultural bias itself.

Returning to the question of CT as an educational ideal, Papastephanou (2004) pointed out that the omnipresence of CT in education over such a long period of time does not necessarily guarantee that educators truly understand the spirit of CT. Rather, it is claimed, CT has been utilised to protect the established pedagogical order, instead of truly liberating students from merely echoing their teachers. Thus, CT as an educational panacea has actually inhibited students' free thinking (Papastephanou, 2004).

CT is not only criticised in academic fields, but has also been criticised as a reliable approach for ordinary people to make judgements on publicly discussed issues. As Huemer (2005) suggested, when people encounter a controversial problem, they usually take one or more of the following

three actions: appealing to experts; withholding a judgement if there is not enough evidence; or making a judgement without appealing to experts. Huemer (2005) took law courts as a typical example of the first action, where experts are frequently asked to assist the judge to deal with controversial problems. Another example might be people's reliance on doctors as experts when they are ill, rather than dealing with the disease themselves. Further examples can be found in television programmes in which experts are invited to make comments on controversial or unsolved issues. In these cases, people are trying to solve the problems by appealing to experts or authorities in certain areas. In Huemer's (2005) view, since an "expert", "by definition" (p. 522), is intelligent and has spent a great deal of time and energy on a certain issue, the expert's judgement is likely to be more reliable than an ordinary person's. Huemer (2005) did, however, allow that CT can be used by ordinary people in three cases: first, when there is an apparent bias in experts' judgements; secondly, when people are dealing with personal problems for which there are no experts to appeal to; and thirdly, when people are deciding on which expert should be trusted. Therefore, CT is not completely useless. Nonetheless, the dilemma in the third case is that, for an ordinary person, it is difficult to judge which expert should be relied on. If we cannot trust our own judgement by evaluating the evidence on our own, the same problem exists with respect to the judgement of the reliability of the expert. It is hard to assert that a certain expert is more reliable only due to his publications or public fame. Another possible jeopardy of adopting Huemer's (2005) suggestions is that a wrong judgement or theory by so-called experts may be passed on and maintained for generations. Without persistent critical evaluation of previous experts' theories, there would have been no theory of relativity, or challenge to Aristotle's assertion that heavy objects fall faster than lighter ones, which was treated as undoubted truth by Europeans for at least two thousand years.

According to Hare (1999), other objections to CT are due primarily to people's misunderstanding of the subject. He pointed out, for example, that some people criticise CT for inhibiting cooperation between people, because they consider CT to be equivalent to scepticism, and argued that using it will simply lead to hostile and aggressive criticism. However, CT (a) involves not only scepticism, but a set of skills and dispositions (Ennis, 1987; Facione, 2006), and (b) should generate not only negative comments, but also positive ideas (Cottrell, 2005). Other people, such as Rorty (1989, cited in Hare, 1999), doubted the role of CT in early education

because they think that without basic knowledge, it would be difficult for children to think critically. This objection raises the question of how early CT should be taught in education, and the relationship between knowledge and CT. Hare (1999) argued that CT should be accompanied by knowledge input right from the beginning of education. It is not necessary that educators should wait till children have mastered a certain amount of knowledge to cultivate CT dispositions and practice CT skills. This is strongly supported by Facione (1990a) who recommended that “minimum CT proficiency expectations should be set for each educational level” (p. 16), up to and including higher education.

4.5 Definitions of critical thinking

Since the focus of the present research is to find out to what extent the training at undergraduate level in China affects students’ CT in academic writing, the question of what the seemingly abstract term CT means is crucial and a working definition is needed. This section aims to tackle the question by looking at eight mainstream CT definitions by Bloom, Watson and Glaser, Ennis, McPeck, Paul, Lipman, Siegel, and the Delphi Report.

Although CT is widely used in western countries, it is also famous for being difficult to define and explain (Atkinson, 1997; Byrne, 1994). This is manifest from the significant variety of definitions in the literature, and the continuity of the effort people have made to redefine and refine previous or existing definitions. According to Johnson (1992), almost every author of a textbook of critical thinking has provided a new definition of CT. Some of them may share certain commonalities, but others are markedly different from each other. Hence, Atkinson (1997) attributed his argument against adopting CT in TESOL (Teaching English to Speakers of Other Languages) education to the ambiguity of the concept as a social practice. He argued that CT is developed naturally and unconsciously by people in western cultures, and thus is not easy to explain to people from other cultures, which in turn suggests a need to exercise caution when considering CT in TESOL classrooms. TESOL education apart, other areas in tertiary education also find it hard to unpack the concept. Woodward-Kron (2002) claimed that in Australia, clear

explanations of the concept are rarely found in student programme guidebooks, even though CT is well-known for its importance to student writing. However, academic staff often take it for granted that students will understand the term (Woodward-Kron, 2002). Bissell and Lemons (2006) held the similar view that the problem of defining the concept is one of the key reasons why CT is difficult to teach in higher education. Ironically, on the one hand, Atkinson and Woodward-Kron complained about the lack of appropriate definitions of CT; while on the other hand, a review of the literature showed that those who attempt to teach CT may well suffer from the variety of available definitions of CT.

According to Johnson (1992), the five most famous theoretically based definitions are provided by Robert Ennis, John McPeck, Richard Paul, Matthew Lipman, and Harvey Siegel, so it is worth considering each separately. However, before looking at these widely cited and discussed definitions, I shall start with Bloom's taxonomy of educational objectives which is used by Reichenbach (2001) to explain his theory of CT. Bloom's taxonomy is still frequently utilised by current theorists to develop their theories of CT, or assessment criteria for CT (Bissell and Lemons, 2006). And after that, Watson and Glaser's definition will be examined, because of their initiative in developing testing instruments for CT, which are extensively used. Finally, I shall introduce one of the most widely acknowledged definitions of CT agreed on by forty-six professionals in the Delphi Report (Facione, 1990a).

4.5.1 Bloom's taxonomy of educational objectives

Bloom (1956) and his colleagues produced two separate handbooks of the taxonomy of educational objectives for the cognitive domain and the affective domain. But for the purpose of explaining CT, Reichenbach's (2001) explanation of Bloom's cognitive domain will be introduced in this chapter. According to Reichenbach (2001), a condensed taxonomy of cognitive skills is as follows:

1. Acquiring knowledge or information
2. Comprehending or understanding what you read and hear
3. Applying what you understand to given situations

4. Analysing the information that you understand
5. Synthesizing and creatively using what you understand and have analysed
6. Critically evaluating what you understand and have analysed or created (p. 20)

The relationship between the six steps is sequentially ordered. The first three steps are basic ability steps and the prerequisites for the other three higher-order thinking skills: analysis, synthesis, and evaluation; the first four build on each other and are the basis of Steps 5 and 6 (Reichenbach, 2001).

The first knowledge step, which involves obtaining facts and discovering information, is the fundamental step for all the other five steps and a necessary step for further learning (Reichenbach, 2001). As for CT, the knowledge step requires one to uncover the topic, the issue, the assumptions, the main points, and the conclusions in an argument.

As regards comprehension in Step 2, Reichenbach (2001) explained that it refers to relating the new knowledge to what one already knows, and one of the best ways to test this is to ask a person to restate the matter in his own words. Thus, in academic writing, students need to show their comprehension of the literature they have reviewed by restating the main points in the literature in their own words.

Application per se is not difficult to understand. Application is a step in which a person is required to apply what he has understood to a real situation, for example, to successfully assemble the parts of a piece of furniture after reading the manual.

Analysis, according to Reichenbach (2001), refers to the ability to break down a main thesis into subordinate ideas and analyse the relationship between the ideas. For example, in critical reading, one needs to identify the presuppositions, the evidence, and conclusions, and then find out how these ideas are structured, categorised, ordered, and organized to make the argument. This process helps critical thinkers to evaluate more effectively the strengths and weaknesses of an argument.

The process of synthesis is also a process of production. In this process, one needs to put the information derived from all sources together to produce something original. Creativity and imagination are needed in the process as well. A typical example of synthesis is essay writing in which students are required to utilise ideas from a range of sources to formulate their own ideas. Other examples of synthesis include inventing something new or solving a problem.

The process of evaluation emphasises the relationship and connection between pieces of evidence and conclusions in particular. In this process, a critical thinker will ask the following questions: Does the evidence support the conclusion? Is the existing evidence strong enough? Is there any evidence which may weaken the conclusion? Do the authors mention contrary evidence and weigh up both supportive and contrary evidence? And what are the assumptions and are they defensible? Reichenbach (2001) further argued that it is important to put evaluation at the end of the taxonomy because the previous steps are needed to help people to accomplish this step. Reichenbach (2001) did not deny the role of emotions and feelings in all these steps, but suggested that caution must be considered when people tend to rely completely on them.

However, with respect to the relationships between the six steps, Bissell and Lemons (2006) provided different explanations. According to them, the first two steps do not need critical thinking skills, whilst the rest of the four steps are called higher-order thinking skills precisely and they must build on the first two basic steps. In addition, the first three steps are hierarchical but the last three are not. Bissell and Lemons's (2006) problem is that they introduced new terms such as higher-order thinking but did not explain what is involved in higher-order thinking or critical thinking.

Ennis (1987) argued that some concepts such as analysis in Bloom's taxonomy are vague, and therefore, it is not an ideal guidance for teaching higher-order thinking in schools. For example, as Ennis (1987) noted, an analysis of an argument differs significantly from an analysis of a chemical compound. Higher-order thinking, according to Ennis (1987), is generally considered to include the top three levels in Bloom's taxonomy. This argument indicates that Ennis believed that higher-order thinking skills, or at least analysis, may be restricted by specific context and subject. In addition, Ennis's (1987) argued that there are no clear criteria for each step in Bloom's taxonomy, thus assessment remains a big problem for educators. In contrast, Ennis's (1987) own theory of CT below has clear criteria and assessment instruments and may thus be viewed as better guidance for teaching higher-order thinking skills. Furthermore, if it is true that knowledge is necessary for higher-order thinking as Bloom's theory suggests, the assertion that CT can be tested and applied generally is unfounded.

4.5.2 Watson and Glaser's definition

Watson and Glaser's definition of CT is introduced here because their conception of and testing instruments for CT are still extensively used (Loo and Thorpe, 2005; Gadzella et al., 2005). According to Loo and Thorpe (2005), Watson and Glaser's conception of CT includes the components of attitudes, knowledge, and skills. Thus, the definition of CT suggested by Watson and Glaser is as follows: "(1) attitudes of inquiry that involve an ability to recognise the existence of problems and an acceptance of the general need for evidence in support of what is asserted to be true; (2) knowledge of the nature of valid inferences, abstraction, and generalisations in which the weight or accuracy of different kinds of evidence are logically determined; and (3) skills in employing and applying the above attitudes and knowledge" (Loo and Thorpe, 2005: 47). Compared with other popular definitions such as Ennis's (1987) and Facione's (2006), the most outstanding feature of Watson and Glaser's definition is that knowledge is regarded as an essential component along with attitudes and skills, while Ennis (1987) and Facione (2006) put more emphasis on attitudes, dispositions, and skills. However, by comparing the understanding of the word "knowledge" in their definitions, it is not difficult to discover that what Watson and Glaser meant by "knowledge" is different from what Ennis or Facione meant. Watson and Glaser's "knowledge" involves a process of inference and analysis, which, from Facione's (2006) point of view, should be categorised as cognitive skills. Ennis's (1987) or Facione's (2006) "knowledge" refers to subject-specific knowledge, which includes specific methods or techniques only applicable to that subject area.

4.5.3 Ennis's definition

Ennis is regarded by many as the person who initiated the new enthusiasm for CT in recent decades, and his definition is one of the most frequently cited in the literature (Thayer-Bacon, 2000; Lipman, 2003). His promotion of CT and introduction of dispositions and abilities

dimensions of CT have contributed to the widespread teaching and testing of CT in the USA at all educational, political, and social levels. For example, one of the most popular CT tests given on the website of the California Academic Press (2006) still follows Ennis's tradition of defining and assessing CT from the perspectives of dispositions and abilities. Ennis's original definition which focused on just the skills dimension was discarded in 1987 (Thayer-Bacon, 2000) and his present definition includes both abilities and dispositions (Ennis, 1987). Ennis's (1987) working definition of CT is "reasonable reflective thinking that is focused on deciding what to believe or do" (p. 10). This definition is further "broken down into a set of critical thinking dispositions, three basic areas of critical thinking abilities, and an area of strategical and tactical abilities in employing critical thinking" (Ennis, 1987: 11). Therefore, a critical thinker should not only have the skills or abilities to think critically, but also tend to operate like that willingly. Ennis (1987) argued that, compared with other similar terms such as "informal logic" or "higher-order thinking", CT has its own distinct strengths. Firstly, in contrast to higher-order thinking which is vague in meaning and scope, CT is clearly defined and has a set of criteria to assess its application. Secondly, CT is more flexible in relation to the content concerned than is "informal logic" which is often viewed as skills separate from content. In contrast, CT can either be taught as an independent course, or be integrated into other courses.

However, despite all the strengths of this definition, it has been criticised as having several limitations. For instance, according to Thayer-Bacon (2000), Ennis himself realised that his previous theory of CT, by focusing merely on acts of judgement, neglected other thinking activities such as observing and inferring. In addition, Ennis's definition over-emphasises the outcomes of thinking rather than the features of the thinking itself (Thayer-Bacon, 2000). Finally, Johnson (1992) pointed out three problems with Ennis's theory and definition of CT. The first problem is that there is no explanation of the differences and relationship between the concepts such as CT, rational thinking, creative thinking, and problem solving. Secondly, Ennis's definition cannot explain the scope of CT. For example, it cannot answer the question of whether CT includes moral thinking or not. Thirdly, as far as the list of dispositions and abilities is concerned, Johnson (1992) doubted the theoretical bases of the list and its relationship to the term CT itself. One typical question Johnson (1992) raised is: for how many items in the list does a person need to have to be a critical thinker?

4.5.4 McPeck's definition

It is John McPeck, a Canadian philosopher, who initiated the intense debate about the generalisability of CT with his book *Critical Thinking and Education* (Thayer-Bacon, 2000). McPeck (1981) defined CT as “the propensity and skill to engage in an activity with reflective scepticism” (p. 8). Comparing his definition with Ennis's theory of CT, the two agree on the idea that CT involves both skills and dispositions. However, McPeck's (1981) “skills” are different from what Ennis meant by “skills”. McPeck's (1981) skills refer to the specific methods, techniques, or strategies in a particular area which are not transferable across subjects, while Ennis's skills refer to cognitive skills which can be applied in all domains.

McPeck's (1981) definition and theory have a number of distinctive features. First, with “reflective scepticism”, McPeck (1981) seemed to lay stress more on sceptical thinking, which is strongly supported by Swartz (2004) with her “semeiotic view of critical thinking” (p. 46). Swartz (2004) argued that in contrast to the traditional view of CT held by Ennis and other theorists as universal logic and reasoning, the semeiotic view is focused on a process of interpreting and explaining signs and symbols using logic and reflection to create new knowledge. Andrews (2007) held the similar view that it is necessary to take a sceptical position when we are reading. According to McPeck (1981), the purpose of scepticism is not necessarily to disagree with anything, rather, it is to remind people not to accept so-called truth passively but to provide alternative solutions or possibilities. Such scepticism should also be based on the specific domain area or problem in consideration. Therefore, a good critical thinker in one area is not necessarily a good critical thinker or even a critical thinker at all in another, for the criteria of judging the appropriate use of scepticism is based on the norms and standards of that specific area. One problem with McPeck's theory is that McPeck ignored the fact that the norms or standards in an area may be hard to define as well, either because of the development in the field or cultural differences. The knowledge of, or experience in, one area needs to be updated continually to meet new developments and new situations. Therefore, appeal to norms and standards stiffly in a

specific area would unavoidably lead to stereotyping in thinking. This stress on subject-specific knowledge was criticised by Paul (1993) who argued that the distinctions between subjects are sometimes not very clear and in the real world, people are often forced to integrate skills, methods, and strategies of different disciplines logically to make reasonable judgements. McPeck's sceptical thinking is criticised by other CT theorists as well. For instance, Hare (1999) argued that with an over-emphasis on scepticism, it is very difficult to draw a conclusion and come to a view of anything. In response to this criticism, McPeck (1981) justified his scepticism as "judicious scepticism", not "indiscriminate scepticism" (p. 7), which should be employed within the field or problem area concerned.

Further, McPeck (1981) held a completely different view from Ennis that CT cannot be taught as an independent subject. On the contrary, he maintained that it has to be embedded in a specific field. McPeck (1981) argued that "thinking is always thinking about something" (p. 3), and "there is no generalised skill properly called critical thinking" (p. 5). Also, compared with subject knowledge, logic, as McPeck (1981) noted, plays a minor role in reflective scepticism. This is why Thayer-Bacon (2000) criticised McPeck's theory for its over-stress on the epistemological aspect of the concept rather than the logical aspect.

Thirdly, McPeck (1981) considered CT as "a subset of rational thinking" (p. 10). This point, however, contradicts Siegel's theory that CT is "coextensive" with rational thinking (Johnson, 1992). As far as the scope of CT is concerned, McPeck (1981) insisted that CT is so broad that it includes all the mental processes in problem-solving or other activities such as chess playing.

4.5.5 Paul's definition

Among all the theorists of CT, Paul is regarded as the one who put the most emphasis on the dispositions component of the concept with his notions of "strong sense" and "weak sense" critical thinking (Thayer-Bacon, 2000). The condensed definition of CT offered by Paul is "disciplined, self-directed thinking which exemplifies the perfection of thinking appropriate to a particular mode or domain of thinking" (Paul, 1989: 214, cited in Johnson, 1992: 40). Paul (1993) later

provided another definition of CT as

a systematic way to form and shape one's thinking. It functions purposefully and exactly. It is thought that is disciplined, comprehensive, based on intellectual standards, and, as a result, well-reasoned. (p. 20)

Paul (1993) further explained the core elements in this definition, such as thinking systematically and purposefully, disciplined and comprehensive thinking, intellectual virtues, criteria and intellectual standards, and the construction of thinking. According to Paul (1993), intellectual virtues are the characteristic traits which a critical thinker should develop actively. These virtues include "intellectual integrity, intellectual humility, fair-mindedness, intellectual empathy, and intellectual courage" (Paul, 1993: 21). In addition, Paul (1993) argued that the construction and process of thinking should be assessed according to certain criteria of sound reasoning and intellectual standards such as relevance and depth, and on this point, Paul agreed with McPeck (with his reflective thinking). Paul's (1993) thinking has two forms in terms of depth and quality: while "weak sense" thinking is disconnected and sporadic, "strong sense" thinking is a complex integration of dispositions, values, and skills concerned. Therefore, a strong sense critical thinker needs to be open-minded and take into account all the possibilities and perspectives. Otherwise, his thinking remains egocentric or ethnocentric.

The strength of Paul's theory of CT is that he raised the issue of moral consciousness in the concept with his criticism of egocentric and ethnocentric thinking (Johnson, 1992). According to Paul (1993), the intellectual virtues discussed above are also necessary for moral integrity. However, Paul's definition is not without problems. One problem is that the lack of a clear-cut distinction between "weak sense" and "strong sense" thinking leads to the loss of "exactness" (Thayer-Bacon, 2000: 61). In addition, with his over-emphasis on the individual capacities. Paul still restricted the critical thinker within the solitary model created by the ancient Greek philosophers (Thayer-Bacon, 2000).

4.5.6 Lipman's definition

Lipman (2003) criticised Ennis's theory of CT as over-emphasising the outcome of thinking as actions or beliefs, while ignoring the characteristics of the process of thinking itself. He argued that the features of critical thinking, or more appropriately of being a critical thinker, are to facilitate judgement by relying on criteria, self-correcting, and being sensitive to the context. A judgement is a determination, the "forming of opinions, estimates, or conclusions" (Lipman, 2003: 210), and a good judgement should take into account all the possibilities, and is arrived at by appealing to certain criteria, and reflective thinking. To answer the question of why criteria are one of the defining features of CT, he argued that because CT is reliable thinking, it requires criteria to support it, just as we need reasons to back up our opinions. For Lipman (2003), criteria are a kind of reliable reason. Further, CT is self-correcting, because CT is a process of inquiry which involves seeking and then correcting its own weaknesses. Finally, critical thinkers are sensitive to the context. In other words, they are aware of the specific context in which a certain criterion can be employed or appealed to.

According to Lipman (2003), the purpose of CT is not to decide what to believe or do; rather, it aims to help us inquire for ourselves, to think reflectively about the things or knowledge others want us to believe. Therefore, students need to be open-minded and remain sceptical about the knowledge they learn at school. It can be seen that this point is consistent with Paul's and McPeck's reflective scepticism.

However, Lipman's theories are not without problems either. Firstly, a person who is sensitive to the context, engaged in self-corrective thinking, and guided by criteria is not necessarily a critical thinker (Johnson, 1992). Secondly, Lipman's definition has a similar problem as McPeck's with his sceptical thinking. Real circumstances are usually very complex and if we strictly follow Lipman's requirement for a critical thinker, it would be very hard to ever come to a judgement, and this may affect the progress of a project or any other matters. Thirdly, Johnson (1992) criticises Lipman's "self-correction" as laying too much stress on individual abilities while weakening the impact of the social context, which is the same problem with Paul's theory, as discussed earlier. This criticism is perhaps too strong, as Lipman (2003) did show his awareness of the importance of the context by pointing out several particular circumstances a critical thinker should pay attention to: for example, some meanings in a language might not be able to be translated into another language. And lastly, Lipman's definition implies that CT must lead to morally good

results, but according to McPeck, CT could be either good or bad in a moral sense (Johnson, 1992).

4.5.7 Siegel's definition

Siegel defined a critical thinker as a person “appropriately moved by reasons” (Johnson, 1992: 40). Based on Ennis's, Paul's, McPeck's, and Lipman's theories of CT, Siegel (1992) developed his theory of two components of CT: the “reason assessment” component and the “critical spirit” component. As far as the reason assessment component is concerned, Siegel (2001) argued that a critical thinker should possess the abilities to assess beliefs and actions, and the reasons underlying these beliefs and actions. And this, according to Siegel (1992), is the epistemology underlying CT. In addition, Siegel considered CT to be principled thinking, for a critical thinker needs to appeal to principles, both subject-specific and subject-neutral, to assess reasons. Hence, a critical thinker in Siegel's eyes is “impartial, consistent, and non-arbitrary” (Thayer-Bacon, 2000: 64). Siegel (2001) further argued that an individual who has these skills or abilities is not necessarily a critical thinker. She must place a positive value on the reason assessment process and desire to do that, and this is another essential component of CT, the critical spirit component (Siegel, 2001). Siegel (1992) suggested that critical spirit involves four aspects: the dispositions, attitudes, habits, and character traits of a person. According to Siegel (2001), although a person may possess the abilities to assess reasons, she may not be willing to do that or have no chance to do so. Therefore, an individual's performance or behaviour might not reflect her real abilities (Siegel, 2001).

Several other points are worth looking at in Siegel's (2001) theory of CT when he argued against Garrison's criticisms. One point concerns idealism. Siegel (2001) defended his idealism as the pursuit of truth in inquiry as an ideal target, rather than the transcendental idealism or idealist metaphysics that Garrison complained of. This of course raises the question of the nature of “truth”, which, in Siegel's (2001) view, is a “regulative ideal²” (p. 582) or target, and cannot be determined, but only be indicated by action. And to reply to Garrison's criticism of his rejection of “strong contextualism” and “naturalism”, Siegel (2001) argued that it is true that he rejects “strong

contextualism”, but he advocates “weak or moderate contextualism” because the reasons and evidence one uses are clearly contextual. He also agreed with Garrison on “Darwinian naturalism³”, but disagreed with him on the view that truth is determined by action or emerges naturally. Rather, things or actions which emerge naturally can be good or bad, positive or negative.

However, Siegel’s two-component theory of CT and his suggestion of CT as an educational ideal were criticised again by Cuypers (2004). According to Cuypers (2004), although Siegel rejected a Humean means-ends conception of “instrumental rationality”⁴, his two-component conception of CT in fact resembles Hume’s means-end dichotomy. In Hume’s theory, desires are the end, while reason only serves as the means of fulfilling that purpose. Therefore, reason is “neither normatively nor motivationally practical” (Cuypers, 2004: 84). Nevertheless, Siegel appeals to Kantian autonomy “respect for students as persons” as one of his reasons for proposing CT as an educational ideal (Cuypers 2004: p. 81). Kantian autonomy implies that practical reason is “both normatively and motivationally practical” (Cuypers, 2004: 82). Hence, Cuypers (2004) concludes that, since these two conclusions are apparently contradictory, Siegel’s two-component conception of CT cannot justify his proposal of CT as an educational ideal. Cuypers’s (2004) argument, to the extent that it is against the dualism of CT, raises a serious problem not only with Siegel’s theory, but also with many other contemporary mainstream theories of CT, including those proposed by Ennis, Paul and even the Delphi Report (below). A last problem with Siegel’s theory, according to Thayer-Bacon (2000), is that Siegel equates CT with rationality and links rationality to absolutism. Therefore, a weak-sense critical thinker in Paul’s theory, is not a critical thinker at all from Siegel’s point of view (Thayer-Bacon, 2000).

4.5.8 The Delphi Report

The reason why the Delphi Report is introduced here is because it is widely acknowledged for its important role in CT development, and because assessment based on the report is used extensively nowadays (for example, Albert, et al., 2002; Yeh and Chen, 2005).

In 1988, Facione and the California Academic Press initiated the Delphi Research Project, aiming at finding out the core elements of critical thinking, which had already received considerable attention during the 1980s (Facione, 1990a). The research method they adopted was called the Delphi method and involved 46 well-known CT experts from USA and Canada, including those experts whose theories have been discussed earlier in this chapter, such as Robert Ennis, Richard Paul, and Matthew Lipman. Among the experts taking part, 52% came from Philosophy, 22% from Education, 20% from the Social Sciences, and 6% from the Physical Sciences. Most of these experts had a great deal of experience and expertise in CT research, instruction, and assessment, and agreed to work together to reach consensus on the conception of CT (Facione, 1990a). The research began in February 1988 and ended in November 1989, and altogether six rounds of questions regarding CT were sent to the experts, with each round focusing on different aspects of CT. The final consensus statement was as follows:

“We understand critical thinking to be purposeful, self-regulatory judgment which results in interpretation, analysis, evaluation, and inference, as well as explanation of the evidential, conceptual, methodological, criteriological, or contextual considerations upon which that judgment is based. CT is essential as a tool of inquiry. As such, CT is a liberating force in education and a powerful resource in one’s personal and civic life. While not synonymous with good thinking, CT is a pervasive and self-rectifying human phenomenon. The ideal critical thinker is habitually inquisitive, well-informed, trustful of reason, open-minded, flexible, fair-minded in evaluation, honest in facing personal biases, prudent in making judgments, willing to reconsider, clear about issues, orderly in complex matters, diligent in seeking relevant information, reasonable in the selection of criteria, focused in inquiry, and persistent in seeking results which are as precise as the subject and the circumstances of inquiry permit. Thus, educating good critical thinkers means working towards this ideal. It combines developing CT skills with nurturing those dispositions which consistently yield useful insights and which are the basis of a rational and democratic society.” (Facione, 1990a: 2).

This consensus comprises several aspects of CT. First, it illustrates the cognitive skills of CT, which can be summarised as: interpretation, analysis, evaluation, inference, explanation, and self-regulation. However, the consensus agreed on by the experts is an ideal in the sense that it is hard for ordinary people to be able to apply all of them. This should not however serve as an excuse for abandoning the promotion of CT at each educational level, just as people do not give up making friends simply because there are no perfect people (Facione, 1990a). Nevertheless, Facione

(1990a) admitted that although some skills may build upon other skills, the complicated relationship among these skills is still worth further exploration. With respect to the relationship between CT and other higher-order thinking skills, Facione (1990a) argued that CT should be regarded as one of the higher-order thinking skills along with others such as creative-thinking, problem-solving, and decision making.

Secondly, the above consensus answers the question of why CT counts. According to Facione (2006), CT is purposeful, and is not necessarily aggressive. In fact, people can cooperate with each other, but still use CT skills. According to the consensus, CT liberates students from professors at college level, and can help people make “good” decisions, and therefore, improve their future both in their personal life and as contributing members of a liberal and democratic society (Facione, 2006). Thus, the experts insisted that, in addition to college level, CT should be taught and assessed at each level of education, and as early as from childhood.

Thirdly, as regards the dispositions of CT, the consensus presents both affective dispositions and approaches to specific questions. According to Facione (1990a), the experts differed in their attitudes towards the role of affective dispositions in the conception of CT. Around two-thirds of them held the view that affective dispositions should be included in the meaning of CT, for they believed that a person who has CT skills but fails to use them cannot be called a critical thinker. On the other hand, around one-third insisted that what the concept of CT comprises should not be viewed as the same as what makes a morally good critical thinker: the former only contains cognitive skills, while a critical thinker can be good or bad in an ethical sense. They argued that a person who exercises his CT skills to achieve unethical purposes should still be called critical thinkers, but not “good” critical thinkers. However, virtually all the experts agreed on the importance of dispositions and suggested that CT instruction should develop materials, pedagogies, and assessment tools to cultivate dispositions in students (Facione, 1990a).

Lastly, the consensus pointed out future directions for CT education. These were to develop CT skills as well as nurture dispositions in students simultaneously, with the ultimate goal of building a rational and democratic society. As regards CT instruction and assessment, the Delphi Report suggests that, although CT skills are subject neutral, their application needs subject-specific knowledge. Therefore, CT instruction can be carried out effectively either in a discipline, or as an independent subject.

Nonetheless, one problem with the Delphi Report is that all the experts involved were from the USA or Canada. Therefore, the limited variety of cultural and social backgrounds involved is likely to affect the application of the theories they generated to other cultures or societies. The same problem may be found in the assessment instruments such as CCTDI (the California Critical Thinking Disposition Inventory) developed on the basis of the Delphi Report. Although the experts realised the problem in the Delphi Report by emphasising the fairness of assessment instruments, caution needs to be paid when applying these assessment instruments in other cultures.

In order to compare and contrast the above theories, Table 4.1 (below) summarises the main points of each. It can be seen that five of the eight theorists, Bloom, Watson and Glaser, Ennis, Siegel, and the Delphi Report, suggested that the defining feature of CT should include a cognitive skills component. Seven proposed that affective dispositions or characteristic traits should be contained in the conception of CT. Bloom, Watson and Glaser, McPeck, and Lipman stressed the role of knowledge, or the context in the application of CT, especially McPeck, who insisted that knowledge is the fundamental basis of CT. Bloom also admitted that knowledge is the basic step of thinking, and emphasised the hierarchical relationship between the steps in the taxonomy of educational objectives. It was McPeck, Paul, and Lipman who pointed out the importance of criteria in the application of CT. Four of them suggested that reflective thinking is especially important, although Ennis laid more stress on the final result of thinking, whilst McPeck, Paul and Lipman focused more on the process of thinking.

Table 4.1 What do experts stress in their theories of CT?

	Cognitive skills	Affective dispositions	Knowledge/context	Criteria	Reflective dimension
Bloom	√	√	√		
Watson and Glaser	√	√	√		
Ennis	√	√			√
McPeck		√	√	√	√
Paul		√		√	√
Lipman			√	√	√
Siegel	√	√			

The Delphi Report	√	√			
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4.6 The teaching and learning of critical thinking

As far as the teaching and learning of CT are concerned, the controversial question of the generalisability of CT needs to be discussed, for the attitudes towards the generalisability of CT will inevitably affect people's views on questions such as whether CT is teachable and how to teach it. In fact, this issue has been discussed extensively in the literature. Therefore, before the discussion of the teaching and assessment of CT, the question of generalisability will be examined.

4.6.1 The generalisability of critical thinking

Most of the literature which has been reviewed so far reflects the view that CT is generalisable, although the implementation of CT needs content or knowledge. For instance, Hare (1999) argued that there exist general principles of argument which can be applied to any context. This is strongly supported by Reichenbach (2001) who insisted that some common, basic skills of thinking, such as identifying issues and presuppositions, are applicable across most disciplines, and by Davies (2008) who argued that CT is a skill which can be taught to graduate students to help them construct better arguments in essays. Ennis (1992) suggested that McPeck's (1981) allegation that "thinking is always thinking about something" cannot serve as evidence to deny the fact that there are general thinking skills and dispositions. Paul (1993) held the similar view that the logics we use everyday are "far more mutable, less discrete, more general, more open-textured and multi-textured, more social, more dialectical, and even more personal" (p. 370), and thus not easily affected by domain-specific knowledge. According to Stapleton (2001), those who believe that CT can be clearly defined would prefer to support the generalisation of CT skills and dispositions, while those who insist that CT is a vague concept tend to be suspicious of the

generalisability of CT. Thus, inasmuch as Stapleton (2001) himself tried to define and measure CT in Japanese students' writing, he seemed to advocate the generalisation of CT. And Facione et al. (1995) apparently conceived of CT dispositions as subject-neutral when they were trying to test CT dispositions in college students using CCTDI (California Critical Thinking Disposition Inventory) for the first time.

However, a group of theorists represented by McPeck holds markedly different views on the generalisability of CT. According to McPeck (1981), since a person relies on the knowledge, skills, and criteria in a specific area to exercise her reflective thinking, a critical thinker in one area is not necessarily a critical thinker in another, and thus CT is *not* generalisable and cannot be taught as an independent subject. Nonetheless, McPeck did not answer the question of whether affective dispositions such as being sceptical about the so-called truth are applicable to all disciplines, or in other words, are generalisable. In fact, although Lipman (2003) did not touch on the issue of the generalisability of CT, he held a similar view to McPeck's, that context and criteria play an important role in the execution of thinking skills. Atkinson (1997), on the other hand, considered CT to be a typical western social practice and a common-sense activity of western people, and hence it is not a concept which can be explicitly explained and defined. He justified his conclusion by comparing socialisation practices in Japan and in America, and by appealing to a study conducted by Fox (1994, cited in Atkinson, 1997) in which even professors experienced in exercising CT could not explain the concept itself clearly. These presuppositions and evidence seem to indicate that critical thinking skills are not generalisable and transferable. On the basis of "an extensive review of the literature on 'critical thinking' and 'scientific attitudes'" (p. 2), Byrne (1994) came to the conclusion that thinking is not a general skill, but varies according to different contexts and needs specific knowledge and skills in certain subject areas.

Different from both of these two apparently opposite schools of thought, Siegel (1992) held what might be called a concessional view, that CT skills and abilities are partly generalisable, because some of the CT skills "are narrow and specific" (p. 103), and thus not applicable to all contexts. However, Siegel (1992) insisted that the epistemology underlying the reason assessment component and CT spirit are completely generalisable.

According to Dam and Volman (2004), in recent years, many theorists have begun to accept such a solution to the issue of the generalisability of CT: that there exist general principles of CT;

these skills can be acquired effectively in one domain-specific area, but can be transferred to other areas. Facione (1990a) noted that most of the theorists in the Delphi Report agreed on the generalisability of CT skills and dispositions, but acknowledged the important role the subject knowledge plays in the application and promotion of these skills and dispositions.

4.6.2 How to teach critical thinking

As stated earlier, the attitudes towards the issue of the generalisability of CT will affect the teaching strategies selected for CT, especially when the relationship between CT and subject knowledge is concerned. Ennis (1992) accordingly categorised the teaching models of CT into four approaches, in terms of the extent to which the teaching of CT is related to domain-specific knowledge: the *general* approach, which considers CT to be generalisable and can be taught as an independent subject; the *infusion* approach, which suggests that CT should be taught within a subject area, with students being clear about what CT skills and dispositions are emphasised in the instruction; the *immersion* approach, which insists that CT should be completely integrated in the subject area without indication of the specific CT skills or dispositions expected in the programme; and finally the *mixed* approach, which combines the general approach with the infusion one or the immersion one. Theorists who conceive of CT as general skills and dispositions would be more likely to advocate the general approach, such as Ennis, Paul, and Facione. However, this does not mean that these theorists would necessarily reject the other approaches. They simply argue that the skills and dispositions developed in one subject area can be transferred to other areas. In contrast, theorists who doubt the generalisability of CT would propose the immersion approach, although what they conceive of as CT skills and dispositions may differ significantly from those of other theorists. A representative of this approach is McPeck (1981) who insisted that CT skills and dispositions should be treated as an indispensable part of any subject. Facione (1990a) proposed a variety of ways of teaching CT, either teaching it in a specific CT programme or having it infused in another subject programme, but he nevertheless pointed out that all subject areas should include CT as one of their pedagogical objectives and instruments.

Most theorists, however, appear to agree on the view that both CT skills and dispositions play equally important roles in CT education. Thus, Facione (1990a) recommended that both CT skills and dispositions should be taught and nurtured at the same time in all subject areas. This is strongly supported by McPeck (1981) who emphasised the importance of cultivating dispositions of thinking with his reflective scepticism. Nevertheless, Facione et al. (1995) pointed out that although there are several hypotheses about a positive relationship between either the whole dispositional component and skills component of CT, or a dispositions cluster and a skills cluster, or a specific disposition and a skill, there is little empirical evidence to support any of them. Albert et al. (2002) conducted a study with 111 US baccalaureate nursing students using two testing instruments, the CCTDI and the CCTST, with the purpose of finding out the relationship between bilingualism, CT skills and CT dispositions. Unfortunately, their findings did not show any evidence of a relationship between CT skills and dispositions.

Despite a lack of empirical studies to support a relationship between CT skills and dispositions, considerable effort has been expended seeking appropriate teaching strategies and the characteristics of the instruction which may facilitate CT in students. According to Paul (1993), students' own minds and experiences should be the focus of the learning, so that students can be encouraged to analyse their own experiences and critique their own prejudices and weaknesses. This is "a dialogical approach" which Paul (1993: 333) advocated as a teaching strategy for all subject knowledge, and also a way to help students be fair-minded and become "strong-sense" critical thinkers. This kind of learning process, as Paul (1993) noted, is a different way of learning from the traditional teaching style of knowledge-feeding by teachers. Therefore, in order to give students more chances to practice their reasoning abilities, Paul (1993) suggested that education should focus on the depth of learning, rather than the amount of knowledge covered at school.

Vanderburgh (2005) tried open-book tests and student-authored exam questions to enhance students' understanding of knowledge, creativity, writing abilities, and critical thinking, and obtained positive results. In open-book tests, students needed to integrate the knowledge learned to make decisions on each of the choices of a question, for they could not get answers directly from the textbook or class notes, while student-authored exam questions required students to design a test question, offer answers, and explain the correctness of each answer. However, the preparation and grading of this kind of testing requires a great deal of time for teachers, and students may not

be fully prepared for the new forms of assessment.

Tsui (2002) argued that the existing literature does not provide enough consistent evidence on any teaching techniques or pedagogical strategies which are likely to facilitate CT in students. She criticised the existing method of a questionnaire with multiple-choice questions used for measuring CT abilities and dispositions. Instead of using popular quantitative research methods, in her study of four institutions in America, she adopted qualitative data collection methods such as classroom observations and interviews. The working definition of CT in Tsui's (2002) study was "students' abilities to identify issues and assumptions, recognise important relationships, make correct inferences, evaluate evidence or authority, and deduce conclusions" (p. 743). By comparing this definition with Facione's (1990a), it is not difficult to find that all the component skills in Tsui's definition can be found in the Delphi Report. The findings of her study suggested that writing and rewriting as a form of assignment and class discussion are the two instructional methods which may enhance critical thinking abilities of students. With respect to the features of the writing assignment which can effectively achieve this purpose, Tsui (2002) suggested that assignments requiring students to engage in analysis rather than description in writing are more likely to help students exercise their CT abilities.

Byrne (1994) proposed an interactive approach to learning which aims to help students develop both CT skills and attitudes. This approach stresses both the interaction between students and knowledge, and between students themselves. Using carefully designed activities, students are expected to work together to weigh evidence, discuss possible solutions, and make judgements and decisions. Byrne's (1994) activities based upon his interactive theory are only complementary parts of subject courses, and require students to use the subject knowledge they have already mastered. In other words, Byrne (1994) probably held the same view on the relationship between CT and subject knowledge as McPeck, and his proposal is also consistent with Tsui's (2002) suggestion on class discussion. Joiner and Jones (2004) tried to evaluate the effect of two different communication media, computer-mediated group discussion and face-to-face discussion, on the quality of arguments and development of reasoning skills. Unfortunately, they did not find a significant improvement in students' argumentative reasoning or a clear difference between the two media. The possible reasons for these, as they noted, are the short duration of the session and the specific testing method used in the study.

On the basis of Bloom's taxonomy of educational objectives, Reichenbach (2001) advocated systematic training of CT skills in students. In contrast to Atkinson's (1997) view that CT is the natural application of common sense of the people in western cultures, according to Reichenbach (2001), students lack CT abilities not because they are not intelligent, but because they have not received systematic training in CT skills. Thus, Reichenbach (2001) introduced a variety of exercises which require students to use different CT skills. Empirical research findings in this area can be found in Sanders et al.'s (1994) study on the effect of training in argumentation on CT of students, and Bensley and Haynes's (1995) study on whether CT training facilitates the acquisition of a general knowledge of argumentation in students. Sanders et al (1994) did not find strong evidence to support the conclusion that argumentation training could significantly enhance students' CT, although subjects did show a slight improvement in detecting weak arguments and in arguing effectiveness, and a reduction in verbal aggressiveness. Sanders et al. (1994) acknowledged that several factors, such as the sampling of research subjects, the duration of the training, and the instruction approaches taken in the study are likely to affect the results. Bensley and Haynes (1995), however, achieved a positive effect for CT training on students' argumentative writing, especially in using more appropriate argumentative language. However, even though students can develop their CT skills by training, theorists such as Byrne and McPeck would doubt whether they can transfer the skills they have learned in training to other contexts, as discussed earlier in this section.

Swartz (2004) discovered five literature-supported and one new form of CT by conducting a qualitative study of education students through researcher observation, journal entries, and an analysis of student work. Three pedagogical practices, collaboration, question-posing, and contextualized interaction, were used to elicit data for analysis. Swartz's (2004) theoretical basis of her study was a semeiotic approach to CT, which is supported by McPeck's reflective scepticism, and was described as the "spirit of inquiry" (p. 46), a sceptical attitude towards existing views, and a process of constructing new knowledge. It can be seen that Swartz's (2004) understanding of CT was different from that of Ennis and Paul who considered CT to involve solid rules of logic, and her findings of six forms of CT cannot be explained by the dichotomy approach of skills and dispositions suggested by Ennis (see Ennis's definition above). The five literature-supported forms of CT were complexity, flexibility, self-reflection, multiple perspectives, and insightfulness, and

the new form was systemic analysis, which “is the critical and interdisciplinary examination and evaluation of the structure, organization, and workings of social systems” (Swartz, 2004: 55). There are two possible problems with Swartz’s study. Firstly, the thought-provoking questions were assumed to exhibit CT features, but the author did not explain the criteria for designing and choosing specific questions and what features were expected in each question. Secondly, as regards the six forms discovered, it is hard to say that one form is distinctively different from the other. For instance, Swartz (2004) argued that flexibility requires one to “go beyond what is familiar and safe” (p. 51), and “*multiple perspectives* refer to being sceptical of one’s current views” (p. 52). It seems that a sceptical attitude is needed in both forms.

In order to test the impact of interactive videodisc systems (IVS) on the dispositions of CT in students, Yeh and Chen (2005) carried out a quantitative study with 126 Taiwanese nursing students. CCTDI was used to measure the dispositions towards CT both before and after the programme. The findings showed that almost all the dispositions were improved significantly except for inquisitiveness, which, as Yeh and Chen (2005) noted, was due to the high scores students had already got on inquisitiveness before the programme started. Another interesting finding is that older students in the study demonstrated stronger dispositions towards CT than younger ones. However, there is a limitation to this study: some details of the research context were not explained explicitly, such as how long the programme lasted and whether there were other possible factors which were likely to affect the findings, for instance, whether there were other new programmes introduced during the research which might facilitate CT in students as well.

Unlike the empirical studies mentioned above, which were mostly undertaken after 2000, Dam and Volman’s (2004) review of the literature focused mainly on empirical studies conducted during the period from 1990 to 2000. According to their literature review, the characteristics of the instruction which were found to facilitate CT can be summarised as follows:

“paying attention to the development of epistemological beliefs of students; promoting active learning; a problem-based curriculum; stimulating interaction between students; and learning on the basis of real-life situations” (Dam and Volman, 2004, p. 10).

These results are clearly similar to the above more recent findings. In particular, the pedagogical

strategies suggested by the literature review are to encourage collaboration, students' active participation, and interaction between students and teachers or between students themselves, thus, resulting in the forms of class discussion, student presentation, and essay writing as means of teaching and assessment, rather than multiple choice exams (Dam and Volman, 2004). Part of their findings, such as the use of class discussion and essay writing to foster CT in students, are consistent with the results of Tsui's (2002) study. In addition, findings in the literature they reviewed showed that students engaged in interdisciplinary courses were more likely to demonstrate CT. Further, instructors' encouragement and feedback, their attitude towards the critical features of students' work also had an impact on CT in students. However, Dam and Volman's (2004) literature review also indicated that empirical evidence had not been found to guarantee the effectiveness of any specific features stated above. Nevertheless, one point agreed on by researchers was that CT skills developed in special CT courses or programmes failed to be transferable to other contexts. Therefore, it was suggested that CT instruction can best be implemented "in the context of meaningful, rich, domain-specific subject-matter" (Dam and Volman, 2004: 10). This finding would appear to be in agreement with the infusion or immersion approach to teaching CT stated earlier. Another interesting finding was that certain courses such as writing and history were more positively related to students' CT improvement than other courses.

While the above researchers were concerned about the teaching strategies and techniques which are likely to foster CT in students, Mangena and Chabeli (2005) looked at the factors which might inhibit CT. They conducted focus group interviews with 19 nursing teachers and students from two colleges (probably in South Africa, as the authors were from there and they did not mention the location of the colleges in the article). The findings identified the following factors which had a negative impact on CT development in students:

"educators' lack of knowledge; use of teaching and assessment methods that do not facilitate critical thinking of learners; the negative attitudes of educators and their resistance to change; inappropriate selection process and poor educational background that did not facilitate critical thinking in students; inadequate socialisation, cultural and instructional language incompetence" (Mangena and Chabeli, 2005: 291).

Although the exact locations of the two universities were not indicated in the study and therefore it

is hard to know the social and cultural background of the study, the results are still worth looking at, because similar problems are likely to exist in other seemingly different contexts.

Another study regarding teachers' beliefs about the use of CT activities in class was conducted by Torff (2005). He did a cross-sectional study with in-service, pre-service, prospective teachers, and non-teacher controls (N=408): 103 in-service teachers who had over three years of teaching experience in a secondary school; 101 undergraduate students who had completed an education programme but had not yet begun their teaching career; 101 education undergraduates who had not begun their education programme; and 103 non-education undergraduates. Results showed that the prospective teachers had comparatively stronger beliefs about high-CT activities than non-teachers, pre-service or in-service teachers, and the pre-service education did not seem to increase teachers' beliefs, but weaken them. In-service education and teaching experience thus seemed to have little influence on teachers' beliefs about CT activities. The findings implied that pre-service education is perhaps the most important period in which teachers' beliefs about CT activities can be strengthened.

To conclude, the above review of the literature on the CT teaching strategies suggests that CT is teachable, and training in CT is important since students do not always develop CT without support. Most theorists or researchers acknowledge the importance of interaction and writing in the facilitation of CT in students. Moreover, most of them advocate teaching CT within a subject area rather than using a specific CT programme. This indicates that in CT training, students' familiarity with the context will facilitate the employment of CT skills. However, the characteristics of instructional methods and specific teaching strategies or techniques need to be tested in terms of their effectiveness in the facilitation of CT in the future.

4.7 Assessment of critical thinking

The assessment of CT skills and dispositions has received as much attention as the teaching of CT. The discussions in the literature have focused on the general approaches to assessment, as well as the specific issues of reliability and validity. The consensus reached by the Delphi experts suggests

four theoretically feasible ways of assessing CT (Facione, 1990a). Firstly, a person's proficiency in exercising certain CT skills can be judged by her performance in the activities, procedure or process which requires that skill. Another way is to compare the results of exercises using a CT skill against certain criteria. A third way is more or less like a think-aloud process, which aims to elicit answers from a person by asking certain questions regarding the procedure and judgement to which she applies a certain skill. The fourth way is to judge a person's performance in executing a task which is regarded as having a strong correlation with the CT skill in question. The consensus agreed on by experts also indicates that any single way of assessing CT has its strengths and weaknesses. Therefore, a reasonable combination of several ways might generate more reliable results. In addition, no matter what assessment approaches or instruments are adopted, content validity, construct validity, reliability, and fairness need to be taken into account.

There have been two general approaches to assessing CT: tests and qualitative data analysis. Before the appearance of the CCTST and CCTDI, the two most popular CT testing instruments were the Watson-Glazer Critical Thinking Appraisal (WGCTA) and the Cornell Critical Thinking Tests (McPeck, 1981). According to Loo and Thorpe (2005), WGCTA was developed using Watson and Glazer's theory of CT and was one of the earliest CT measurement instruments. The test comprises five sub-tests which focus on the following five reasoning skills: inference, recognition of assumptions, deduction, interpretation, and evaluation of arguments. Dam and Volman's (2004) literature review showed that generally the test is reliable and valid. However, McPeck (1981) was sceptical about how far tests using multiple choice questions are a valid means of CT measurement. He claimed that neither Watson and Glaser nor Cornell measure CT at all, because first, there are no large differences between these two tests and other common intelligence tests, and secondly, the tests are restricted by their formats as valid means of measuring a set of CT skills. McPeck (1981) believed that CT is not generalisable and "cannot be reduced to a few mechanical decoding skills" (p. 131), although authors such as Ennis and Watson and Glazer all conceive of CT as basic skills. Therefore, McPeck (1981) advocated qualitative approaches such as essay writing as a means of CT assessment.

In recent years, the CCTST and CCTDI have become more and more popular, especially in the areas of nursing and pharmacy (Ip et al., 2000; Albert et al., 2002; Yeh, 2002; Tiwari et al., 2003; Phillips et al., 2004; Yeh and Chen, 2005). The biggest advantage of these two tests is that

they focus on both the cognitive skills and affective dispositional dimensions of CT (see also Section 4.5.8). CCTST comprises 34 questions and five subscales which assess different CT skills: analysis, evaluation, inference, deductive reasoning, and inductive reasoning, whereas CCTDI contains 75 questions and seven subscales which measure the following characteristic traits of the test takers: truth-seeking, open-mindedness, analyticity, systematicity, CT self-confidence, inquisitiveness, and cognitive maturity (Phillips et al., 2004). Both CCTST and CCTDI can report an overall score and scores for each subscale. The dispositions towards CT measured by CCTDI have been found to be significantly correlated with other psychological characteristics such as “openness to experience” and “ego-resiliency” (Facione et al., 2005). And according to Facione (2006), the CT skills measured by CCTST at college level are highly correlated with students’ GPA (Grade Point Average).

Facione et al. (1995) first applied CCTDI empirically to 587 new university students who were considered to be academically strong. The mean overall score of these 587 students was 299, which meant they exhibited a positive disposition towards CT. And according to the scores for each subscale, these students demonstrated positive inclinations towards open-mindedness and inquisitiveness, but differed in CT-confidence, analyticity, and cognitive maturity, and exhibited negative dispositions towards systematicity and truth-seeking. These findings, according to Facione et al. (1995) could be used as guidance for curriculum design, so as to help students with the weak aspects of their affective traits.

However, the biggest problem with these assessment instruments for CT is that they were developed within the American social and cultural background, and a complete elimination of social and cultural bias was impossible. The Delphi experts did in fact recognise this problem and suggested certain ways to neutralise the effect of these elements, for example, by employing different assessment instruments. Nevertheless, there have been few studies on the relationships between different instruments, and the impact of cultural and social factors on the CT skills and dispositions.

Another problem with these discipline-neutral assessment instruments, according to Bissell and Lemons (2006), is that, because of their independence of discipline knowledge, faculty may not realise the importance of CT and consider such tests to be a waste of time. Bissell and Lemons (2006) hence designed a new assessment method by combining CT with subject knowledge. The

implementation of their creative method on around 150 students found that students developed a deeper understanding of CT skills as well as the subject content. Bissell and Lemons (2006) also recognised the problem of the transferability of CT skills, and were planning to work with faculty from other disciplines collaboratively. Nevertheless, one possible problem is that it may take a long time to design the questions for this kind of assessment instrument, to test the validity and reliability of the questions, and to promote the new method on a larger scale.

Several other researchers have adopted qualitative data analysis approaches such as classroom observations and interviews (Tsui, 2002), and textual analysis (Stapleton, 2001) to examine CT in education. Tsui (2002) conducted a comparative study with four institutions in America, in an attempt to identify the patterns of pedagogical practice which might help foster CT in students. The main research methods she adopted were classroom observations and interviews. The study found that classroom discussion and writing would enhance students' CT, but the author admitted that objective or quantitative data could be used to measure CT skills of students, and could help explain how certain pedagogical strategies such as class discussion facilitated CT. Perkins and Murphy (2006) first generalised indicators and CT procedures by reviewing the CT literature, and then used them to code and analyse the transcripts of the online discussions of eight volunteer participants on a graduate Education course. The findings showed that this kind of qualitative approach could tell how far the participants were engaged in critical thinking.

4.8 Implications for the research

I have tried in this chapter to review six areas of CT: history, importance, critiques, definitions, CT education, and CT assessment. The review shows that in western countries, CT is consistently perceived as an educational ideal, and training in CT at each educational level is regularly emphasised. Although theorists disagree on the nature and generalisability of CT, most of them insist that a comprehensive definition of CT should involve both the cognitive skills component and the affective dispositions component, and acknowledge the importance of knowledge and a reflective thinking process. Most researchers also admit that interaction and writing in training in

CT are of particular importance. Lastly, they propose primarily two approaches to measuring CT: a quantitative approach involving tests, and a qualitative approach involving text analysis, classroom observations or interviews.

The results from the literature review imply that it is possible to gain insight into the CT of Chinese students by investigating the training students receive at school or university, especially aspects of training such as class discussion and writing. The importance of training in the development of CT has also been emphasised by Paton (2005), as noted in Chapter 2. It might be interesting to measure the CT of Chinese students using the testing instruments or qualitative approaches suggested in the literature. However, as the main testing instruments, such as the CCTDI, were designed in western countries, their applicability to Chinese students has not been satisfactorily demonstrated, while a qualitative approach seems to be more flexible in this respect. A qualitative approach usually requires a working definition of CT to avoid misunderstandings. Although a comprehensive definition of CT needs to involve both the skills and dispositions dimensions, as discussed above, it is hard for a single study to focus on both components. As a result, the present study will primarily focus on the skills dimension. Tsui's (2002) working definition of CT offers a useful way forward. However, even her definition, as "students' abilities to identify issues and assumptions, recognise important relationships, make correct inferences, evaluate evidence or authority, and deduce conclusions" (p. 743), focuses primarily on the key CT skills needed for reading, and neglects other skills, such as explanation and self-regulation suggested by Facione (2006), which are heavily involved in writing. Combining Tsui's (2002) definition and Facione's (2006) theory permits a more adequate list of CT skills applicable to reading and writing. The combination results in the following ten skills, which will be used as the basic working set of characteristics of CT activities for the present study.

1. To identify key issues in a text;
2. To identify hidden assumptions made by a writer;
3. To recognise important relationships between points and between texts;
4. To draw inferences from texts (if X happened, this implies Y);
5. To evaluate evidence (or authority);
6. To draw conclusions;
7. To recognise a problem or formulate a research question;

8. To formulate multiple alternatives for resolving a problem;
9. To explain clearly the basis for one's comments and the results of one's study;
10. To reflect on one's own reasoning (E.g., to recognise one's personal bias, to detect and correct errors, and to identify the limitations).

This list of skills has the advantage of being usable with different research methods. For example, it can be used in interviews and in analyses of students' writing to see whether they have applied these skills and whether the training has included these skills. In classroom observation, the focus can be put on class discussion to see whether these skills are used in interaction either between the students themselves or between the students and the teacher.

Notes

1. Facione et al. (1995: 2) described "affective dispositions" as "a characterological profile, a constellation of attitudes, a set of intellectual virtues, or ..., a group of habits of mind", and a complete disposition towards CT includes the following seven aspects: "truth-seeking, open-mindedness, analyticity, systematicity, CT-confidence, inquisitiveness, and cognitive maturity".
2. Siegel (2001) explained his "regulative ideal" as the "hoped-for result of inquiry" (p. 582). But inquiry or action itself does not guarantee that we will get truth.
3. As far as "Darwinian naturalism" is concerned, Siegel (2001) stressed that he is a complete believer in it and agrees that "human nature is part of nature, and that nothing otherworldly or 'supernal' is either needed or wanted." (p. 585).
4. Humean means-ends conception of instrumental rationality, according to Cuypers (2004), "implies the heteronomy of practical reason by assigning to it a merely instrumental role at the service of the passions (desire, conative attitudes). Desires provide the ends and reason's task is to select the most efficient means to achieve those ends, that is, to satisfy those desires." (p. 84).

Chapter 5

Study 1 Methodology

5.1 Rationale for the research design

The design of the research as a whole is based on Gorard and Taylor's (2004) view that the nature and needs of an investigation determine the selection of appropriate research methods. Basically, the research questions emerged first, and then the possible research methods were considered and selected, and the processes of sampling and data gathering were designed according to the resources available.

5.1.1 Research aim and research questions

The literature review in Chapter 2 showed that several recent researchers have focused more on what was called the "small culture" of the learning context in which students were situated than the "big culture", and staying within this approach there is a need for a further investigation into exactly what the impacts are of the training that Chinese students receive at undergraduate level in China on their performance of critical thinking in writing at an advanced level in the UK. The literature review on academic writing in the UK and in China in Chapter 3 showed that there has been a lack of attention to, and empirical research into, the training that Chinese university students receive concerning academic writing in China, and students' application of argumentation and critical thinking to academic writing is simply unknown (see Section 3.5). Four key questions emerged from the literature reviews:

RQ1 What do Chinese students write for their first degrees in China?

RQ2 What challenges do Chinese graduate students at UK universities encounter in academic writing?

RQ3 How far do they think they apply critical thinking to academic writing in the UK?

RQ4 What impact does the training received at undergraduate level in China have on

students' critical thinking in academic writing?

5.1.2 The use of a mixed-methods strategy

5.1.2.1 Definition

A review of the methodology literature shows that several researchers interpret a mixed-methods strategy primarily to mean that both quantitative and qualitative data are included in one study (e.g. Creswell, 2003; Collins et al., 2006; Denscombe, 2007). According to Denscombe (2007), the other two features of a mixed-methods approach are an “explicit focus on the link between approaches (Triangulation)” and an “emphasis on practical approaches to research problems (Pragmatism)” (p. 108). However, a different opinion was voiced by Gorard and Taylor (2004), who argued that,

We do not mean by combining methods simply that both the qualitative and quantitative traditions should be in evidence in any one department, research group or project. In fact the identification of *separate* qualitative and quantitative elements within a project can be one of the biggest obstacles to their proper integration. Rather, we are referring to work in which different forms of data are put together to make a more coherent, rational and rigorous whole. (p. 4)

In addition, they argued that qualitative and quantitative are not the only ways of classifying social research methods or approaches, and they suggested that the selection of research methods should be dependent on the research questions. However, a comparison of their proposals with Denscombe's suggests that they agreed with Denscombe on the importance of triangulation and pragmatic features of mixed-methods approaches.

5.1.2.2 When is a mixed-methods approach appropriate?

Denscombe (2007) listed five purposes for which a mixed-methods strategy can be used. Firstly, it can be used to improve the accuracy of the research, by which he meant that: 1) it serves the function of triangulating findings from different methods, 2) it can check on the potential bias in any single research method, and 3) it can help develop the research instruments in the next step: thus, for instance, interviews can be used to generate questions for a later questionnaire survey. Secondly, a mixed-methods approach can be used to provide “a more complete picture” (p. 110), as different methods can provide complementary data, and can tackle an issue from different angles. For example, questionnaires can be used to deal with the scale of a question, while interviews can be used to provide the detailed insights. Thirdly, as each single method has its strengths and weaknesses, a mixed-methods approach can be used to compensate for the weaknesses. Fourthly, a mixed-methods approach can be used to develop the analysis, in the sense that one method could inform the other, or the new method is used to deal with the issues emerging from the previous one. Lastly, one method can help develop sampling in another. For instance, findings from a set of interviews can help researchers to determine what samples can usefully be included and what should be avoided in a following questionnaire survey. Sometimes, a quantitative study can be used as a pilot study to help select participants for a later qualitative study.

Denscombe’s second proposal was strongly supported by Arksey and Knight (1999), who argued that multiple methods could be used to deal with different issues, for example:

a questionnaire might be used to get an indication of attitudes, reasoning or behaviour in the target group at large and the interviews might be used to explore what lay behind the findings of the questionnaire study. (p. 16)

Creswell (2003) took a slightly different approach from Denscombe, but one fairly close to Gorard and Taylor (2004) as regards the integration of the findings from different methods. He posed four questions which researchers need to consider when adopting a mixed-methods approach:

1. What is the implementation sequence of the quantitative and qualitative data collection in the proposed study?
2. What priority will be given to the quantitative and qualitative data collection and analysis?

3. At what stage in the research project will the quantitative and qualitative data and findings be integrated?
4. Will an overall theoretical perspective (e.g., gender, race ethnicity, lifestyle, class) be used in the study? (p. 211)

The first two questions were in fact discussed by Denscombe (2007) in classifying the different types of mixed methods design, and researchers can easily combine Denscombe's findings with the four questions.

Gorard and Taylor (2004) pointed out two other situations where a mixed-methods approach can be applied. Firstly, it can be used when background theory is not strongly required and the purpose of the research is to "generate useable theory" (p. 7). Secondly, it can be adopted when social phenomena have "multiple empirical appearances" (p. 7). This implies that different methods can be used to look at different aspects of an issue, which is consistent with Denscombe's finding that a mixed-methods approach can provide complementary data, as discussed above.

5.1.2.3 Quality of questionnaire studies

Denscombe (2007) argued that questionnaires can be evaluated using four criteria: 1) the amount of information relevant to the research topic presented in the questionnaire; 2) the accuracy of the information; 3) the response rate; and 4) the ethical considerations of the researcher.

Gillham (2000a) described specific strategies which can be used to improve the quality of questionnaire studies. According to Gillham, the process of questionnaire design is very important, and includes the drafting of the questions and the design of the layout. He suggested that although researchers might believe that they are familiar with the context and know what questions they need to ask, it is strongly suggested that they check this with the potential respondents. That is, they need to pilot the questions before they send the questionnaire out. In addition, he suggested that open questions should be changed into closed questions when possible by careful piloting and design. Finally, if a questionnaire is aimed at collecting data for a large-scale survey, a representative sample is required, often through random or probability sampling.

5.1.2.4 Credibility of interview data

Denscombe (2007: 202) suggested four “checks” which can be used to increase the credibility of interview data:

- 1 “Check the data with other sources.” This means the researcher needs to triangulate and check if the findings are consistent with those from other interviews or from other research methods.
- 2 “Check the transcript with the informant.”
- 3 “Check the plausibility of the data” to see whether the informant is the right person who can provide the information the researcher is looking for.
- 4 “Look for themes in the transcript(s).”

In addition to these strategies, Berg (2004) suggested that any interview schedule needs to be pre-tested before it is used in the main study. This is strongly supported by Gillham (2000b), who pointed out that researchers need to check interview questions and pilot an interview schedule before the main study. Gillham (2000b) also considered peer review in data analysis to be a necessary step to maintain a high level of objectivity and validity. In addition, the researchers need to pay attention to possible researcher effect or bias in interviews, which refers to the influence the researcher has on the interviewee’s responses (Hitchcock and Hughes, 1995). However, in relatively structured interviews, this can be largely reduced by setting up the schedule carefully before the interviews (Hitchcock and Hughes, 1995). Nevertheless, Clark and Schober (1992) argued that the wording and the sequence of the questions in structured interviews may cause response effect, as the principles people use in ordinary conversation also function in interviews. For example, people look for speakers’ intentions and the common ground, react to the speaker’s perspective of speaking, and tend to “interpret successive questions as related in topic” (p. 40). This implies that the researcher or interviewer needs to be flexible and context-sensitive when using structured interviews.

5.1.2.5 The use of a mixed-methods approach in the present study

As noted above (see Section 5.1.1), four research questions arose from the literature reviews. I began by considering how to answer RQ1. It seemed to be a portmanteau question covering a series of more detailed questions. For example:

- (1) How many words do Chinese students write for their dissertations?
- (2) How many credits do they get from the dissertation?
- (3) How important is the dissertation for their degrees?
- (4) What kind of research do they conduct for their dissertations?
- (5) How do they write their dissertations?
- (6) What kind of training do the universities in China provide for their dissertations?
- (7) Have they written any essays for any course before the dissertation?
- (8) What kind of help do they get from their supervisors?
- (9) What kind of feedback do they get for their dissertations?

Almost all of these sub-questions appeared to be answerable with fairly concrete information, and a questionnaire seemed to be an appropriate way to obtain this information (Bourque and Clark, 1994; Gillham, 2000a; Denscombe, 2007). However, these outline questions needed further details adding. It was therefore decided to start with a preliminary study focusing on answering RQ1, using a mixed-methods approach of questionnaire and interview. This would have two functions: firstly to gather ideas generally about what students had done and how they reacted to it, and secondly, to provide specific information which could be used to construct a more systematic questionnaire (Denscombe, 2007). The results of the preliminary study would be used to create the main study, involving a more systematic questionnaire focused on RQ1. However, questionnaires need validating and this argued for follow-up interviews in the main study (Denscombe, 2007), and RQs 2, 3, and 4 (see Section 5.1.1) also needed answering, but here the anticipated answers seemed less elicitable via questionnaires, and thus interviews seemed preferable. It was accordingly decided that the main study would adopt a mixed-methods approach of the same form as the preliminary study, but with a different underlying logic. The interviews would serve the function of checking the validity of the findings and dealing with the issues from the questionnaire (Denscombe, 2007), and answering RQs 2 – 4. Each part would be separately piloted. In particular, since the purpose of the study was to examine the influence of training that Chinese students receive at undergraduate level in China on their critical thinking in academic writing in the UK,

the sampling would be restricted to those Chinese students who had obtained their first degree in China, but were studying for a Masters or doctoral degree in the UK. Since the preliminary study was just aimed to gathering ideas, the sample size did not need to be very large, and a size of around 15 was felt to be adequate.

5.2 Preliminary study

The study was carried out at one of the top 10 universities in the UK in the 2005/6 academic year. According to the official website of the University, the total number of registered students from Mainland China was 438 in the 2003/4 academic year, among whom 254 were full-time postgraduates. Most of these students came to the university having completed their first degree in China and expected to achieve a Masters degree in a comparatively shorter period of time than in China (i.e. in one rather than two to three years).

I designed a simple and focused questionnaire (see Appendix 1) for Mainland Chinese students who were currently studying at the university for a Masters degree. Questionnaires were given out in the second week of the autumn term of the 2005/6 academic year. As it was difficult to obtain access to official student data from the university, the potential participants were approached through “snowball” sampling from the postgraduate students from two departments, the Department of Educational Studies (5 students) and the Department of Management Studies (13 students). Altogether 18 students responded. All the respondents had been in the university for less than one month, and thus they were still at the stage of adapting to a completely new academic environment. In addition, most of them had just obtained their first degrees and their experience of writing a Bachelors dissertation was hopefully still “fresh” in their minds. After I had collected all completed questionnaires, I chose ten respondents randomly and had a follow-up interview with each of them individually in the following week, with the purpose of eliciting more information regarding three questions (9, 10 and 12, see Appendix 1), which people had found difficult to answer, and on the issue of plagiarism.

The interviews also aimed to check the validity of the questionnaires by comparing the oral

answers in the interviews with the written answers in the questionnaires. In addition to interviews, I adopted two other measures for increasing the validity of the questionnaire. One measure was to write the questionnaire in Chinese and ask the respondents to answer open questions in Chinese as well, so that language would not be a possible obstacle to understanding and answering items; this is in line with the suggestion by Birley and Moreland (1998) that one way of improving the validity of the questionnaire is to reduce irrelevant factors which may interfere with the process of data collecting. Furthermore, before the questionnaire was sent out, it was piloted with two Chinese students from Taiwan following a face-to-face and think-aloud procedure to check whether there were ambiguous questions. Following their suggestions, I modified one question which might generate inaccurate or insufficient answers.

The main findings from the preliminary study are discussed separately in Section 6.1. Almost all the results involved factual information which could be put in a more structured questionnaire. However, further questions needed to be added to generate more demographical and attitude-related data, such as students' age and gender, and attitude towards supervision. In addition, some aspects of academic writing, such as assessment, and more details about essay writing, such as the length of the essays, which had been overlooked in the preliminary study needed to be added and explored in the main study questionnaire.

5.3 Study 1 Main study

5.3.1 Questionnaire

5.3.1.1 Design and piloting

On the basis of the findings of the preliminary study, I designed a new questionnaire (see Appendix 4) with 28 closed questions, and two open-ended questions regarding essay-writing experiences. I piloted the questions using face-to-face and think-aloud procedures on two

Mainland Chinese students (hereafter, Students A and B) who were taking a Masters degree in the Department of Educational Studies at the same university in the UK. The results indicated that there were very few problems or ambiguous items, and just three points needed minor clarification. Student A was not sure whether she could use English for Question 4. I then made it clear in brackets that the respondents could use English for this question. The second change was made to Question 11. The original question asked how long the respondent had spent on the dissertation in years, months, and days. However, the two students could only remember roughly how many months or weeks, but not how many days they had spent, and pointed out that anyway it was rare to spend more than one year on a BA dissertation. Taking on board their comments and suggestions, I then revised the question by asking for just months and weeks. A final alteration was made to Question 29 by adding a sentence in brackets indicating that respondents needed to write answers under the question, as Student A suggested that it was a bit abrupt to have an open question after all those closed ones.

5.3.1.2 Sample

The revised questionnaire was sent out in January 2006 to as many Chinese students as possible at the same university through various channels including the researcher's friends, the local Chinese students' association, and the tutors of particular courses, such as the MA in TESOL (Teaching English to Speakers of Other Languages), on which many Chinese students were studying. The sampling frame was students who had obtained their first degrees in Mainland China and were pursuing an advanced degree in the social sciences at the university. The reason for excluding science and technology students was primarily that the preliminary study had shown that the written component of these degree courses was significantly different from that of social sciences, and my own educational background in the social sciences limited my ability to conduct research into science and technology. The covering letter (see Appendix 4) invited the target students to take part, summarised the purpose of the study, and reassured them that they would not be identified individually and that their responses would be kept confidential. According to the university website, the total number of Chinese postgraduate students for the 2005/06 academic

year was 350. However, the website did not reveal the exact number of Chinese students in each department, and thus, as the total number of social science students from Mainland China was not clear, it was simply not possible to calculate an accurate response rate.

Altogether 40 social science students from Mainland China, including the two from the piloting, answered the questionnaire, either in hard copy or electronically via email. Although it was clearly not ideal to use the data from the two students in the piloting, since the revision of the questions were minimal and did not affect the answers to the three items concerned, and since it proved extremely difficult to obtain access to other target participants, their completed questionnaires were in the event included in the analysis. All data were then analyzed with SPSS 11 for Windows.

5.3.2 Interviews

5.3.2.1 Question design and piloting

The questions in the interviews were divided into two parts: questions in Part A (see Appendix 5) were derived from the questionnaire survey, and questions in Part B (see Appendix 6) were designed to answer Questions 2, 3, and 4 (see Section 5.1.1), on what challenges Chinese students studying on postgraduate courses encounter in academic writing at UK universities, how far they think they apply critical thinking to it, and how far they felt the training at undergraduate level in China has affected their writing in the UK. As critical thinking might mean different things to different people, it was necessary to have a working definition of it. The definition established earlier (Section 4.8) was used. The interview schedule in Chinese was first trialled with a Chinese student who was doing a Masters degree in Economics at the university; she expressed no particular difficulties with answering any of the questions, so the schedule was not modified.

5.3.2.2 Data collection and analysis

Invitation letters were sent out along with the questionnaires and those who agreed to be interviewed left their contact details at the end. In total, 28 postgraduate students were interviewed in June 2006 and audio-recorded with their permission. At the start of the interviews, the purpose of the research was introduced and the strict confidentiality of the study was stressed.

The recorded data were then transcribed (in Chinese) for analysis. The main analytic method and procedure was adapted from Gillham's (2000a) content analysis, which primarily focuses on generating categories by repeatedly examining interviewees' answers to a certain question. A Chinese Sociology student helped check the consistency of one transcript with the audio file and then marked the substantive statements. She did not find any inconsistencies between the transcript and the audio file, except for two typing errors. The substantive statements she marked were fairly consistent with mine, except that she marked 14 fewer statements than me (I marked 77 and she marked 63). As the substantive statements need to be exhaustive (Gillham, 2000a), the original statements marked by myself were retained. In addition, although an attempt was made to reduce the researcher effect by using structured interviews, it is nevertheless inevitable to some degree in face-to-face interviews (Hitchcock and Hughes, 1995); I accordingly checked four randomly chosen copies of transcripts. Altogether three possible researcher biases were identified where I had asked a question which might incur a positive answer only. For instance, in the interview with Student 03, I asked a question: "it is easy to pick up problems with research methods in a paper, isn't it?", and the student immediately answered "yes". However, this question could have been asked in a more neutral way, for example, "do you think it is easy to pick up problems with research methods?" Overall the researcher effect seems to have been minimal and did not pose a threat to the further analysis of the data.

All the categories derived from the transcripts were entered at the top in analysis grids and the numerical codes of the interviewees were input down the side. The statements on the original transcripts were then assigned to a category, and the relevant interviewees were marked on the grid. However, this cross-sectional analysis neglects the relationship between sections, and the context where the specific answer comes from. In order to solve this problem, the answers of each

interviewee to the different questions were also examined, to look for the relationships between them, or in other words, to see whether certain patterns in one set of answers affected or were affected by the patterns in another.

5.4 Research ethics

There seems to be a conflict between the pursuit of truth and research ethics. According to Bassey (1999: p. 73), research ethics includes three things: “respect for democracy, respect for truth and respect for persons”. However, these three “respects” may clash with each other in real-life research. On the one hand, the researcher may claim that in a democratic society, they have the right to publish the truth of a story, while on the other hand, the informants may not be willing to have their private information revealed (Bassey, 1999). This clash, particularly when informed consent is involved, has been discussed by numerous authors (e.g., Punch, 1986; Gregory, 2003; Gomm, 2008). Gregory (2003: 47) for example argued that “there will always be situations where the demand for consent stands uneasily alongside the commitment to the pursuit of truth”. In discussions about privacy, confidentiality and covert research, Gomm (2008) raised issues regarding the ethicality of research. For example, he asked “how much weight should we place on the conduct and how much on the outcomes?” (p. 377), as some research is unethical in its conduct but ethical in the outcomes. Even so, Gregory (2003) concluded that the pursuit of truth should not serve as an excuse of avoiding informed consent. In fact, “an overriding principle driving research should be the getting of consent – fully informed and voluntary” (Gregory, 2003: 65).

In terms of respect for persons in research, in addition to obtaining informed and voluntary consent, researchers also need to protect their informants by keeping a high degree of confidentiality and anonymity (Punch, 1986; Gregory, 2003; Berg, 2004; Piper and Simons, 2004). According to Berg (2004), in many cases, the two terms, confidentiality and anonymity, have been mistakenly seen as synonyms. However, the two terms are different; confidentiality means that the researchers need to ensure that the informants are protected by eliminating any elements which might reveal their identities, and anonymity just means that the real names of the informants are

not shown. He suggested that in most qualitative studies, as the researcher knows the participants, anonymity is almost impossible. In order to keep a high degree of confidentiality, Berg (2004) suggested that, although pseudonyms can be used to conceal the real names of participants, researchers need to be very careful when they describe and discuss the participants and the context in the report.

As far as the relationships between consent, confidentiality, and anonymity are concerned, Gregory (2003) argued that they are closely related to each other, in the sense that “consent will often not be forthcoming unless confidentiality can be guaranteed”, and “confidentiality is best assured on the basis of anonymizing the collection of data” (p. 49).

An important issue raised by Piper and Simons (2004) is the situated nature of ethical issues in social research. According to Piper and Simons (2004), researchers need to take into consideration the social and political context in ethical practice. This means they need to recognise the uniqueness and complexity of the context in which the research is carried out and need to be aware of cultural differences as well.

Considering all these ethical issues, I took a series of strategies in Study 1. Firstly, the purpose of the study was introduced in the covering letter (see Appendix 4) of the questionnaire, and the confidential and voluntary nature of the study and anonymity were clearly explained. In addition, the questionnaire was written in Chinese, so that respondents could understand and answer the questions easily in their first language. At the beginning of the interviews, the purpose of the study was introduced, the strict confidentiality of the study was emphasised, and permission to audio-record the content was asked for. In the report of the findings, pseudonyms have been used to hide the identity of the participants and the research site.

Chapter 6

Study 1 Findings and discussion

6.1 The preliminary study

6.1.1 Background to the research

Four related questions arose from the literature review (see Sections 2.5 and 5.1.1), and several relatively factual sub-questions of RQ1 (see Section 5.1.2.5). As a result, questionnaire format was selected to collect data at this stage. Since there was no existing standardised questionnaire to use, a preliminary study using a simple and focused questionnaire was designed and given to 18 Chinese students who had obtained their first degrees in China but were pursuing an advanced degree in the UK. A follow-up interview was conducted with ten of the 18 respondents in order to seek more information regarding Questions 9, 10, and 12 (see Appendix 1), because these questions were found difficult to answer in the questionnaire, and the issue of plagiarism arising from the questionnaire. Section 6.1.2 contains the findings and discussion of the study, and the implications of them.

6.1.2 Findings and discussion

6.1.2.1 Findings from the questionnaire

In order to make it easier to analyse the data, a table was designed to display the answers. This is given in Appendix 2 and the comments below are referenced to it.

In terms of the students' educational background, the eighteen respondents graduated from seventeen different institutes in China, ranging from top universities such as Beijing University of Posts and Telecommunications, to those of lower rank such as Dalian Maritime University. This finding suggests immediately that the background of the Chinese students who are learning in the UK is very complex and it is necessary to exercise caution when making generalisations.

Fourteen of the eighteen respondents had studied a social science subject for their first degree, and three respondents were from Arts and Humanities, while only one was from Science and Technology. This result suggested that, although the student answers might reflect some characteristics of dissertation writing by social science students, due to the limited sample size, it might be inappropriate to draw conclusions regarding dissertation writing in science and technology.

With respect to the topic area of the dissertations, some areas were very broad, perhaps too broad for an undergraduate student. For example, Student 01's topic was the East Asian economy, and Student 02's topic was the French economy. The variation in the length of the dissertations, ranging from 3000 words to 20,000 words, echoed the diversity of educational backgrounds of the students and the requirements from the institutes or departments.

However, answers to Questions 5 and 6 showed that, although the dissertation requirements in different institutes might vary a great deal, the dissertation was of equal importance to students' degrees. Fifteen students' answers to Question 6 could be summed up as "very important and no degree without a pass in the dissertation".

As far as empirical work was concerned, fifteen students' answers to Question 7 were negative. Student 09 claimed that he had conducted a questionnaire survey of 20 undergraduate students, and Student 14 said he had interviewed several companies. The student from science and technology wrote his dissertation on the basis of the software he worked on, along with his colleagues in a company. This finding implied that most of the institutes did not require or emphasise empirical work for undergraduate dissertations. As the answers to Question 9 indicated, most of the students were more interested in writing a literature review than in doing empirical research. However, the respondents did not say how the review was conducted, probably due to the fact that it was hard to explain this in one or two sentences. As a result, this question could be further explored in the follow-up interviews. Interestingly, Student 16 reported that he had written

his dissertation primarily by copying other peoples' ideas. This raised the issue of plagiarism among the students, which could be further investigated in the interviews.

With regard to the training in dissertation writing, answers to Question 10 showed that all the respondents had either had a specific course on dissertation writing, received guidance from their supervisors, or read sample dissertations recommended by the department. However, respondents did not explain the content of the training course, which might be worth further exploration.

As for Question 11, an interesting finding was that twelve students reported having experiences of essay writing during their undergraduate study, with the lengths ranging from 1000 words to 5000 words, either for assessments or for exercises.

Although each respondent had a supervisor for their dissertation, their attitudes towards the supervisor's role in their writing differed, as indicated by the answers to Questions 12 and 13. The most frequently (9/18) mentioned phrase was the structure of the dissertation. Other guidance from the supervisor related to reading materials, topics, draft editing, grammar, logic, and argumentation. There were two extreme cases in the answers to this question. Student 04 claimed that her supervisor's guidance was of no use to her, and another student claimed that he had only met his supervisor once and came back without any clues about how to write. However, what their supervisors had valued and emphasised was not reflected in the written answers, which might be explored in the follow-up interviews.

With respect to the feedback from the department, thirteen respondents declared that they had only received a grade or mark. However, eight had obtained oral or written feedback from their supervisors, either for each draft or for the final version. One respondent claimed that he had written his dissertation by mostly copying other people's words and ideas, but still received a "distinguished" mark for it. Although such responses were rare, it nevertheless indicated that in China plagiarism still existed and some institutes or departments might not have put much emphasis on improving or checking students' academic writing.

6.1.2.2 Findings from the interviews

I conducted individual follow-up interviews with ten of the questionnaire respondents with the purpose of retesting the validity of the questionnaire and obtaining more information regarding Questions 9, 10 and 12, and the issue of plagiarism. Four interviewees were from the Department of Educational Studies and six were from the Department of Management Studies at the University. Nine interviews were conducted via face-to-face discussion, and one was carried out on the phone. Before I arranged the meetings with the interviewees, I designed eight prompts or further questions (see Appendix 3) in case that the interviewees dried up or if they diverged onto irrelevant topics. Despite the limited sample size and the diversity of the educational backgrounds of the interviewees, the following findings are of some interest.

With respect to the sources of relevant literature, the most frequently mentioned sources were the Internet and library. The general procedure of writing agreed on by 15 students who had studied a social science or arts subject was as follows:

- discussing with the supervisor to decide on the topic of the dissertation;
- looking for literature relevant to the topic area;
- categorising, summarising, and generalising the literature;
- writing up the whole dissertation and discussing the problems arising from the writing with the supervisor;
- submitting each draft to the supervisor and revising drafts according to the feedback;
- submitting the completed dissertation to the department and preparing for oral presentation.

In this common procedure, skills such as originality and critical thinking were scarcely required, as Student 12 stated,

My supervisor told me clearly that I did not need creativity in my dissertation. What I needed to do was to understand the theories and the recent developments in my area and use them appropriately in my own writing.

Two students had conducted empirical research for their dissertation, and Student 18 had presented in his dissertation the results of a test of the software he had developed with his colleagues. It was obvious that Student 18's experiences were very different from those of the other students.

In terms of the structure of the dissertation, all the interviewees had an introduction and conclusion in their dissertation, but the main body varied a great deal, due to the fact that people wrote on different topics.

As regards the training provided by the department in dissertation writing, eight interviewees stated that the training was mostly related to choosing a topic, the structure and presentation of the dissertation and referencing. Just one student mentioned that creativity and relevance to real life were required by the department, and one other student mentioned that s/he had been given the assessment criteria and been trained how to do oral presentations.

Three students reported that plagiarism was strictly forbidden in their departments, while five claimed that the department had reminded them of plagiarism, but they had classmates who had copied a great deal and still survived the assessment, partly due, they said, to the fact that their teachers could not identify the plagiarism in their texts. Two students reported that their departments had not stressed plagiarism at all, and they had had the freedom to copy whatever they liked.

On the question of the supervisor's comments at tutorial meetings, basically, interviewees' answers were consistent with those in the questionnaires. Most of the supervisors were more concerned about the structure and topic of the students' dissertations than the content. However, four interviewees expressed their gratitude to their supervisors, because their supervisors had given them enormous help in every aspect of their writing, including structure, discipline knowledge, logic, and language.

6.1.3 Implications

The study fulfilled its initial purpose of generating ideas and potential answers/options to the questions in the future questionnaire survey.

The findings showed that there was a great variety in the students' educational backgrounds. There was even one Management student who had done a first degree in science and technology, and based his dissertation on software design with his colleague, which was clearly different from what the other social science students did. As there were marked differences in academic writing

between social sciences and science and technology, and my educational background in social sciences does not enable me to do detailed research into science and technology, it was decided to focus the further studies on the social sciences.

Almost all the findings were factual information which could be put in a questionnaire. However, more questions needed to be added to generate more demographical and attitude-related data. In addition, some aspects of academic writing, such as its assessment, and more details about essay writing which were ignored in the preliminary study needed to be added and explored in the questionnaire. On the basis of these ideas and findings, a new questionnaire was drafted (see Appendix 4), which needed to be tested and revised before it could be sent to more postgraduate students whose first degrees in China were related to the humanities or social sciences.

6.2 The questionnaire survey

6.2.1 Introduction

The new questionnaire (see Appendix 4) developed based on the findings of the preliminary study (see Section 6.1) was piloted and then sent out in January 2006 to as many Chinese students as possible at the same university in the UK (see Section 5.3.1 for the details). Altogether 40 social science students from Mainland China responded. The analysis was conducted on the data available, and the results below are presented in the order of the items.

6.2.2 Results and discussion

The demographic characteristics of the subjects collected included gender, age, months of work experience, the subjects of their first and second degrees, and the university where they obtained their first degrees. The sample comprised 6 men and 34 women, with a mean age of 24.70 years

(SD=3.77) and a range from 22 to 41. Interestingly, almost half of the subjects were 23 years old and only six were over 25 (see Table 6.1). This can be explained by the Chinese educational system, in which students usually get their first degrees at 22. One hypothesis that could be drawn immediately is that most of the students would have little or no work experience before they began their postgraduate study in the UK. In fact, this was rapidly confirmed by the question on the students' months of work experience: 28 (70%) of the students had no work experience (see Table 6.2); just 12 (30%) did, and the figure varied between 3 months and 15 years. Most of the students (33 of the 40) had only spent approximately four months in the UK by the time of the questionnaire study (see Table 6.3). This meant that they had started their study for a Masters degree in the UK in October 2005 without a pre-session course in English language or English academic writing.

Table 6.1 Study 1 Questionnaire survey: Age of the participants

Years	Frequency	Percent
22	4	10.0
23	18	45.0
24	8	20.0
25	4	10.0
28	1	2.5
29	1	2.5
30	1	2.5
31	1	2.5
35	1	2.5
41	1	2.5
Total	40	100.0

Table 6.2 Study 1 Questionnaire survey: Months of work experience

	Frequency	Percent
0	28	70.0
3	2	5.0
12	2	5.0
15	1	2.5
24	1	2.5
36	1	2.5
60	2	5.0
110	1	2.5
156	1	2.5
180	1	2.5
Total	40	100.0

Table 6.3 Study 1 Questionnaire survey: Months of stay in the UK

	Frequency	Percent
4	33	82.5
6	1	2.5
16	2	5.0
28	1	2.5
40	3	7.5
Total	40	100.0

These 40 students were pursuing either a Masters or Doctoral degree in 18 different fields of social sciences at a single university in the UK, while their first degrees were obtained from 35 different universities or colleges in China. This indicated that their educational backgrounds were likely to vary markedly, although they were trying to adapt to roughly the same academic culture. In order to find out the relationship between the quality of the university in China and students' writing experiences at undergraduate level, the overall scores for each university in 2006 were used to measure the quality of the universities. The scores used were those given on the website of the China University Alumni Association (2006), which is one of the most widely acknowledged organizations for ranking and rating universities in China. The scores for the universities concerned ranged from 0.08 to 98.34 out of 100, which again indicated that students probably differed a great deal. The mean score was 12.91 (SD=19.66), which was between the scores for the 44th and 45th-ranked universities. 18 universities' fell into the top 100 universities in China, and 20 universities were outside the top 100. However, it is difficult to draw a sensible conclusion from this about the general qualities of the universities at which the students took their first degrees, due to the limited sample size of this study.

In order to find out the differences between English-major students and other social science students, the majors of students' first degrees were categorised into two groups: English and other social science. "English majors" covered those majors closely related to the English language, such as English literature, English education, or English language teaching, which usually belong to an English department or a school of foreign languages in a university. The result was that 11 of the 40 students were English-majors, while 29 were classed as other social science students. The results also showed that nine of the 11 English-major students wrote their dissertations in English, while 27 of the 29 social science students used Chinese.

The length of the dissertation students actually wrote for their first degrees showed an enormous range. The dissertations written in English ranged from 3,000 to 10,375 words (mean=5,988.64, SD=2,211.09), and those in Chinese ranged from 2,768 to 25,000 Chinese characters (mean=11,473.23, SD=5,649.18). The length of dissertation required by the students' universities in China ranged from 2,500 to 8,000 English words (mean=5,050, SD=1,553.67) and from 3,000 to 20,000 Chinese characters (mean=10,250, SD=5,145.70) respectively.

In terms of the time spent on the dissertation, the mean length was 2.95 (SD=1.54) months with the longest time at eight months and the shortest at just one month. The Pearson Correlation coefficient was 0.043 ($p>0.1$), which indicated, interestingly, that there was no significant association between the time spent on the dissertation and its length. In other words, the students did not necessarily spend a longer time in producing longer dissertations. For instance, of the three students who wrote more than 20,000 words for their dissertations, two spent three months, but the third spent just one month. All the subjects reported that they had to write a dissertation in order to get the degree. However, 17 (42.5%) of them did not know the assessment criteria used, even though more than half (24) considered the assessment to be "strict" or "very strict" (see Table 6.4). The reasons underlying this discrepancy are unclear, and provide material for further exploration in follow-up interviews.

Table 6.4 Study 1 Questionnaire survey: Views on assessment of BA dissertations in China

Rating	Frequency	Percent
Very relaxed	0	0
Somewhat relaxed	4	10.0
Average	12	30.0
Strict	21	52.5
Very strict	3	7.5
Total	40	100.0

35 of the 40 (87.5%) students reported that they did not know the proportion of students whose dissertations failed in their department. This finding implies that most of the universities kept the marking of students' dissertations confidential and students seemed to have no strong desire to know, and/or no chance of finding out, the grades of other people's dissertations.

Table 6.5 Study 1 Questionnaire survey: A summary of sources of literature (N=40)

Options	Frequency	Percentage (%)
Library	37	92.5
The Internet	29	72.5
Database	20	50
Supervisor	12	30
Bookshop	7	17.5
Friends	6	15
Other	0	0

As regards the approach taken to the dissertation, 31 students conducted only a literature review, five students only did a survey, and four did both. This indicated that literature review was probably still the most popular way of writing a dissertation for social science and language students at undergraduate level in China. Among the 40 students (see Table 6.5 above), the descending order of frequency of use of sources of literature for their dissertation was as follows: the library, the Internet, databases, their supervisor, bookshops, and friends. From the fact that 37 students chose the library as one of the main sources of literature, it seemed that the library, rather than the Internet or databases, was still the most important study base in the universities. According to the frequencies reported by the respondents, the sequence (from the mostly frequently reported to the least) of the types of training received from the university or departments for dissertation writing was as follows: guidance from the supervisor (33), handbooks or emails regarding the requirements of the dissertation (23), guidance provided by the teacher in class (11), bibliographies on academic writing (11), reading samples of good dissertations (9), specific courses on academic writing (8), and one or two lectures on academic writing (8). It is clear that the supervisor played an important role in most of the students' writing processes, and the quality of student writing was, therefore, likely to be significantly influenced by the supervisor. Consequently, if supervisors had no awareness of, or did not stress, critical thinking in writing, it would be very hard for their students to recognise the importance of critical thinking in writing as well. Hence, it can be argued that, other than the training courses for students in academic writing, training for university teachers is of equal or even greater importance. In addition, the fact that only eight of the 40 students (20%) reported that they had undergone a specific course on academic writing suggested that the universities or departments could have paid more attention to the academic writing of their students.

31 (77.5%) of the respondents declared that they were required to state the sources of all the references in their dissertation. The reliability of the answers to this sensitive question is worth further discussion, because the respondents were not very familiar with the researcher and therefore they might hesitate to tell the truth if they had committed plagiarism, especially when they had realised the seriousness of plagiarism after a period of study in the UK. To discover the truth, other alternative research strategies were needed, such as the use of interviews.

The question of the awareness of the proportion of students who had plagiarized and got a pass or higher did not receive many affirmative answers. Only two students reported that they knew the approximate proportions, which were, they said, 30% and 60%. It seems that these sensitive questions are better tackled in interviews, on the basis of a good relationship between the interviewer and interviewee.

With respect to meetings with their supervisor (see Table 6.6), 29 (72.5%) of the students declared that they had met their supervisors irregularly, with a mean frequency of 4.38 (SD=1.90) times in total (see Table 6.7), and 8 (20%) students met their supervisors regularly, with four of them meeting their supervisors once every fortnight (see Table 6.8).

Table 6.6 Study 1 Questionnaire survey: Meetings with dissertation supervisor

		No. of students	Percent	Valid Percent
Valid	Regularly	8	20.0	20.5
	Not regularly	29	72.5	74.4
	Never	2	5.0	5.1
	Total	39	97.5	100.0
Missing		1	2.5	
Total		40	100.0	

Table 6.7 Study 1 Questionnaire survey: Total number of irregular meetings in the academic year

N	Valid	26
	Missing	3
Mean		4.38
Median		4.00
Mode		3
Std. Deviation		1.899
Minimum		2
Maximum		10

Table 6.8 Study 1 Questionnaire survey: Frequency of regular meetings

		Frequency	Percent
Valid	Once a week	1	12.5
	Twice a week	2	25.0
	Once every fortnight	4	50.0
	Total	7	87.5
Missing		1	12.5
Total		8	100.0

In addition to face-to-face meetings, the students preferred to communicate with their supervisors more via email (27 of 40) and by telephone (24 of 40), than via Instant Messenger (1 of 40) or handwritten letters or messages (1 of 40). Supervisors' guidance mainly focused on the establishment of the basic structure of the dissertation (35 of 39), and the topic choice (29 of 39). Other aspects of the supervisor's guidance (in descending order of frequency) included: subject knowledge (19 of 39), argumentation including critical thinking skills (14 of 39), the bibliography (13 of 39), the research methods (12 of 39), sentence structure and grammar (11 of 39), and general instructions (4 of 39). This finding suggests that the supervisor's guidance still remained at a basic level while more advanced thinking skills such as argumentation and creative thinking possibly needed to be stressed more. However, because of the limited sample size, we need to be very cautious about drawing the conclusion that the supervisor was the main contributory factor in students' lack of critical thinking or power of argumentation, or of other higher-order thinking skills in writing. It was interesting that 14 students reported that they *had* received specific guidance on argumentation and critical thinking. Their understanding of these two concepts and the details regarding these two aspects was further investigated in the follow-up interviews.

Table 6.9 Study 1 Questionnaire survey: Students' views of their supervisors

	Frequency	Percent
Of no help	0	0
Not very helpful	2	5.0
Average	20	50.0
Helpful	13	32.5
Very helpful	5	12.5
Total	40	100.0

From Table 6.9 above, it can be seen that students' views of their supervisors were not very clear, with half of them declaring that the help they received from their supervisors was only about

average, somewhere between positive and negative. Consequently, the issue of what students expected from their dissertation supervisors might be explored in the follow-up interviews.

In terms of the feedback students had received from their dissertation, three kinds of feedback were more common than others: oral feedback on each draft from the supervisor, written feedback on each draft from the supervisor, and a grade or score from the department (see Table 6.10). Only five students obtained a written report from the department for their dissertations, which is the standard form of feedback in UK universities. The findings suggested that supervisors' feedback was almost the only channel through which students could find out about the strengths and weaknesses of their writing. However, the content and emphasis of the feedback from the supervisor remains unknown and needs to be further investigated.

Table 6.10 Study 1 Questionnaire survey: A summary of the feedback received (valid N=39, missing N=1)

Options	Frequency	Percent (N=40)	Valid percent (N=39)
The supervisor's oral feedback on each draft	24	60	61.5
Just a grade or score from the department	22	55	56.4
The supervisor's written feedback on each draft	20	50	51.3
There was written feedback, but the students couldn't see it	7	17.5	17.9
A written report from the department	5	12.5	12.8
A written report from an external examiner	0	0	0
No feedback	0	0	0
Other	0	0	0

Questions 26 to 30 concerned students' essay-writing experiences at undergraduate level in China. The result of Question 26 (see Table 6.11) was interesting because only two students reported that they had never written any essays during their undergraduate period, whilst 37 students declared that they either had written essays regularly or irregularly. For those (15 of 37) who wrote essays regularly, the average number of essays they wrote each term was 3.60 (SD=1.24) with the maximum number being six (see Tables 6.12 and 6.13). For those (21 of 37) who wrote essays irregularly, the number of essays they wrote for the whole undergraduate period ranged from 2 to 15, with a mean of 5.87 (SD=3.689) (see Table 6.14).

Table 6.11 Study 1 Questionnaire survey: Experiences of writing essays

		Frequency	Percent	Valid Percent
Valid	Regular no. for each term	15	37.5	38.5
	Not fixed for each term	22	55.0	56.4
	Never	2	5.0	5.1
	Total	39	97.5	100.0
Missing		1	2.5	
Total		40	100.0	

Table 6.12 Study 1 Questionnaire survey: No. of essays EACH TERM (by those who wrote essays regularly)

	No. of essays	Frequency	Percent
Valid	2	3	20.0
	3	5	33.3
	4	3	20.0
	5	3	20.0
	6	1	6.6
	Total	15	100.0
Missing		0	0
Total		15	100.0

Table 6.13 Study 1 Questionnaire survey: No. of essays EACH TERM (Descriptive statistics, for those who wrote essays regularly)

N	Valid	15
	Missing	0
Mean		3.60
Median		3.00
Mode		3
Std. Deviation		1.24
Minimum		2
Maximum		6

Table 6.14 Study 1 Questionnaire survey: No. of essays FOR THE DEGREE (Descriptive statistics, for those who wrote essays irregularly)

N	Valid	19
	Missing	3
Mean		5.87
Median		4.00
Mode		3
Std. Deviation		3.69
Minimum		2
Maximum		15

The length of the essays the English-major students wrote ranged from 400 to 4,500 English words (mean=1,915, SD=1,024.17, Valid N=10) and the essays written by other social science students ranged from 800 to 6,000 Chinese characters (mean=3,532, SD=1,323.10, Valid N=25). As regards the training in essay writing received from the department (valid N=33), half of the students reported that they had received little or no help, while only seven students had obtained help with the structure, six with the general requirements, three with originality and critical thinking, two with the bibliography, and one student was asked to write on the basis of certain models.

The final question asked about the type of feedback students had received on their essays. The answers to this question were classified into four categories: score feedback, oral feedback, written feedback and no feedback. The frequency order for these four categories was as follows (valid N=33): score feedback (25), written feedback (8), no feedback (4), and oral feedback (0). Thus it was clear that most of the students were uncertain about the opinions of their teachers towards their writing, because a simple score cannot explain the strengths and weaknesses of a piece of writing.

In order to find out the differences and similarities between the writing of English-major students and other social science students, the mean length of dissertations were compared. As discussed earlier, the mean length of English-major students' dissertations was 5,988.64 English words (SD=2,211.09), whilst the mean length of the dissertations of other social science students was 11,473.23 Chinese characters (SD=5,649.18). A similar analysis was performed on the type of subject studied for the first degree and the length of the essays written (see Table 6.15). As students wrote their dissertations and essays in different languages and there was no agreed criterion on the direct comparison of the word length of Chinese and English texts, the results could not prove that English-major students wrote less or more words than other subject students for their dissertations or essays.

Table 6.15 Study 1 Questionnaire survey: Comparison of length of essays (Valid N=35)

Subject area of first degree	Mean	No. of students	Std. Deviation
English	1,915.00	10	1,024.17
Social Science	3,532.00	25	1,323.10
Total		35	

In addition, a comparison of the mean number of essays written each term and throughout the whole degree by English-major students and other social science students (see Tables 6.16 and 6.17) showed that most (8 of 10) of the English-major students wrote essays irregularly, with the average number of essays written for the whole degree slightly lower than the number for other social science students. In contrast, more than half of the social science students (13 of 24) wrote essays each term with a mean of 3.85 (SD=1.14), which was higher than the number for the two English-major students.

Table 6.16 Study 1 Questionnaire survey: Comparison of the mean number of essays written each term by those who wrote regularly

Subject area of first degree	No. of students	Mean No. of essays	Std. Deviation
English	2	2.00	.00
Social Science	13	3.85	1.14
Total	15	3.60	1.24

Table 6.17 Study 1 Questionnaire survey: Comparison of the number of essays written throughout the degree by those who wrote irregularly

Subject area of first degree	No. of students	Mean No. of essays	Std. Deviation
English	8	5.63	3.7
Social Science	11	6.05	3.85
Total	19	5.87	3.69

With a hypothesis that students from better universities might have undertaken more writing tasks during their undergraduate period, correlation analysis (two-tailed) was performed between the overall scores for the university and the length of the dissertation, and the length of essays (see Table 6.18). The analysis showed that there existed a statistically significant correlation between the overall scores for the university and the length of the dissertation ($p=.012$), but not between the overall scores for the university and the length of essays ($p=.101$). Simple regression tests showed that better universities or colleges generally required a longer dissertation ($R^2=.175$ (34), $p<.05$). This indicated that students graduating from top universities might be expected to perform better in writing when they came to the UK to study. However, their actual performance at university in the UK needs to be investigated in the follow-up interviews and linked back to the overall scores for their universities in China.

Table 6.18 Study 1 Questionnaire survey: A summary of the correlations

	Pearson Correlation	Sig. (2-tailed)
Overall scores for the university and the length of dissertation (Valid N=35)	.419*	.012
Overall scores for the university and the length of essays (Valid N=33)	.290	.101

6.2.3 Conclusion

This study investigated the writing experiences of a sample of Chinese students at undergraduate level in China. The following tentative generalisations can be made: there is a great deal of variation in the writing experiences of Chinese students at undergraduate level; most of the Chinese postgraduate students studying in the UK are likely to have little or no work experience; the supervisor plays a very important role in almost all aspects of dissertation writing, although it seems that there exists a discrepancy between students' expectations and the supervisor's guidance; English-major students wrote essays slightly less frequently than other social science students, however, they did not necessarily write fewer words than other social science students; finally, better universities required a longer dissertation.

Several issues arise from the study and are worth further investigation in the follow-up interviews or future study. Firstly, the question of why there was not a significant correlation between the length of the dissertation and the time spent on it is well worth exploring. Secondly, the reasons why students considered the assessment to be strict need to be probed further. Thirdly, the issue of plagiarism seems better discussed with the students in an interview because it is hard to obtain reliable answers using a questionnaire. Fourthly, for those students who had received training in argumentation and critical thinking, the content of the training and their understanding of the concepts can be explored in an interview. Fifthly, the students' expectations of their supervisors and the focus of feedback from the supervisors ought to be looked at as well. Furthermore, it would be useful to discuss with the students their performance in academic writing in the UK and their views of the writing experiences both in the UK and in China. Lastly, the differences between English-major students and other social science students in academic writing could be further examined in future studies.

6.3. The interviews: follow-up questions from the questionnaire

The findings from the interviews were grouped under the same headings and in the same order as the questions in the interview outline (see Appendix 5). The results under each heading are presented in order of the degree of consensus among the interviewees. Attempts were also made to connect different sections and link the results of the interviews with the questionnaire survey. In the report, all the participants are coded with Arabic numbers which are the same as in the questionnaire. Thus, Participant 02 in the interview, for example, is the second questionnaire respondent.

6.3.1 Time spent on BA dissertation

Of the eight who claimed that they had spent less than two months on it, five reported that they wrote the dissertation by simply copying from published work or from the Internet. As Participant 12 put it:

I spent one month on my dissertation. I think that is enough for writing a dissertation in China. As you know, to write a dissertation in China you only need to find the relevant literature, copy parts from it and arrange them in a different order. In fact, you are not expected to have a logical structure, or a strong argument, or to make contributions. ... I know some people spent just a few days on their dissertations.

Interviewees 03 and 34 reported that they had spent only about six weeks on their dissertations because they had worked really hard by writing all day and all night in those days. Although Interviewee 40 had spent less than two months, he claimed that this did not include the time on searching for materials and reading, and discussions with his supervisor. These findings could possibly explain the question emerging from the questionnaire survey, that there was not a significant correlation between the length of the dissertation and the time spent on it (see Section 6.2.3).

6.3.2 Why dissertation assessment was strict

Of the fifteen students who considered the assessment of their first degree dissertations strict, six claimed that this was because their supervisors were very strict. As Participant 35 reported:

My supervisor read my dissertation for many times. He kept on asking me to modify parts of it, and made sure that the dissertation was all right before I submitted it.

Six participants reported that they considered the assessment strict because students' marks varied significantly, which indicated, they said, that the markers were genuinely trying to distinguish between dissertations, they were serious about the quality of the dissertation and appreciated where effort had been spent.

Five participants regarded the assessment as strict because the questions asked in the oral tests were difficult to answer. Three participants thought so because they had been required to do some empirical work or experiments for their dissertation, rather than a simple literature review which was regarded as an easier task by the teachers in their department. Other reasons included being given a detailed format requirement, or a clear and detailed referencing system by the department, or else on having their freedom to choose a topic restricted. Interestingly, nobody mentioned the assessment criteria, either set by the department or the supervisor. These findings probably explained why many respondents had reported in the questionnaire that they considered the assessment of dissertation in their department strict or very strict, although they did not know the assessment criteria actually used (see Section 6.2.2).

6.3.3 Reasons for plagiarism in China

In the questionnaire survey (see Section 6.2.2), most of the respondents (31 of the 40) declared that they needed to point out the sources of the literature cited in their dissertations. However, the interview results were noticeably different from the questionnaire findings. Only three of the 28 interviewees reported that plagiarism had been strictly banned in their department, while others

reported that plagiarism was common among students. This also confirmed the prediction in the questionnaire report that interviewing was perhaps a preferable method for tackling this sensitive issue (see Section 6.2.2).

The reasons for the prevalence of plagiarism given by the interviewees can be summarised as follows.

A bad “ethos” (a translation of the Chinese word *fengqi* cited by the interviewees, which means the context or the culture of the institution) was the most frequently mentioned reason (14 of the 28 participants) for the problem of plagiarism in China. As Participant 32 put it:

It was our tradition. All my roommates including myself just copied paragraphs on the Internet and pasted them directly into our own essays. It would be strange if you wrote your own words. I think a good ethos is very important. As far as I know, other places in China are not better.

Seven participants claimed that plagiarism was common because there were no clear guidelines. A range of other reasons were listed. In order of the frequency they were mentioned among participants, these were:

- no knowledge about referencing (5),
- no strict punishment (5),
- a lack of independent thinking by students (5),
- an exam-oriented education system (5),
- teacher-centred lessons (5),
- a lack of relevant regulations from the department (4),
- no experience or knowledge of academic writing (3),
- a lack of academic standards (3),
- a lack of an effective supervision system (3),
- a lack of attention from the academic staff (3),
- the pressure of graduation and employment rate among students (3),
- a lack of knowledge about plagiarism (2),
- a lack of measures taken to deal with this issue (2),
- a lack of effective software tools, and the popularity of the Internet (2),
- the laziness of students themselves (2), and

- students' lack of critical and systematic thinking (2).

These reasons are closely related to each other and can be further categorised into two groups: external reasons and students' own problems (such as laziness).

The external reasons are interrelated to each other inasmuch as some of them could have affected or included others. For instance, a bad "ethos" could be the result of the interweaving of some or all of the other factors listed above, such as the lack of an effective supervision system, a lack of independent thinking in students, a lack of knowledge about plagiarism, and the absence of measures taken to deal with this issue. Regulations, an effective supervisory system, and appropriate punishment can all be grouped under the category of "measures". Similarly, teachers' low expectations were possibly due to their excessive workloads, or lack of effective tools, or to the pressure of graduation and the low post-graduation employment rate. Lastly, students' lack of independent, critical, or systematic thinking could be markedly affected by an education system which emphasised knowledge-oriented exams rather than academic writing, and teacher-centred lessons rather than student-oriented ones.

The results showed that external reasons were considered to be the dominant ones, since only four interviewees cited internal reasons. It is certainly possible that the external reasons cited did indeed lead to student misconduct; but it is equally quite possible that students used these social sources as excuses.

Interestingly, there were three quite different responses. Participants 03, 17, and 33, who obtained their first degrees from different universities in China, reported that the issue of plagiarism had been emphasised as much in their departments in China as in the UK, and therefore it was not prevalent among the students they knew.

6.3.4 Understanding of argumentation and critical thinking and teachers' guidance

Those students who claimed that they had received guidance on argumentation and critical thinking in the questionnaire were asked about their understanding of these two concepts and what their teachers had emphasised.

6.3.4.1 Understanding of critical thinking and argumentation

14 of the 39 respondents in the questionnaire survey reported they had obtained training in argumentation and critical thinking (see Section 6.2.2), and this raised two other questions: what had been covered in the training and what their understanding of critical thinking was after it. In the interviews, eight participants reported that they had obtained training in critical thinking and argumentation before they came to the UK. However, a comparison of the results of the questionnaire and the interviews showed that half of the eight interviewees reported in the questionnaire that they had *not* obtained any training in these two areas. This means that answers to the same question may vary when different methods are adopted, and therefore a triangulation approach using mixed methods seems to be the best solution. In this case, as the interviewees were asked face to face to illustrate their experiences and explain their understanding of the concepts, it is the results of the interviews that seem to be more trustworthy.

Of the eight who did claim that they had been taught how to argue or write, five reported that having a clear standpoint and citing convincing evidence were the two key components of argumentation. Two of the eight mentioned the concepts of induction and deduction as types of reasoning. Other aspects of argumentation voiced separately by one of the participants were: sufficient and necessary conditions, clear objectives, persuasiveness, thinking from both positive and negative angles, scepticism, and a holistic approach to looking at an issue. The points mentioned by these students concern quite a few aspects of argumentation suggested in the literature (see Section 3.2.2). For instance, both Cottrell (1999) and Andrews (2007) emphasised the role of reliable evidence in argumentation, and inductive and deductive arguments have been explained in Brown and Rutter's (2006) book. In addition, sceptical thinking was regarded by Andrews (2007) as a key aspect of a critical approach to argumentation, and by McPeck (1981) as being equivalent to critical thinking.

6.3.4.2 Source of ideas about argumentation and critical thinking

The students' ideas about argumentation or critical thinking came from different sources. Six participants said they had benefited from the discussions with their supervisors. Two reported that they had taken a Philosophy course which had helped them shape their initial perception of logical reasoning and covered topics such as induction and deduction. Interestingly, by referring back to the age question in the questionnaire survey, it became clear that both participants were over 35, which means that the time when they took the course was over 13 years ago. This could simply be a coincidence, as the sample size is limited, but it could also mean that such a useful course only existed or was only taught effectively in the past. In contrast, Participant 24 who did a Masters course in the UK right after her first degree in China claimed that the Philosophy course she had taken in China remained a rote learning course: students simply took notes in class and reported what had been memorised in exams. She had not had the chance to apply any theories in practice.

Participants 35 and 37 mentioned a writing course at undergraduate level in China, which concerned certain aspects of argumentation required for writing short texts in English, such as those set in the TOEFL (Test of English as a Foreign Language).

There are again a small number of differing responses. Participant 21 claimed that she had obtained rough ideas about argumentation as early as primary school:

As early as when I was in primary school, we were trained how to find the main points and evidence in an article in literacy classes. At college, teachers also asked us to identify points and evidence via intensive reading. I think this was really helpful to my writing.

Another such response was from Participant 33 who had had a completely different experience at undergraduate level in China from the other participants. She was asked to translate an English article about critical analysis at the beginning of her BA course in China, and had been trained to think and write critically throughout the four years of her course. In addition, her course books were bought directly from the US and she had been writing in English ever since. However, she reported that the department in which she had studied was not typical of the university, as most of the teachers in it had learning or teaching experiences in overseas universities – this was not the case in other departments. Her supervisor, who was also the head of the department, stressed critical thinking very often, as shown in the following story:

We once went to my supervisor's place to have dinner. We complained that the living room was not good. My supervisor then asked us to give reasons. He said that we could not just say something was good or bad, but had to give reasons.

The particular learning experience in China was evidently helpful to the student's understanding of critical thinking, as she could explain several key aspects of the concept such as a sceptical attitude, a holistic approach, and in particular, evidence. Having had a similar learning experience to that needed in the UK had, she felt, shortened the adaptation period after she arrived. This student's experience is of particular importance, because if it led to successful adaptation, it could be introduced to other departments or universities in China.

6.3.5 Guidance wanted from supervisor

The most frequently mentioned (11 out of the 28) aspect of guidance the interviewees expected to obtain from their supervisors was suggestions for references, because students were not sure what to read or where to find appropriate literature. In the words of Participant 02:

Before I came to the UK, I did not know that we could have got a reading list from our supervisors. This is very important, as we did not know where to search for relevant books and therefore had to seek information from the Internet. Unfortunately, you know that information on the Internet is not always that reliable and authoritative.

Equally important were the topic choice and the structure of the dissertation (11 of the 28). 11 participants needed suggestions about the topic because they had been struggling with what to write about at the beginning:

We had a lot of topics to choose from, but we really did not know which we should work on. For example, sometimes we found it hard to collect data for a topic. We wanted suggestions from our supervisors, as they were supposed to be more experienced. (Participant 15)

In terms of the structure, 11 interviewees reported that they did not know where to start on a topic, whether their main line of argument was reasonable, or what main sections or points needed to be included or considered. This is closely related to the argumentation skills required of students,

as the outline roughly echoed the reasoning process of argumentation in a dissertation. Five interviewees did mention that they wanted guidance on argumentation or logic, as this was not emphasised in their normal university courses and they did not know how to argue effectively in writing.

Comparing the above results with those in the questionnaire (see Section 6.2.2), it can be seen that students' strongly felt need to have suggestions about a bibliography was not in fact one of the most frequently mentioned aspects of supervisory guidance in the questionnaire. The mismatch between students' needs and supervisors' guidance may well have led to the negative attitudes of some respondents towards their supervisors.

Four people wished that their supervisors could have given them some suggestions on research methods: what for example needed to be paid attention to in designing questionnaires and interviews (Participant 03), how to analyze quantitative data (Participant 04), or how to carry out experiments (Participant 33).

Three people reported that they had wanted to obtain some subject-related suggestions from their supervisors, as they considered them to be experts in their area.

Other aspects of guidance which were mentioned by only one or two interviewees included receiving prompt feedback being given clear, format instructions, use of language, and having access to research sites.

6.3.6 Reactions to supervisor's feedback

In answer to this question, all the interviewees reported that they had modified the dissertation according to the comments and suggestions from their supervisors.

6.3.7 Impact of supervisor's feedback

Interestingly, the answers to Question 6 often indicated the interviewees' attitudes towards the supervision. In the interviews, most of the interviewees (15 of the 28) explicitly declared their

satisfaction with the guidance they had received, while just seven people claimed that they had not obtained much help from their supervisors. Six interviewees did not show any obvious attitude towards their supervisors' feedback. However, this finding was not consistent with the responses on help from the supervisor in the questionnaire survey (see Section 6.2.2). In the questionnaire, 20 respondents' views about their supervisor were only about average, somewhere between positive and negative, but in the interview, only six people reported a similar attitude. Four of these six students' answers were consistent with their report in the questionnaire, while two of them were not. This indicated again that the two different elicitation methods did at times generate different results. In a multiple-choice questionnaire which is normally completed quickly, it is possible that the respondents tend to choose the "average" option without thinking about the question carefully, while in an interview, when they are asked to describe what kind of help their supervisors have provided, they recall the past experiences and feelings and probably show a stronger opinion.

Several points mentioned by the interviewees which were particularly relevant to argumentation and critical thinking were that they had learned: logic (6 of the 28), structure (6), how to look at an issue from different perspectives (3) and from a holistic perspective (4), in-depth analysis (3), the notion of sufficient and appropriate evidence (2), and the need for a clear presentation (2). Two more general but vaguer points cited were that they had learned how to write a dissertation (4) and 'ideas' (4). Six people had learned how to track down relevant literature and do referencing from their supervisors. Five reported that their English had been improved through editing the dissertation according to their supervisors' suggestions, and five other people claimed that they had learned how to deal with some less substantive details such as the format of dissertation. Surprisingly, only one student had gained some subject knowledge from their supervisor and just one learned how to analyse data.

A further examination of the answers to this question showed that those who were satisfied with the guidance from their supervisors had obtained help in areas relevant to argumentation, while those who were not satisfied had learned things which were less argument-oriented, such as grammar, how to format the dissertation, and how to reference. Here are two typical contrasting examples:

My supervisor's comments were very important. Sometimes his comments seemed to have opened another door for me, where I knew what to do next. And sometimes, he pointed out crucial problems of my dissertation. (Participant 09)

My supervisor only told me how to use some words or phrases, rather than about the structure or the content of my dissertation. I did not learn much from him. (Participant 30)

This implies that students do not want their supervision to remain at the level of "simpler" things focusing on formatting and language use; rather, they want their dissertation writing to improve their higher-order thinking skills.

The three interviewees who reported that plagiarism was not common among students in their department in China when answering Question 2 were satisfied with their supervision and had learned from their supervisor aspects of argumentation, such as using logic, structuring an argument, and presentation skills. Although the sample size is not large, this finding would seem to imply that several of the students could have done better if they had obtained appropriate training.

In order to investigate the relationship between the interviewees' satisfaction with supervision and several demographic characteristics, comparison analyses were performed. The mean values of the three variables, age, months of work, and overall mark of the university, were compared against three levels of satisfaction: those who were satisfied, those who were not, and those who were neither.

Table 6.19 showed that there was no marked difference between the mean ages of the three groups, although the average age of the interviewees who were satisfied was slightly higher. This might indicate that older students tended to be more satisfied with the supervision.

Tables 6.20 and 6.21 displayed apparent differences of the months of work and overall scores for students' old universities in China between the three groups. The interviewees who were satisfied with the supervision had longer work experience (Mean = 34.73 months) before they came to the UK than those who were not (Mean = 0.43). Those who were neither satisfied nor unsatisfied had ten months' average work experience. It may be that people with longer work experience were more likely to consider this issue from the supervisors' perspective and appreciate the effort their supervisor had made. Table 6.21 showed that those who were satisfied came from

'better' universities in general than the other two groups. This probably means that teachers in better universities tended to give students more appropriate help and guidance.

Table 6.19 Study 1: Age by satisfaction (Valid N = 28)

Satisfaction with supervision	Mean age of students	No. of students	Std. Deviation
neither	24.33	6	2.503
Yes	26.00	15	5.451
No	23.14	7	.690
Total	24.93	28	4.268

Table 6.20 Study 1: Length of work by satisfaction (Valid N = 28)

Satisfaction with supervision	Mean length of work (months)	No. of students	Std. Deviation
neither	10.00	6	24.495
Yes	34.73	15	61.433
No	.43	7	1.134
Total	20.86	28	48.059

Table 6.21 Study 1: Overall score for the university by satisfaction (Valid N = 27)

Satisfaction with supervision	Mean score for the university	No. of students	Std. Deviation
neither	10.3483	6	16.07612
Yes	19.8864	14	26.55547
No	2.9914	7	3.50443
Total	13.3867	27	21.42668

6.4 The interviews – students' experiences in the UK

6.4.1 Students' satisfaction with their writing in the UK (Question 1)

Most of the interviewees' answers to Question 1 (see Appendix 6) can be categorised into three groups: "quite satisfied" (8/28), "about average" (9/28), and "not very satisfied" (7/28). Only one interviewee reported that she was "very satisfied" with her performance with writing in the UK, and three interviewees did not show any obvious attitude towards this issue. However, 11 people claimed that they had made progress in academic writing while in the UK, albeit after a frustrating adaptation period at the beginning, as noted by Interviewee 17:

I think the writing experience in the UK is also a learning process. When we wrote the first essay, everyone was very nervous and some people even cried. I cried as well after I had finished the first essay. Because of the language barrier, we could not understand the literature completely, and it was even harder for us to write in our own words. But after I had finished my MA dissertation, I felt I had made great progress.

Not only did the students think their English had improved markedly, but 6/28 also thought their higher-order thinking skills and self confidence had improved, primarily because of there being a culture where evidence and logic were particularly stressed. For instance:

I feel more confident with my academic writing now. We were trained in structuring an argument, and critical thinking. That is, you need to think from different angles, and discuss and analyze in a logical way...
(Interviewee 06)

Five students felt satisfied with their academic writing because the marks for their essays were higher than what they had expected.

Of those who were less satisfied (16/28), ten mentioned the language barrier again, as Interviewee 08 complained:

The markers all pointed out in their comments that I should have had my essays proofread before I submitted them. Grammar is a big problem.

Other reasons which directly led to students' dissatisfaction with their performance were mentioned sporadically by one or two interviewees. For example, Interviewee 03 claimed that she had not achieved satisfactory marks because of personal qualities such as laziness. Interviewee 09 was not satisfied because she could not see the contribution of her work to her area and as a result felt depressed. Two interviewees felt particularly aggrieved about what they perceived as very low

marks for their essays which was primarily due to the different marking systems between the two countries. In China, 60% or above means a pass, while in UK institutions, students generally only need a mark between 35% and 40% to secure a pass.

Five interviewees showed their dissatisfaction with their learning experiences in the UK when answering Question 7. Three of these students were concerned about the markers' different standards in their departments, as they felt some markers tended to give high marks while others preferred lower ones. Interviewee 23 is a good example:

The marker did not give me a good mark for an assignment which I thought was quite good, but I obtained a high mark for an essay which I felt awful about. I do not know why this happened. But in China, I could always predict the results of my work.

Two interviewees reported that they were disappointed with the 'careless' feedback they had obtained from the markers. Interviewee 24 thought that the ratio between the academic staff and students in her department was too low, and this had led to insufficient attention by the staff to individual students. She reported that her course was a new one at the university, and probably the university had not expected so many students in the first year. In addition, she said that most of the students on the course were from Mainland China. Interestingly, while some students thought that they had benefited from the different academic culture in the UK, Interviewee 02 complained that she could not understand some aspects of it:

Here in the UK, students are not encouraged to express their own ideas in writing, whereas in China, because our major was management, we normally gave some suggestions at the end of a paper. In the UK, I always feel that I am reiterating other people's voices... Another difference is that in China, we are usually given a direction for assignments, while in the UK, we are often required to answer a question in an assignment.

6.4.2 Strengths and weaknesses of student writing in the UK (Question 2)

6.4.2.1 Teachers' perceptions of student writing

No one aspect of academic writing was highlighted by a majority of the 28 interviewees as being considered by the academic staff in their department to be a strength. Interestingly, seven people reported that they had obtained positive feedback on their argumentation from either supervisors or markers, and six had obtained positive feedback on the structure of their essays or dissertations. Clear presentation was claimed as one of their strengths by five interviewees, on the basis of the feedback from their teachers. In addition, four interviewees said that they had been praised because they had had a clear standpoint in writing.

Five people reported that the references had received a good grade on their feedback forms. Two interviewees said that most of the positive feedback had been given to the sections where they were discussing events or phenomena in China, or relevant to China, as Interviewee 04's comment illustrates:

They (the teachers in the UK) seem to be particularly interested in discussions about China, such as the problems with Chinese students, language teaching and learning in China, and cultural differences between the two countries.

Other aspects which were mentioned by only one interviewee as one of their strengths included: their empirical research skills, the control of word length, and the topic selection.

Moving from strengths to weaknesses, half of the interviewees (14 of the 28) claimed that language had been mentioned by their teachers as one of the major weaknesses in their writing, either affecting their writing style or the readability of their texts, as Interviewee 38 noted:

My supervisor did not have any problems with my argumentation in my most recent essays and the dissertation, but just with some grammatical errors. I think language is still a problem. What he understands is sometimes not what I mean. If he is not satisfied with a part of my dissertation, I have to explain again.

Although critical thinking was not a weakness mentioned by supervisors, the following aspects which are closely relevant to critical thinking *were* reported: logic (5/28), conclusion (3),

coherence (2), presentation (2), in-depth analysis (2), argumentation (2), thinking from different perspectives (2), literature review (1), creativity (1), and data analysis (1).

Two interviewees complained about the teachers' different marking standards which had made them confused about what their strengths and weaknesses were. Thus,

The first essay feedback said that my presentation was excellent, but the recent feedback claimed that it was poor. The content was not good at the beginning, but now it has become better. I got different comments for each essay, which made me very confused. (Interviewee 24)

Two students had been told that there were problems with the references in their writing. Interviewee 04 reported that she had borrowed ideas from the literature, but was told that she had not completely understood them. Interviewee 12 complained that she always obtained low grades on references on her feedback form. Unfortunately, she did not know the reasons for the low grades.

6.4.2.2 Students' perceptions of and concerns about their strengths and weaknesses

In comparison with other aspects which were mentioned by only one or two interviewees, structuring an argument or logical thinking, which were relevant to critical thinking, were claimed to be one of their strengths by 12 interviewees. As Interviewee 07 noted:

I think my argumentation is fine, as I pay a lot of attention to whether I have enough evidence to support the conclusion.

Five people pointed out that their performance had been greatly affected by the topic involved. For example, Interviewee 02 reported her different feelings towards two modules:

I have written essays for two modules, one compulsory and one optional. I felt confident about the essay for the optional module, as it related to the real life, but I was struggling with the compulsory one, because I had problems with understanding and writing about the theories written by those experts.

This kind of feeling was also reported by Interviewee 04, who claimed that she was more satisfied with the sections in which she could relate the theories to real life.

Interestingly, unlike many other students who had been struggling with academic English, two students mentioned language as one of their strengths, as they had not found it a barrier in writing.

With respect to their weaknesses or the aspects which they had been worried about, 12 interviewees reported that they were not confident with aspects of argumentation or critical thinking. The problems included a lack of argument depth, a lack of a personal viewpoint, difficulties in finding sufficient evidence, a lack of sceptical thinking, and a lack of knowledge about how to use the literature to support the conclusions. A good example of this came from Interviewee 32:

Honestly, my critical thinking is a bit weak. That is, to find appropriate evidence to support my conclusion. I read a lot of literature, but found it hard to use other people's points to support mine.

Interestingly, what the interviewees were worried about was not necessarily what their teachers considered to be weak. Both Interviewees 12 and 38 reported this phenomenon, for example:

Although the teachers think that my argumentation line is fine, I find that it is really hard and often takes me a long time to draft an outline. But once the outline is fixed, I feel that I have done half of the job. (Interviewee 12)

In addition to argumentation and critical thinking, another aspect which was stressed in particular by nine interviewees was again the language:

I often need to read a concept or theory several times before I can understand it. I find it very, very difficult to tell the small differences between certain words. (Interviewee 23)

Three interviewees explicitly claimed that they had been worried about whether they had understood the theories, as this would affect their argumentation and conclusions. Two aspects which were mentioned by two interviewees were time management and literature sources. In addition, two interviewees had been worried that they would not be able to write enough words to meet the length requirement, because plagiarism had been strictly forbidden in the UK. In contrast

to the widespread incidence of plagiarism in China, as discussed in Section 6.3.3, only Interviewee 37 pointed out that she was a bit worried about plagiarism because she sometimes could not paraphrase properly. The sharp difference between the students' behaviours in the two countries implies that students can avoid misconduct as long as appropriate measures have been taken.

Interviewee 06 pointed out that what he had worried about at the beginning was different from what he worried about after nine months of study in the UK. At the beginning, he was more worried about the language, but after several months, he began to worry about the content. The shift of attention could be possibly due to the improvement in his language proficiency or to the student's efforts to meet the requirements of his department.

6.4.2.3 Strategies adopted to overcome problems

Learning through reading was the most frequently mentioned (7/28) strategy which the interviewees used to overcome the problems that arose. For example:

When I first came here, I did not know where to start with writing. Now, I know I can read some articles from the online database to see what academic writing is like.
(Interviewee 03)

Five interviewees chose to seek help from their tutors when they had problems, especially the problem with understanding theories, as described by Interviewee 02:

The most scaring thing is misunderstanding the theories. That means whatever you write about that theory is useless. I think it is best to communicate with the tutors before I begin to write.

Another reason for choosing the tutors rather than one's fellow peer students was that the interviewees considered the tutors to be more knowledgeable, and therefore, more trustworthy, as noted by Interviewee 06:

Normally, I do not talk to my classmates when I have problems, because I think it is more efficient to talk to the tutors, and I do not know if my classmates are correct or not.

However, five students did choose to discuss things with their classmates when they had problems with writing, especially if they could not obtain help from the tutors, as Interviewee 24 noted:

I think my classmates are quite helpful. Sometimes their suggestions can solve big problems. I even think they are much more helpful than the tutors.

Interviewee 07 explained that one reason for the popularity of the communication among classmates was the convenience of the internal phone lines, which were free to students.

Three students stressed practice as a way of solving problems, especially the language problem. Interviewee 09 reported that she had tried to cope with the issue of insufficient evidence by repeatedly revising the essay on her own. Interviewee 30's strategy was to have a break when she could not continue her writing, and sometimes it worked, because she was able to think from a new perspective after that.

6.4.3 Differences between writing in the UK and in China (Question 3)

Most of the interviewees (26 of the 28) thought that their writing in the UK *was* significantly different from that in China. Their general impression was that the degree to which writing was emphasised in the two countries was markedly different. Eight people explicitly expressed this feeling that writing assignments were seen as equally important as exams in the UK, whereas in China much more emphasis was put on the exams. In particular, interviewees described the differences in the following four main aspects of writing between the two countries, which were primarily based on their learning experiences.

Firstly, the regulations on referencing were very different in the two countries. 15 of the 28 interviewees reported that in the UK they had been trained in referencing and warned about plagiarism, while in China, plagiarism was still prevalent among undergraduates, as also discussed in Section 6.3.3. A typical comment came from Interviewee 07:

Here in the UK, you have to point out the sources of the literature you cite in your writing, even though you are retelling others' ideas in your own words. But

in China, the situation is not very strict, because many students would take it for granted that an idea is ‘mine’ after paraphrasing it. This is a big difference.

This difference had directly led to a change in students’ attitudes towards writing after they came to the UK. The main change was that they began to write on their own, instead of copying from other sources such as the Internet, as Interviewee 35 described:

Before I came to the UK, I did not think it was necessary to turn every word into mine. It was fine as long as I proved that I had done some reading. But now, I have to write all the 5000 words on my own. It is very scaring.

Although it might be frustrating at the beginning, the interviewees reported that they had benefited from independent thinking and writing, for instance:

It was our habit to copy texts in China. I was very nervous when I wrote the first essay in the UK. But after I had finished writing, I felt very good as I had learned a lot through writing. When I started the second essay, I did not want to copy any more. (Interviewee 09)

The different regulations on referencing also changed students writing styles. Four interviewees claimed that in China students wrote in a very similar mode, for example, giving similar conclusions and similar evidence, while in the UK this was not the case.

Two interviewees also mentioned the reasons for the prevalence of plagiarism among students in China. Interviewee 15 argued that most of the teachers in China were unable to spot plagiarism in student writing because of a lack of subject knowledge, but the teachers in the UK could easily tell which were students’ own words and which were not, as they had read widely in their own areas. Interviewee 35 pointed out, in mitigation, that it was very difficult for Chinese teachers to read each assignment carefully, as they had hundreds of students.

Secondly, the interviewees reported that argumentation in the UK was qualitatively different from that in China. Ten people declared that they were required to provide reliable evidence whenever they made an assertion in the UK, whereas in China this was not emphasised. Eight students claimed that a literature review was particularly stressed in the UK as a key source of evidence for claims made later. They pointed out that the teachers in the UK were concerned about what books or articles had been read, whether students had understood the main points in the literature, and how students used the literature in their argumentation. As a result, the students

had to read a great deal in order to write an essay. In contrast, because most of the exams in China were designed based on the knowledge learned in class, teachers were more concerned about how much knowledge students had mastered through the lecturing, they said, rather than through students' own reading after class. Unlike in the UK, teachers in China did not normally suggest a reading list. This kind of academic culture did not encourage the development of good reading habits in students. In terms of literature sources, five interviewees stressed that the reliability of the literature was very important in the UK, whereas in China, nobody seemed to care about what sources the literature came from, and hence the Internet was very popular, as it was quick and easily available.

Five interviewees reported that undergraduate students did not have an opportunity to do empirical research in China, while in the UK they were encouraged to do so, to provide evidence for their conclusions.

Eight students also pointed out that logic and critical thinking were more strongly emphasised in the UK than in China. An interesting comment to this effect came from Interviewee 12:

In the UK, you need to know what question you want to solve and what your points are. In addition, you need to know what work has been done in the past by doing a literature review. Do you agree or disagree with the previous writers? Why do you agree or disagree? I think the logic should be very clear here. However, in China, the logic in articles is not very clear. Last week, I was trying to find some material on the Internet about the management system at Macdonald's. I did find many articles in Chinese in which a reform was suggested for the management system, but unfortunately, none of them explained why or how to reform. I was so frustrated.

Another difference in argumentation concerned the approaches taken. Three interviewees mentioned that problem-solving was more stressed in writing in the UK. The teachers in the UK often gave students some questions as the titles for assignments, whereas in China, teachers only gave a topic or a general area.

Thirdly, there were marked differences when it came to languages use in the two countries. Interviewees 25 and 27, for example, who had used Chinese when writing in China found it hard to write in English in the UK. Apart from any problems relating to a lack of language proficiency, they found a difference between the rhetorical patterns in the two languages. For instance, both of

them pointed out that in China, people like to introduce a great deal of the background of a study before they tell the readers the exact issues which they will attempt to explore, while in the UK, they were often required to point out the research questions right at the beginning of the essay, as Interviewee 25 described:

I need to change my thinking mode, because I always think in the Chinese style. That is, I do not come to the main points directly. There are a lot of redundant words, particularly adjectives to describe a situation, before my main points.

The English-major students also found that their English writing styles were different in the UK from those in China. For instance, Interviewee 28 reported that his English teachers in China encouraged students to use difficult words and complicated long sentences, while in the UK, teachers seemed to prefer shorter and more direct expressions. This was probably due to the different focuses of the teachers. For instance, Interviewees 08 and 30 claimed that their teachers in China focused more on language use when writing in English, while the subject teachers in the UK focused more on the content. Another difference in English writing between the two countries was reported by Interviewee 04, that in the UK the words such as 'I' and 'we' were not encouraged because they indicated a subjective stance, while in China, this had not been particularly addressed.

Lastly, two interviewees reported a difference between their teachers in the two countries. They both claimed that their teachers in the UK were 'more responsible' than those in China:

I've got a feeling that teachers here are more responsible, especially old professors. They take your assignments seriously and give detailed comments. They would be very happy if you made progress. There were writing assignments left after class in China as well, but nobody had forced you to hand them in. But the teachers would be angry if you did not submit assignments in the UK... (Interviewee 10)

However, other interviewees had different responses. Interviewees 26 and 33 did not find there was a big difference between their writing experiences in the two countries. Interviewees 09 and 35 pointed out that it was possible that Masters students were quite different from Bachelors students, and therefore it did not make sense to compare their learning experiences as undergraduates in China to their experiences as Masters students here in the UK. Interviewee 09,

who had a Masters degree in China before she came to the UK, indeed reported that her writing experience as a Masters student was quite similar to that in the UK. For example, the problem of plagiarism had been stressed at her old university in China, and students had to pay attention to the argument, as they were required to publish one or two papers in high status domestic journals before they obtained their Masters degrees.

6.4.4 English teachers' approaches to critical thinking (Question 4)

15 interviewees explicitly reported that their teachers in the UK had mentioned or stressed the word 'critical' in class, tutorial meetings, or assignments. Eight students claimed that their UK teachers had scarcely or never mentioned the word 'critical', but aspects of critical thinking were reflected in everyday teaching and learning activities, and therefore they might have learned critical thinking unconsciously, as Interviewee 15 noted:

I cannot remember my supervisor saying this word, but after I started my PhD, I found that my thinking style had changed... I do not simply accept an idea. I want to analyze it and evaluate it... I have become more objective now.

Five students declared that their teachers had not mentioned the word 'critical' and they had not noticed any improvement in critical thinking since they had been in the UK.

However, as far as the teaching of critical thinking was concerned, only Interviewee 35 reported that she had actually been taught explicitly how to think critically in writing, and 13 interviewees expressed disappointment that there was no formal training in critical thinking, as many of them had no idea what the concept meant. For instance:

I never wrote anything which required critical thinking or critical analysis in China, and therefore I did not know what the word 'critical' meant at the beginning. It was my English classmate who showed me his writing and then I discovered what critical analysis was. (Interviewee 34)

6.4.5 Students' (self-reported) understanding of critical thinking (Question 5)

Without being informed of the definition of critical thinking, the interviewees were asked whether they had established an understanding of the concept. Except for four students who did not express an opinion on the issue, and one interviewee (04) who clearly said that she had not formulated an idea about the concept, the others voiced a range of different views. Eight people reported that being critical in writing meant that the writers had their own voices or viewpoints, rather than simply repeating other people's ideas. Viewing an issue from different perspectives or being open-minded was also considered by eight interviewees as one of the key elements of critical thinking, as Interviewee 12 stated:

The teachers in the UK normally introduce various schools of thought about an issue. They do not force you to agree with any one of them... There are no absolutely correct or wrong answers. But in Chinese textbooks, there is normally only one correct answer to a question and the teachers do not introduce other possible answers.

Seven interviewees pointed out that taking into account both strengths and weaknesses of any single solution or idea was crucial to a critical thinker. Using appropriate evidence and evaluating other people's points were mentioned respectively by six interviewees as one of the important aspects of critical thinking. Being analytic rather than simply descriptive was considered by four interviewees to be a key aspect of critical thinking. Other aspects which were mentioned by two or three interviewees included: recommending future development, being objective, being sceptical, looking for mistakes in other people's arguments, and logical argumentation.

A comparison of these findings with the working definition of critical thinking (see Section 4.8 or Appendix 7) in this study shows that several of the above aspects can be found (or are quite similar to points) in the definition. For example, being open-minded is similar to the eighth point, 'to formulate multiple alternatives for resolving a problem'. And the fifth point, 'to evaluate evidence', was raised by six of the interviewees.

One interesting point was reported by Interviewee 30 that it was hard for her to be critical about the published work in her area:

I am easily persuaded by the writer... I have something like a psychological barrier when I read published work, because the writers are all experienced researchers who have been doing research in their areas for many years, and I am just a novice researcher.

6.4.6 English teachers' approaches to the critical thinking skills on the list (Question 6)

Students were asked whether their tutors and supervisors in the UK had stressed the CT skills on the list shown (see Appendix 7), and in what ways they had stressed the skills. Six interviewees reported that all the skills had been mentioned or stressed by their teachers in the UK, but they did not explain how each individual skill had been focused on. 22 of the interviewees, however, explained what skills were and were not stressed in the UK. The following are the results in order of the degree of agreement among the interviewees.

12 of the 22 students pointed out that the fifth skill on the list, "to evaluate evidence (or authority)", had been explicitly stressed by their UK teachers. For instance, Interviewee 19 claimed that one of the primary objectives of her current course was indeed to help students evaluate evidence in research studies, and she was particularly interested in seeking limitations in research methods. Interviewees 06 and 21 reported, however, that they considered this point important because their teachers always required them to provide sufficient evidence for their assertions in writing.

Skills 1 (to identify key issues in a text), 6 (to draw conclusions), 7 (to recognise a problem or formulate a research question), and 10 (to reflect on one's own reasoning) were respectively reported by nine interviewees as the points their UK teachers had mentioned or stressed.

Eight interviewees deemed that their teachers had emphasised Skill 3 (to recognise important relationships between points and between texts), as Interviewee 32 explained:

Because there is a lack of relationship between the points in my writing, my supervisor is sometimes not very happy.

Seven students reported that Skill 9 (to explain clearly the basis for one's comments and the results of one's study) had also been emphasised by teachers in the UK. The comparatively less emphasised skills were Skills 2 (to identify hidden assumptions made by a writer) and 4 (to draw

inferences from texts), which were mentioned by just five interviewees, and Skill 8 (to formulate multiple alternatives for resolving a problem) which was only mentioned by two interviewees.

In terms of the ways in which these skills were emphasised, nine interviewees reported that their subject teachers had mentioned these points either in class or in tutorial meetings. Eight students said that some of the skills had been discussed and stressed in their language support classes. Four students thought that these skills had not been explicitly stressed, but could be reflected indirectly from various aspects of learning and teaching activities. In addition, these skills had been discussed or emphasised in classroom presentations and discussions, in guidelines about academic writing, in assignment feedback, in research methods classes, and on departmental homepages.

However, six students pointed out that there was a lack of systematic training in these skills, as some of them had been mentioned only very occasionally. Interviewee 33 even reported that these skills had not been particularly emphasised in their department, as they were considered by the teachers to be prerequisite skills for a Masters student, and her British classmates all seemed to know already what the skills involved. Disciplinary differences might play a role as well, because two economics students claimed that in their department, they were actually encouraged to make all relevant assumptions explicit, but this could also be the students' misunderstanding of the word 'assumptions', as assumptions by definition cannot be made completely explicit. It is possible that they confused the meaning of the word 'assumptions' with the word 'conditions'.

6.4.7 Students' satisfaction with their critical thinking skills (Question 7)

In answer to this question, nobody claimed that they had definitely used all the skills on the list, and neither had they used none of the skills. However, seven students reported that these skills were all necessary for academic writing, as Interviewee 06 noted:

I definitely think these skills are necessary when you are doing a literature review or constructing an argument. They are fundamental elements of a dissertation and the whole writing process.

13 interviewees considered that they had used some or even all of the skills unconsciously. For instance,

I did not realise I had used them before, as I did not know they were critical thinking skills. It is something very natural. For example, when I write an essay or dissertation, I have to find evidence to support my points. (Interviewee 08)

6.4.8 Critical thinking skills used or not used (Question 8)

Unexpectedly, Question 14 did not appear to work effectively; interviewees' answers to this question were sometimes ambiguous and it was difficult to judge whether they had truly used the skill or not, or to what extent they had used it. For instance, Interviewees 08, 26, and 37 all claimed that they had "more or less" (in Pinyin: *duoduoshashaoshao*) used all the skills. However, the phrase "more or less" could not tell to what extent they had used each skill. Although Interviewee 33 only mentioned some of the skills when answering this question, it seemed that all the other skills had been used, according to her answers to other questions. In contrast, as Interviewee 34 did not mention certain skills, it was possible that she had not used them at all. Therefore, in order to avoid ambiguity, I shall focus on the skills which were explicitly mentioned or discussed by the interviewees. The results will be reported in order of the skills on the list.

13 interviewees clearly declared that they had used Skill 1 on the list, "to identify key issues in a text", while the other 15 students did not report whether they had used it or not. Surprisingly, nobody claimed that they had not used the skill.

For Skill 2, "to identify hidden assumptions made by a writer", four interviewees claimed they had used it, but six reported that they had not used it as much as they were supposed to, as Interviewee 06 explained:

It is quite hard to define what hidden assumptions are. Generally, I would not bother to think about this issue, probably because I do not think I have enough evidence ...

Another reason for not using this skill came from Interviewee 28 who claimed that he had not realised there was a need to do so. Interviewee 35 explained that the reason that she had not used

this skill very much was because she just did extensive rather than intensive reading, due to a lack of time. Therefore, she only had time to find out what the writer was talking about and what the results and conclusion were. Hidden assumptions were often ignored in her reading.

Three interviewees reported that they did not know how to use this skill very well, and three other interviewees admitted ‘up front’ that they did not understand the phrase ‘hidden assumptions’.

Eight interviewees reported that they had utilized Skill 3, “to recognise important relationships between points and between texts”, in reading. However, two interviewees claimed that it was difficult for them to find out the relationships between points in reading, and three students said that they did not understand why one might need the skill. Interestingly, Interviewee 02 held a different view from the others:

I sometimes feel that the logic in the articles here is not as clear as that in China, probably because I am familiar with and used to the writing styles in Chinese. I feel that there is always a clear relationship between points and texts in Chinese articles, but here in the UK, the writer sometimes turns to a new point which, to me, is not very relevant to the preceding one.

With respect to Skill 4, “to draw inferences”, only four interviewees admitted that they had used it, while five students reported that they had not used it frequently, and three students claimed that they had never heard about the skill before.

Students’ reports of their experiences with Skill 5, “to evaluate evidence”, were interesting, as 13 interviewees said that they had used this skill in either reading or writing, but three of them and eight other students claimed that they had no intention of challenging authorities. As Interviewee 21 said:

It is a key skill in reading, but I think it depends on students’ capacities. For those very authoritative things, it is very hard for students to challenge them. ... When we are reading, we are more likely to accept the views of the writers...

As regards Skill 6, “to draw conclusions”, 11 students claimed that it played an important role in academic writing, and therefore they had paid much attention to it. However, two other students reported that they had particular difficulties in drawing conclusions. For instance:

I am always unsure which are other people's ideas and which are my own conclusions. And I always feel that my conclusions are not very insightful, therefore my conclusion section is very short. (Interviewee 32)

12 students reported that Skill 7, "to recognise a problem or formulate a research question", was a very important aspect of academic writing, but two said that they had not paid much attention to it, because normally the topics were given in advance for a writing assignment. Two other students had found it hard to formulate a research question for their dissertations: Interviewee 18 thought so because he was always unsure where to start; while Interviewee 07 was worried that a focused topic would make it hard for her to meet the word length requirement:

My supervisor always thinks that my topic is too broad, but I think it is too focused and specific. If he still insists that I need to be focused on a smaller issue, I am afraid I cannot write enough words.

Ten interviewees claimed that they had considered multiple alternatives when solving a problem (Skill 8), but four interviewees declared that they had never heard about this skill before.

Nine students were confident with their ability to explain things (Skill 9), while only two students claimed that they had difficulties with explanations or presentations, as sometimes they did not know how to report their findings in the dissertation.

Eight interviewees had paid particular attention to Skill 10 and could reflect on what they had written. They reported that they could recognise some limitations in their writing and point out future research directions. However, five people declared that they seldom thought the argumentation over again after they had finished writing. Interviewee 19 explained why she had failed to do so:

I think about the logic carefully when I am writing. I often go back to the sections I have written and do some revisions if I find something wrong. Hence, after I have finished, I feel that I do not even want to look at it again.

Four students deemed that it was very difficult to recognise one's own weaknesses or biases in argumentation. Interviewee 18 even claimed that it was harder than detecting weaknesses in other people's writing.

The above findings showed that the interviewees seemed to be more confident with their uses of Skills 1, 5, 6 and 7, than with Skills 2 and 4. A comparison of this finding with the response to Question 13 in the questionnaire showed that the skills with which students were satisfied were exactly the ones that their teachers had emphasised. This suggests fairly strongly that training had in fact played an important role in the students' skill development. Indeed, in answer to the question of why they had not used some of the skills, four interviewees reported that there was a lack of systematic training in these skills. Other reasons reported by the interviewees included: language problems, a lack of subject knowledge, cultural differences, insufficient time, their own laziness, different rhetorical patterns between English and Chinese, and a lack of awareness.

6.4.9 Conclusions and implications

The interviewees' overall impression of their own performance with writing in the UK varied. Some of them were satisfied, primarily because they had made considerable progress in English, in higher-order thinking skills, such as critical, argumentative and creative thinking, and in self-confidence, while those who were not very satisfied said it was mainly because of the language barrier, low exam marks, insufficient attention from the academic staff, and/or personal reasons. It was not possible to isolate a set of factors that tutors had seen as strengths applying to most or all of the participants, even though argumentation, structure, presentation, standpoints, referencing, and the content relating to China had been appreciated by tutors as strengths of some of the interviewees. However, language was considered by their teachers to be the weakest aspect of all writing, in comparison with aspects of argumentation. Interestingly, logic or argumentation was considered by an equal number of the students to be either a strength or a weakness, while only about one-third of the students were worried about their language. In order to deal with the difficulties they encountered, they either read broadly, sought help from their tutors or classmates, or kept on practicing.

The findings showed that there were significant differences between writing in China and writing in the UK. The emphasis put on writing in teaching and learning in the UK was much greater than that in China, and clear regulations on referencing and plagiarism had largely affected

students' attitudes to, and effort put into, writing in the UK. In addition, the students felt a strong need to provide reliable evidence in writing and read widely in the UK, whereas in China, the fact-oriented exams were still the main form of assessment. These findings indicated that students' learning experiences in China may not have prepared them for advanced study in the UK. This raises more questions which are worth further exploration: for example, what the main teaching and learning practices are at undergraduate level in China, what kinds of writing are emphasised at undergraduate level in China, and to go further into the issue of critical thinking, how well students apply CT skills to writing in China.

Another difference was that teachers in China tended to give only a direction or an area, while teachers in the UK normally gave specific questions when assigning essays. Moreover, in comparison with Chinese teachers, English teachers were perceived by two students to be more responsible and more capable of detecting plagiarism in student writing, partly due to the fact that Chinese teachers had more students. What is needed to complement these comments is some evidence of the views of Chinese teachers on students' performance with academic writing and critical thinking, and the current popular teaching and learning practices at undergraduate level. However, despite all these differences, the interviewees also raised the issue of the comparability of the two phases of education. That is, the experiences of first degrees in China might not be comparable with the experiences of second degrees in the UK.

Although the interviewees reported that there was no formal training in critical thinking at the UK university, the academic staff had mentioned some CT skills explicitly or implicitly in teaching, and students' understanding of CT reflected quite a few points on the list of the CT skills (see Appendix 7). However, the students reported a reluctance to criticise experts and an expectation of having systematic training in CT. There were also disciplinary differences, for example, in Economics, there was a much greater expectation that assumptions would be made explicit.

Generally, the interviewees thought that the CT skills on the list were important and necessary for their study in the UK, and they had used some or all the skills unconsciously. Nevertheless, they were more confident with Skills 1, 5, 6 and 7, than Skills 2 and 4. The main reasons for not using the skills in writing included a lack of training, the language barrier, a lack of subject knowledge, cultural differences, insufficient time, and personal reasons such as laziness.

Chapter 7

Study 2 Methodology

7.1 Aim and research questions

Several interesting findings and issues from the questionnaire survey (see Section 6.2.3) and the interviews in Study 1 (see Sections 6.3 and 6.4) are worthy of further exploration. One finding was that most of the Chinese postgraduate students studying at the UK university had little or no work experience. This means that most of the students could not rely on the skills or abilities acquired at work, but only those they developed at school or university. Therefore, what students experience, and what they learn from the training received, especially at undergraduate level, are crucial to their performance in advanced study in the UK. Another finding was that the social science and language students had not done much empirical work for their writing at undergraduate level. Furthermore, the interviews (see Section 6.4.3) showed that the writing experiences at undergraduate level in China were significantly different from those in the UK. For example, academic writing was emphasised more at the UK university than at the interviewees' old universities in China, and regulations on referencing and argumentation style were markedly different as well. In addition, the students felt a strong need to argue with evidence and read widely in the UK, whereas in China, fact-oriented exams were still the main form of assessment. These findings raised the question of what the focus of the training is at undergraduate level in China, what kinds of writing are emphasised at undergraduate level in China, and emphasised the need to go further into the issue of critical thinking, and to look at how well Chinese students apply CT skills to writing.

The interviews (see Section 6.4.9) also showed that teachers in the UK were perceived by a small proportion of students as being more “responsible” than their counterparts in China. Hence, the teachers' views on the current state of teaching and learning activities and particularly about writing, at undergraduate level in China, which were not discussed in Study 1, needed to be further investigated.

Further, the questionnaire survey demonstrated that marked differences existed between English-major students and social science students: English-major students wrote notably less, both for the final dissertation and for essays at undergraduate level (see Section 6.2.3). This finding raised another issue: what factors lie behind the differences between English-major students and other social science students in academic writing.

All these findings indicated that it was necessary to investigate in some depth the training Chinese students receive at undergraduate level concerning argumentation and critical thinking in writing. Specifically, according to the findings from the first stage, the following questions were considered to be worth further research:

- RQ5 What kinds of writing are emphasised at undergraduate level in China?
- RQ6 How well do Chinese students apply CT skills to writing for their first degrees?
- RQ7 What do Chinese teachers think about students' performance in academic writing and critical thinking?
- RQ8 What is the focus of the training at undergraduate level in China?
- RQ9 How do the current teaching and learning practices affect students' use of CT skills?
- RQ10 What factors lie behind the differences between English-major students and other social science students in academic writing?

7.2 The use of a case study

7.2.1 Definition

The literature shows that there is no one agreed definition of a case study (Drever, 1995; Bassey, 1999; Yin, 2003; Berg, 2004; Stark and Torrance, 2004; Denscombe, 2007). The aim of this brief review, however, is to elicit the key elements of case study as reflected in the existing literature.

According to Berg (2004),

case study methods involve systematically gathering enough information about a particular person, social setting, event, or group to permit the researcher to

effectively understand how the subject operates or functions. The case study is not actually a data gathering technique but a methodological approach that incorporates a number of data-gathering measures...(p. 251)

The key elements addressed in this definition seem to be: 1) an appropriate amount of information or data; 2) a single case; and 3) multiple data-gathering measures.

Yin (2003) tried to provide a technical definition of a case study by starting from its scope:

1. *A case study is an empirical inquiry that*
 - Investigates a contemporary phenomenon within its real-life context, especially when
 - The boundaries between phenomenon and context are not clearly evident.

And since in real social research, “the case” is not always distinguishable from its context, he further explains that:

2. *The case study inquiry*
 - Copes with the technically distinctive situation in which there will be many more variables of interest than data points, and as one result
 - Relies on multiple sources of evidence, with data needing to converge in a triangulating fashion, and as another result
 - Benefits from the prior development of theoretical propositions to guide data collection and analysis. (p. 13)

A comparison of Yin’s (2003) definition with Berg’s (2004) shows that, in addition to the elements or characteristics addressed by Berg, Yin (2003) seemed to be specifically concerned about the contemporary nature of the phenomenon, and its real-life context. In addition, he emphasised the boundaries of “the case”, the triangulating function of diverse evidence, and the need for case studies to be theory driven.

Another definition was provided by Denscombe (2007), who suggested that

case studies focus on one (or just a few) instances of a particular phenomenon with a view to providing an in-depth account of events, relationships, experiments or processes occurring in that particular instance. (p.35)

He gave five characteristics of case studies which differentiate them from other research approaches such as survey research:

1. Spotlight on one instance
2. In-depth study
3. Focus on relationships and processes
4. Natural setting
5. Multiple sources and multiple methods (p. 37)

It is clear that Denscombe (2007) agreed with Yin (2003) and Berg (2004) on the single case, multiple sources of data, and a natural setting (Yin's "real-life context"), but he introduced two more features, depth and a focus on relationships and processes. Drever (1995), who emphasised this too, suggested that the aim of case studies is not to "cover a whole population and extract common factors", rather, they are used to "provide an in-depth picture" (p. 7).

7.2.2 When is a case study appropriate?

The literature indicates that case studies are preferred when complex phenomena in real-life situations are involved, an in-depth understanding of the phenomena is required, and the investigator has little control over the event (see Yin, 2003; Stark and Torrance, 2004; Denscombe, 2007). However, Yin (2003) and Denscombe (2007) seem to have disagreed on what questions are best tackled by case studies. Yin (2003) argued that case studies are good for dealing with "how" and "why" questions, but emphasised the value of being theory-driven when it comes to generalisation:

The short answer is that case studies, like experiments, are generalisable to theoretical propositions and not to populations or universes. In this sense, the case study, like the experiment, does not represent a "sample," and in doing a case study, your goal will be to expand and generalise theories (analytic generalisation) and not to enumerate frequencies (statistical generalisation). (p. 10)

In contrast, Denscombe (2007) noted that case studies are more commonly used to discover information, using inductive logic, but are less frequently used to test theories using deductive logic.

Bassey (1999) discussed other situations in which case studies can be used, for example the

concepts of an “intrinsic case study” and “instrumental case study” introduced by Stake (1995, cited in Bassey, 1999: 29):

By intrinsic case study he referred to research into a particular situation for its own sake and irrespective of outside concerns... By instrumental case study, on the other hand, he referred to research into one or more particular situations in order to try to understand an outside concern.

7.2.3 Advantages

The nature of case studies means they have particular advantages which might not be achievable using other research strategies. For instance, case studies can look at the “subtleties and intricacies of complex social situations”, which are often neglected in survey research (Denscombe, 2007: 45). In addition, case studies can focus on only one instance or situation, and this makes them suitable for small-scale social research, where one can validate data by using evidence from multiple sources (Stark and Torrance, 2004; Denscombe, 2007). Moreover, case studies do not require one to have control over an event (Yin, 2003; Denscombe, 2007). Finally, case studies can be used to describe, explore, or explain an issue, and can be used to either build theories or test theories (Yin, 2003; Berg, 2004; Denscombe, 2007).

7.2.4 Criticisms

Case studies as a research strategy have been criticised for their low degree of generalisability, lack of rigour, ill-defined boundaries of the case in question, and other technical issues.

Case studies have been criticised for providing little basis for generalisation (Yin, 2003; Berg, 2004; Stark and Torrance, 2004; Denscombe, 2007). Yin (2003) argued that people make this claim mainly because case studies focus on only one case or a few cases and the results cannot be expanded on a larger scale. He suggested that the solution to this problem is to borrow ideas from experimental studies, which are normally theory-driven and focus on “analytic generalisation”, rather than “statistical generalisation” as in large-scale surveys.

Another major concern about the use of case studies in research is their “lack of rigor” (Yin, 2003: 10), or a lack of objectivity (Berg, 2004). The reason for the criticism, according to Yin, is that, unlike with other research approaches, such as surveys and experiments, there are not agreed systematic procedures which can be followed in case studies, and therefore there is a lack of criteria for judging the quality of the data. In addition, case studies have been blamed for biased and ambiguous evidence (Yin, 2003). Moreover, the data in case studies have been criticised for being “soft”, because case studies often rely on a qualitative interpretation of the process rather than on an analytical evaluation of the end results, as in experiments or surveys (Denscombe, 2007).

A third concern relates to the fact that the boundaries of the case in question are often unclear. It is often difficult for the researcher to decide on what to include and what not, due to the complex nature of social research (Stark and Torrance, 2004; Denscombe, 2007).

Finally, there are technical issues. For example, Denscombe (2007) noted that obtaining access to the research site is not always easy, and numerous ethical issues have to be considered. In addition, the observer effect needs to be considered, as people being observed may behave differently due to the presence of the observer (Denscombe, 2007). Lastly, case studies have been criticised for being time-consuming, but this need not be the case if efficient research techniques are adopted and participant observation is avoided (Yin, 2003).

7.2.5 Trustworthiness in case study research

Even a cursory review of the literature shows that the conventional evaluation concepts of validity and reliability in surveys and experiments are often considered inappropriate for qualitative research methods, such as case studies (Guba and Lincoln, 1989; Bassey, 1999; Seale, 1999). Guba and Lincoln (1989) argued that the conventional criteria for judging the quality of survey and experiment research, such as internal validity, external validity, reliability, and objectivity, are problematic for qualitative research:

It is clear that internal validity, which is nothing more than an assessment of the degree of isomorphism between a study’s findings and the “real” world, cannot

have meaning as a criterion in a paradigm that rejects a realist ontology... External validity, a concept that embodies the very essence of generalisability, likewise can have little meaning if the “realities” to which one might wish to generalise exist in different forms in different minds, depending on different encountered circumstances and history, based on different experiences, interpreted within different value systems. Reliability is essentially an assessment of stability – of the phenomena being assessed and of the instruments used to assess them. Ordinarily it is assumed that phenomena are unchanging (at least in the short haul), so that any instrument that assesses them ought, on replicated readings, to provide essentially the same assessment (otherwise it is judged unreliable). But if the phenomenon can also change – and change is central to the growth and refinement of constructions – then reliability is useless as a goodness criterion. (p. 236.)

Instead, they suggested a set of parallel criteria and a series of strategies to build the “trustworthiness” of qualitative research. To replace the four conventional criteria, they suggested four parallel criteria: *credibility*, *transferability*, *dependability*, and *confirmability*. According to Guba and Lincoln (1989: 237), the focus of credibility is to establish a “match between the constructed realities of respondents (or stakeholders) and those realities as represented by the evaluator and attributed to various stakeholders”. It is important to clarify that what Guba and Lincoln meant by the “evaluator” here is the researcher, rather than the readers. The strategies which can be used to increase the degree of this isomorphism are: 1) “prolonged engagement”; 2) “persistent observation”; 3) “peer debriefing”; 4) “negative case analysis”: “developing and refining a given hypothesis (or set of them) until it accounts for all known cases”; 5) “progressive subjectivity: the progress of monitoring the evaluator’s (or inquirer’s) own developing construction”; and 6) “member checks”: checking the data with respondents (Guba and Lincoln, 1989: 237).

By *transferability*, Guba and Lincoln (1989) meant “the degree of similarity between sending and receiving context” (p. 241). They suggested that in naturalistic research, it is the reader’s responsibility to compare the context in which the study is conducted (the sending context) with their own context (the receiving context), while conventional generalisability implies that the inquirer takes the responsibility for making sure that their findings are generalisable to a broader population. They then argued that unlike generalisability in positivist approaches which is considered absolute, this transferability is always relative. In order to help readers to judge the degree of transferability, they suggested that a “thick description” of the context is needed in

naturalistic studies.

By *dependability*, Guba and Lincoln (1989) meant “the stability of the data over time” (p. 242). However, unlike conventional inquiry in which any changes in the research methods would lead to a suspicion of the unreliability of the study, naturalistic studies would see the changes as “expected products of an emergent design dedicated to increasingly sophisticated constructions” (p. 242). They argued that these changes are not dangerous, but the “hallmarks of a maturing – and successful – inquiry” (p. 242). However, these changes need to be “both tracked and trackable”, and thus a “dependability audit” is required (Guba and Lincoln, 1989: 242).

The *confirmability* suggested by Guba and Lincoln (1989) is parallel to conventional *objectivity*. It deals with the issue of investigator biases, in the sense that the data, analysis, and findings should only reflect the context and people, without the influence of the investigator. Unlike the conventional paradigm which assumes that the investigator could avoid biases by using appropriate methods, the constructivist approach emphasises the data. That is, “the data (constructions, assertions, facts, and so on) can be tracked to their sources” (p. 243). In order to achieve this, they proposed a confirmability audit, which means that the “raw data” and the process of data analysis can “be inspected and confirmed by outside reviewers” (Guba and Lincoln, 1989: 243).

Guba and Lincoln’s (1989) suggestion of the “trustworthiness” of naturalistic studies was strongly supported by Seale (1999) who argued that although traditional methodological criteria could help qualitative researchers develop “methodological awareness”, the parallel criteria suggested by Guba and Lincoln are more practical to researchers. Bassey (1999) also agreed with Guba and Lincoln on their rejection of the concepts of reliability and validity for case studies. On the basis of Guba and Lincoln’s theory, Bassey (1999) developed eight questions at four research stages of a case study, which can help researchers to establish the “trustworthiness” of the studies at each stage; these are reproduced in Figure 7.1. Since they are fairly practical and answerable, I will use them in Study 2.

Figure 7.1 Bassey's questions for building trustworthiness

At the third stage: collection of raw data

- 1 Has there been prolonged engagement with data sources?
- 2 Has there been persistent observation of emerging issues?
- 3 Have raw data been adequately checked with their sources?

At the fourth stage: analysis of raw data

- 4 Has there been sufficient triangulation of raw data leading to analytical statements?

At the fifth stage: interpretation of analytical statements

- 5 Has the working hypothesis, or evaluation, or emerging story been systematically tested against the analytical statements?
- 6 Has a critical friend thoroughly tried to challenge the findings?

At the sixth and seventh stages: reporting of the research

- 7 Is the account of the research sufficiently detailed to give the reader confidence in the findings?
- 8 Does the case record provide an adequate audit trail?

Source: Bassey (1999:75)

7.2.6 The appropriateness of a case study approach to the present research

As discussed in Section 7.1, findings from the first stage indicated the need for an intensive look at the training Chinese students receive at undergraduate level concerning the use of critical thinking in writing, and raised six new questions. It was then decided that a second study was necessary to investigate the issues arising from the first stage. Since the training that students receive at undergraduate level in China is a complex phenomenon, involving real-life situations, where the investigator normally has little control over the event, a case study approach seemed to be an appropriate solution to adopt (see Yin, 2003; Stark and Torrance, 2004; Denscome, 2007, also see Section 7.2.2). Moreover, a case study was considered feasible because it would be possible to obtain in-depth data, and different research methods could be used to obtain a fuller comprehension of the situations (see Yin, 2003, Stark and Torrance, 2004).

In order to further understand the differences between English-major students and social

science students, it would be necessary to involve both groups in the study. Therefore, it was decided that the study sites would be situated in an English department and a social science department.

The study was expected to be an “instrumental case” study, to use Stake’s (1995) classification, as it would be used to “understand an outside concern” (p. 3), in that it is used to understand something else, for example a general research question, rather than the case itself. In terms of the generalisability, it was expected that the findings from this case could “illuminate” readers if they found that the case was similar to the context in which they were located or one with which they were familiar (Guba and Lincoln, 1989).

In particular, in order to answer the questions arising from the first stage (see Section 7.1), the following research instruments commonly used in a case study could be adopted: interviews, classroom observations, and documents (Bassegy, 1999). Interviews were used because they are very flexible research instruments (Drever, 1995), and in comparison with questionnaires, they are generally considered as more appropriate for broaching complex and sensitive questions, as well as being useful for gaining in depth insights into issues (Gillham, 2000b; Denscombe, 2007). The research questions emerging from Study 1 (see Section 7.1) were indeed both complex and sensitive, and needed intensive investigation, and thus interviews seemed to be a better option than questionnaires. However, as with questionnaires, since the information is “indirect” and “filtered through the view of interviewees” (Creswell, 2003: 187), the data may still be inaccurate, some people may not be able to accurately recall the event, and others may not “know themselves” very well (Gillham, 2000b). Moreover, the interviewees may not be “equally articulate and perceptive” (Creswell, 2003: 187). In order to compensate for the weaknesses of interviews, it was felt that classroom observations and student writing samples should also be used as complementary data sources. Observation is used when the researcher wants to have first-hand information in a natural setting, by observing what is really going on, rather than by listening to what people say (Creswell, 2003; Yin, 2003; Denscombe, 2007). In this study, three of the research questions, Questions 8, 9, and 10 (see Section 7.1), could be investigated by classroom observations. However, classroom observations could not deal with Question 6, which seemed to be better tackled by directly observing students’ performance in their writing samples.

7.3 The pilot study

In order to obtain insights into the research questions and test the usefulness and accuracy of research instruments and procedures, a pilot and exploratory study was conducted in April 2006 in China, in the second semester of the 05/06 academic year.

7.3.1 Research site

The study was carried out in a “better” university in Beijing in China. The reasons for selecting this university as the research site were, firstly, it was a place where I had friends and therefore it was easier to obtain adequate access to staff and students, and secondly, this university was one of the top 100 universities in China, and therefore was roughly equivalent to the university in the UK where Study 1 was conducted, and might be expected to represent good practice in Chinese terms. According to the official website of the university, the total number of students who enrolled in the 2005/06 academic year was around 39,000, including 2,700 doctoral students, 6,800 Masters students, 14,300 full-time undergraduates, 3,400 part-time undergraduates, 11,800 students on online courses, and 370 overseas students. The university had 23 departments and schools, and over 3200 staff, either academic or administrative.

In order to find any differences between English-major students and social science students, the study was carried out in the Department of Foreign Languages and the Department of International Trade and Finance in the School of Economics and Management. The School of Economics and Management was chosen because the findings from Study 1 indicated that there was a high proportion of Chinese students in management studies at the UK university (see Section 6.4.1).

7.3.2 Ethical considerations

The research purpose was explained to all the potential participants, and confidentiality and

anonymity were emphasised. Further, the voluntary nature of participation was addressed. After obtaining the oral permission of the participants, all the interviews were audio-taped and transcribed. Permission was also obtained from the tutors of the classes which I observed, and from the student writers of the assignments.

7.3.3 Data collection

7.3.3.1 Interviews

In order to explore the questions emerging from Study 1 (see Section 7.1), an interview schedule was designed (see Appendix 8). According to Collins et al. (2006), the minimum number of participants in a case study should be three to five. However, since this was only a pilot and exploratory study, the sample could afford to be small. Altogether, two third-year English-major students, two fourth-year Finance students, two members of the academic staff from the Department of Foreign Languages, and one member of the academic staff from the Department of International Trade and Finance were interviewed. All the face-to-face interviews were conducted on the campus, in a staff office, in a quiet classroom, or in a quiet garden. In such a familiar environment, it proved easy to establish a relaxed relationship between the interviewer and interviewees. All the interviews were audio-recorded and transcribed for analysis. Two transcripts were given back to the interview participants to double-check the accuracy of the data.

The interviews with the students ranged from 30 minutes to 53 minutes; the interviews with the two third-year English students were conducted individually, while the two fourth-year Finance students were interviewed together, for reasons of time. Because there were only one male and one female students from either department, the codes for them were simply ME (for male English student), FE (for female English student), MF (for male Finance student), and FF (for female Finance student), rather than a letter and a number. In order to explore the differences between the more able and less able students, the two English students were specifically chosen by their tutor with the girl considered much better academically than the boy. The interview questions (see

Appendix 8) concerned four sub-topics: general writing experience, critical thinking, training for writing, and plagiarism.

The interviews with the three teachers (see Appendix 9 for the outline) lasted from 15 minutes to 21 minutes. The three teachers included one female teacher from the Department of International Trade and Finance, and two male teachers from the Department of Foreign Languages. The interviews with the two teachers from the Department of Foreign Languages were conducted after the observation of one of their classes.

Several questions were discussed both with the students and with the teachers (see Appendices 8 and 9), such as their perception of good writing, understanding of the term critical thinking, the main problems/difficulties in student writing, and the issue of plagiarism. Therefore, the answers to these four questions by the students and the teachers can be compared and contrasted to locate similarities and differences. Comparisons could also be made between the answers of the English students and the Economics students, and between the teachers from the two departments.

7.3.3.2 Classroom observations

Two direct classroom observations were performed in the Department of Foreign Languages; unfortunately, it proved impossible to observe classes in the Department of International Trade and Finance. Both classroom observations lasted around 50 minutes. One class was run by an American teacher and one by a Chinese teacher. The English Writing course run by the American teacher was designed for third-year students in the department, while the Academic Writing course run by the Chinese teacher was a compulsory course for fourth-year students. 30 students attended the English Writing course and only seven students attended the Academic Writing course. According to Tsui (2002), classroom discussion is a kind of instructional method which is likely to improve students' critical thinking abilities. Hence, field notes were taken during the observations with specific attention paid to the classroom activities and interaction either between the students themselves, or between the students and the teacher.

In addition to the interview questions in Appendix 9, several post-observation questions were

discussed with the two teachers at the beginning of the interviews, in order to find out the teacher's general views of the class being observed. In particular, the two teachers were asked the following questions which were borrowed from the Center for Instructional Development and Research at the University of Washington (2005): "Was this a typical class?"; "Do you think the class went well or not?"; and "Do you think you achieved your goals?". Problems identified in classroom observation, such as the markedly small number of the attendees in the Chinese teacher's class, were discussed with the teacher concerned.

7.3.3.3 Student writing samples

Three student assignments for the English Writing Course, which were considered by the tutor to be relatively excellent, good, and satisfactory, were collected from the Department of Foreign Languages. A similar set of three student writing samples was also collected from the Department of International Trade and Finance. These were written as a term essay for the Finance Course by third-year undergraduates.

7.3.4 Data analysis

The main data analysis strategy adopted for the interviews in this study was derived from Gillham's (2000b) content analysis and Creswell's (2003) suggestions on how to analyze qualitative data. All the interview transcripts were read through before the detailed analysis to obtain an overall impression of the whole body of information, and occasional thoughts were written in the margins of the transcripts. As both Creswell (2003) and Hughes (1994) have noted, data analysis is a continuing process that starts from data collecting. Researchers can note down their thoughts when they are collecting data as well, and this is likely to foster the in-depth analysis of the data in the future. In terms of the analysis of the sample essays, Andrews's (2007) principles of argumentation and aspects of the critical approach, in combination with the critical

thinking skills in academic writing derived from Facione (2006) and Tsui (2002) (see Appendix 10), were adopted.

Chapter 8

Study 2: Findings and discussion of the pilot study

8.1 Introduction

The purpose of conducting this pilot and exploratory study was to obtain insights into the research questions arising from Study 1 (see Section 7.1) and to provide suggestions about further modification to the research methods proposed in Chapter 7. The chapter starts with the findings. Although the sample size was limited and the participants differed, it was still worth looking for the patterns in their answers and establishing the similarities and differences between the students, the teachers, and the two departments. After this, the chapter draws tentative conclusions based on the findings, and draws implications for modifying the research methods used in the main study.

8.2 Findings

8.2.1 Findings from the interviews with the students

8.2.1.1 Quantity and content of essays

Students' writing experience in the two departments was compared and contrasted from two perspectives, the quantity and the content of the essays written by the students. With respect to the number of essays required by the two departments, it seemed that there were no marked differences. The two third-year English students reported that by the time of the interview they had written two essays of around 2000 to 3000 words in English, a 300-word assignment each week for the English Writing course, and a 1500-word essay in Chinese for the Politics course each term. The two Finance students reported that they had written an essay each term ranging from 2000 to

4000 Chinese characters, but collaboratively with one or two other classmates.

In terms of the content of the essays, it appeared that the two departments focused on different aspects of writing. The Department of Foreign Languages seemed to emphasise more the language use and types of writing than the content, whilst the Department of International Trade and Finance emphasised the originality and the application of the theories to specific examples, as the following two quotes illustrate:

When we were in the second year, our tutor on the English Writing course from the UK emphasised grammar in writing. But the current tutor from the US focuses more on different types of writing. (FE)

We studied brand strategies in marketing last year and took Quanjude (a well-known Chinese restaurant) as a case study. We made some suggestions, so I think that could be a useful piece of writing. (FF)

Different focuses of the two departments could also be reflected by the difficulties students encountered when writing, with the English students worried about the language and the topics, but Finance students mainly concerned about originality in writing. This discrepancy could be explained by the disciplinary differences, reflected in both the educational objectives and the focus of education. As the female English student stated:

The reason why we do not write a lot is that we think the most important things at the moment are the language skills and the exams. We cannot see any need to write academically, for the department does not require us to do that. Our teachers only look at the words you use and whether your sentences are beautifully organized. (FE)

From this quotation, it seemed that in the Department of Foreign Languages, the training of language skills was still the focus of teaching and learning practice, while writing which demanded higher-order thinking skills was neglected.

However, it was interesting that the students from the two departments held similar views on the characteristics of good writing. They agreed on the following key elements in a good piece of writing: a clear standpoint and adequate evidence. In addition, the English students suggested several other characteristics, such as a clear structure, depth of argumentation, and an easy-to-read style, while the Finance students proposed relevant data and a good theoretical basis.

As regards the approaches the students took to their essays, the English students relied

primarily on literature reviews while the Finance students had conducted empirical studies such as questionnaire surveys, although only once or twice during their whole undergraduate period.

8.2.1.2 Critical thinking in writing

Seven questions were designed specifically to find out students' understanding and application of key critical thinking skills in writing (See the interview outline in Appendix 8, Part 2). Students' answers to Question 1 in Part 2 touched on quite a few aspects of CT skills and even dispositions, such as the skills of analysis, drawing conclusions, evaluation, logic, presenting premises and offering evidence, and dispositions to be skeptical and objective. In particular, the Finance students addressed the adaptability of a theory. Both of them said that an existing economic model might not be appropriate for a specific context, even though it had been used widely elsewhere.

Unfortunately, students' knowledge of CT did not lead to the satisfactory application of these skills in their writing, especially for the English students. Both English students attributed their lack of argumentative skills in writing to their teachers' ignorance of this area, as the female English student claimed:

I don't think we take argumentation seriously in our writing for the Politics course, as nobody cares. Usually we use an existing viewpoint of the government on a political issue, and then find some evidence, mostly from the Internet, to support it. (FE)

The Finance students, on the other hand, often had a thread of argumentation in their essays, and they preferred to use statistical data as the evidence. However, the record of students' college entrance examination scores for 2004 and 2005 on the website of the university showed that English-major students were not necessarily less talented or less able than Finance students when they entered the university as the entrance scores for the two majors were very similar for these two years.

All the four interviewees reported that they had never questioned the authors of any articles they had read, although the female English student noted that she had occasionally criticised other people's views of a book they had read online. Three of them stated that the reason why they

hesitated to question the literature was because they thought they were not themselves familiar with the field concerned and therefore dared not express their own views or question the authorities.

However, all the four interviewees acknowledged that they took into account opposing views in argumentation, although they did not give the names of the specific writers who had presented views concerned, as the female English student noted:

I read a lot of articles and books before I begin to write, and I will point out possible opposite views in my argumentation, but without mentioning the specific persons who propose those views. And then I will try to find some examples to argue against them. (FE)

When it comes to the empirical work done during the undergraduate period, the participants provided the following reasons why they never, or seldom, tried this kind of strategy to cope with their problems. The two English students deemed that undergraduates should not be doing empirical work involving questionnaire surveys or interviews. The primary task of undergraduates, according to them, was to master subject knowledge and deal with their various exams. The male Finance student made the interesting point that they had no opportunities to do these kinds of things:

Our major is finance and we need data from banks, but the banks do not accept interviews and do not want to share their internal information with outsiders. Therefore, it is very difficult to obtain first-hand data, unless you know insiders within these banks. (MF)

The female Finance student, who *had* once done an empirical study, also raised the issue of the reliability of questionnaires as a research instrument for collecting data, as she was worried about whether the respondents would tell the truth in questionnaires. This worry, however, at least showed that the student could predict the possible problems in her work, and she had a certain inclination to think critically in discussion with me. This was somewhat contradictory to the students' answers to the question regarding questioning or critiquing other people's views. It seemed that what students did could differ from what they said. Hence, either a study on a bigger scale is needed, or supplementary data such as student writing samples could be used to test the consistency of their answers.

With respect to the final question regarding critical thinking, all the interviewees reported that they could recognise the weaknesses of their arguments. However, the attitude and then the action taken to deal with them differed distinctly between the two groups of students. The two English students preferred to ignore their weaknesses, while the two Finance students said they pointed them out in their final paragraphs. The reason for the English students' failure to mention them was, again, attributed to the attitudes of the teachers, and the male English student emphasised that at undergraduate level, it was very hard for the students to be precise about weaknesses in arguments. Again, this might reflect a disciplinary difference. Students had to adapt to a specific discipline, for instance, to meet the relevant requirements, and to learn to think in their disciplines. The attitudes of the academic staff towards argumentation and academic writing in that discipline would inevitably affect students' performance in their writing. Another reason for this difference could be attributed to the different stages of their study. As the two third-year English students had no experience of writing a dissertation, their claims were mostly made on the basis of assignment writing, while the two Finance students were basically illustrating their feelings about writing the dissertation. Due to the importance of the dissertation to the degree, students' attitudes and effort devoted to the dissertation might differ markedly from that devoted to essays. As a consequence, it is important in the main study to interview students in the same year.

8.2.1.3 Training for writing

It seemed that the two departments also diverged when it came to the training students received in writing. The two English students reported that they were taking an English Writing course which was focused primarily on different types of writing, rather than academic writing, such as producing essays or a thesis. The course lasted two hours a week and the assignment set by the course tutor was only a 300-word writing exercise in which the students were required to follow the model of the specific type of writing addressed that week. In addition, the English students were specifically worried about how to think in English, as illustrated by the female English student:

My teacher once told me that I could do well in English writing as long as I knew how to write in English ways. ... Later, I knew that in English writing, coherence and consistency were very important. You can't just leave the sentences without any connecting words. However, our focus in Chinese writing is not on the coherence or consistency of texts, but on the use of words and sentence structures. (FE)

Interestingly, the attitudes of the two English students towards the writing course were markedly different. Basically, the girl held a positive view about the course, while the boy had a negative impression:

I have learned a lot from the course, especially in the second year when our tutor gave us many useful suggestions. (FE)

The tutor has not got a clear objective for the course. He gives us things as he likes and doesn't care if we know them already or not. The content of the class is still focused on the structure, rather than the students' thinking skills. I want the tutor to make some changes as soon as possible. (ME)

Further, the girl mentioned the feedback from their writing and expressed her disappointment with the feedback they received. She even expressed a desire to have a Chinese tutor for the course, as she believed Chinese tutors were usually more responsible and took students' work more seriously.

We sometimes think that a Chinese teacher might be more appropriate for this course. We haven't got any feedback from the current tutor, not even a score. I don't know how to improve my writing. (FE)

As far as critical thinking was concerned, both English students claimed that the course tutor did not emphasise it. Because of their limited understanding or even misunderstanding of the term, their answers to this question were likely to be restricted to their knowledge of the concept. However, the consistency and coherence the female English student mentioned above are regarded as key elements of critical thinking and logic in CT literature. Consequently, it was also possible that students had already been taught some critical thinking skills or even used these skills in writing, but they had not realised the fact. This finding suggests that, in the main study, it would be preferable to provide students with a working definition before the interview, so that they could look at their teaching and learning activities from a different perspective and carefully consider

their views on the instruction they received.

The two English students' suggestions on the current writing course were consistent with their views about the course, as discussed above. The female English student expected more feedback from the tutors, while the male student preferred more in-depth topics for discussion either in class or in writing. From the following quotes, it can be seen that the differences between the girl's and boy's expectations were clear-cut:

I hope we can discuss current political affairs in class and in writing, instead of those simple topics. I also want to know our tutor's views on many issues. I hope his ways of looking at things from the perspective of an American can broaden our horizons.
(ME)

I only want our tutor to read our compositions and give us some suggestions, so that we know our weaknesses and strengths. (FE)

Unlike the English students, the two Finance students reported that they had had no specific writing courses, and all their knowledge of how to write essays and the dissertation came from their subject tutors or supervisors. Hence, only Questions 4, 5, 6, and 7 in Part 3 (see Appendix 8) were discussed with them, and their answers were compared with those of the English students. Again, due to disciplinary differences, students' answers to these four questions varied a great deal.

Firstly, teachers' requirements for students' written assignments differed significantly. The English students stated that their tutors were concerned about the structure of students' compositions, and whether they had understood the specific type of writing addressed in class. In addition, there was usually a requirement for a specific word length for the assignments. The Finance students, however, were more frequently asked to write coherently and to use statistical data and graphs in their writing.

The teachers' feedback on student writing also varied. The English students said they had not received much feedback, not even a score, while the Finance students could receive feedback from different channels: oral feedback on the dissertation in tutorial meetings from the supervisor; feedback from both the tutor and peers on their essays when they did presentations in class; and a score for their essays as well.

Furthermore, students' answers to the question of what their teachers valued in their writing

differed enormously. According to their interactions with the teachers and the teachers' written feedback, the English students declared that their teachers seemed to be more interested in the structure and the grammar of their writing, whilst the Finance students reported that their teachers emphasised more the content, the consistency, the feasibility of the research, the statistical data, and students' originality.

Despite all these differences, one point common to the interviewees from the two departments was that none of them knew the assessment criteria for their writing. In other words, they did not know *why* their scores were higher or lower than those of their peers.

8.2.1.4 Plagiarism

The English students admitted that plagiarism was very common among students, especially in writing in Chinese. Their answers also showed that they did not have a thorough understanding of plagiarism or appropriate referencing in writing, because they did not realise that paraphrasing without pointing out the original sources of literature was also a kind of plagiarism, as stated by the male English student:

Sometimes I paraphrase the ideas in a book and use them as if they are my own ideas.
I do not point out all the sources of these ideas. (ME)

Because of students' limited or varied understanding of plagiarism, in the main study, the meaning of plagiarism needs to be clarified with the students, before they are asked about whether they have committed it and what their views on this issue are.

The two Finance students hesitated for a moment when answering the plagiarism question. It seemed that both had received guidance on how to reference in writing, since they claimed they had to point out the names of the authors in the text, as well as in the References section. The hesitation might suggest that the interviewees were afraid of losing face or revealing misconduct before their peers. However, in writing essays, they acknowledged that they did not strictly follow the instructions on referencing given by the teachers. They also reported that, as far as they knew, plagiarism was not common among students around them, because most students formulated their

own ideas after a large amount of reading, and because their teachers had emphasised the importance of students' reporting their own thinking.

Interestingly, all four students agreed that plagiarism was an immoral action and should be prohibited. However, they admitted that plagiarism was difficult to avoid among students because, unless it was highly salient, it would not be detected and would not affect their scores or degrees. It was also surprising that students seemed to have grown accustomed to this phenomenon and had no awareness of the seriousness of the issue, as the following two quotes indicated:

We understand those students who plagiarised, for they had to complete the assignments within a limited time. (MF)

I do not think we take this issue seriously, for it is hard for us to have our own ideas. ... We all know that we cannot paste a whole article from the Internet into our articles, but if we paste one paragraph here and another one there, the teacher will not find out. (FE)

Nevertheless, teachers' attitudes and measures taken to deal with the problem definitely affected students' performance. For instance, as the male English student reported, when the teacher emphasised that plagiarism would affect their scores or even lead to a fail grade, they would try their best not to plagiarise, but if the teacher did not emphasise it, the students would not bother spending time formulating their own ideas. They claimed that, generally speaking, the foreign teachers emphasised this issue more than the Chinese teachers, and students were more careful in English writing.

Students' answers to the questions in Part 3 showed that plagiarism could be reduced with appropriate measures and policies. It seemed that the key factor was how much the academic staff emphasised the issue and what measures they took to deal with the problem. The difference between the foreign teachers and Chinese teachers and between the teachers in the two departments also showed that it is crucial for the teachers to demonstrate their ability to detect plagiarism and their resoluteness in taking definite measures.

In sum, the findings regarding plagiarism showed that plagiarism definitely existed and was difficult to avoid completely among students. However, the findings also indicated that teachers' attitudes towards the matter would affect students' performance. These findings were inconsistent with the findings in the questionnaire survey in the UK, in which most of the students claimed that

they had referenced properly in writing their dissertations, but were consistent with the findings from the UK interviews in Study 1. Since “interviews seem to gain in depth and validity” (Gillham 2000a: 84) in comparison with questionnaires, I would suggest that the findings in the interviews were more reliable. Nonetheless, more interviews on this issue need to be conducted in the main study to make this claim better founded.

8.2.2 Findings from the interviews with the teachers

8.2.2.1 Teachers’ attitudes towards student writing

In this study, teachers’ attitudes towards student writing were explored from the following perspectives: what they valued in student writing, problems in student writing, their marking criteria, types of feedback they gave on student writing, and their attitudes towards student plagiarism.

When the three teachers were asked what they valued in student writing, all of them emphasised originality or creativity. However, they differed in other respects. The teacher from the Department of International Trade and Finance (hereafter referred to as T1) claimed that, in addition to originality, she mainly looked for the following aspects of student writing: literature review, research methods, argumentation, statistical data, structure, and language. The teacher from the Department of Foreign Languages who was teaching academic writing (hereafter referred to as T2), however, raised the issue of the format of student writing, or the presenting and referencing style required by the department. It seemed that this question had been frustrating him for a long time, as he mentioned it frequently. The third teacher in the study, who was also from the Department of Foreign Languages (hereafter referred to as T3), claimed that he paid specific attention to the types of writing, rather than grammar or punctuation:

They are specific types of writing. Writing that makes them think. Writing that makes them do something different. And also teaches them the American way of writing.

Interestingly, this teacher's intention to make students think contradicted the complaint from the male English student that the topics of the discussion and writing were too simple. A larger sample in the main study is likely to reveal the truth of this issue.

The difference between the three teachers in their answers to the question was probably due to the nature of the courses they ran. T1 taught a Finance module, while T2 taught a training course on Academic Writing for the fourth-year students who were writing their dissertations, and T3 was running a writing course, but simply focusing on general writing skills and types of writing. Thus, their focus and teaching aims, and therefore the expectations about student performance, were likely to vary enormously. Hence, more subject-related teachers, rather than training course tutors, need to be involved in the main study.

By comparing the teachers' responses to the students' responses to this question, it can be seen that, interestingly, T1 from the Department of International Trade and Finance and the two English students shared several views about good writing, such as the need for a clear structure, powerful argumentation, and easy-to-understand language. However, in contrast to the consensus reached by the students, that a piece of good writing should have a clear position and enough evidence, the teachers seemed to be more interested in students' originality and creativity.

The three teachers showed different concerns about problems with student writing. Interestingly, T1 expressed intense worries about her students' literacy in writing, even though they usually wrote in Chinese:

I don't know what they want to tell me in writing. I can't find any connections between the paragraphs and chapters, although I've shown them the models many times. It seems that there is a big problem with the current literacy training at every educational level. (T1)

In fact, T1's concern also reflected another problem with student writing, the lack of logic or power of argumentation, because coherence between the paragraphs and chapters is a key factor in effective argumentation or critical thinking, as discussed in Chapter 2. However, what this teacher was worried about seemed to be different from what her students were concerned about; her students were more worried about their lack of originality in writing, rather than the language (see Section 8.2.1.1).

T2 also showed concerns about the language in student writing, especially the grammar. He

was also worried about students' originality in writing, and attributed this problem to the state of higher education in China:

I don't think students need to attend so many lectures each term, especially the graduate students. I think they need time to read books. I don't think students can truly learn much in class either. This is probably one of the reasons why students have no time to think independently and lack originality in writing. (T2)

Interestingly, T2's worries about students' lack of originality were coincident with the worries of the two Finance students, rather than the two English students who were from the same department. Nevertheless, T2's concern about the English language of the students was consistent with the views of the two English students.

In contrast to T1 and T2, T3 was mainly worried that students' lack of previous experience in writing in an American way would make it difficult for him to achieve his teaching aims, particularly when critical thinking or logic was demanded.

With respect to the assessment criteria, the three teachers touched on different aspects of critical thinking suggested by the literature, such as reasoning (T1, T2 and T3), application (T1), inference (T3), and drawing conclusions (T3). In addition to these aspects, T2 and T3 stressed the format of writing, although what T2 was concerned about was specifically the dissertation, while T3 meant different types of writing.

As for the feedback on student writing, it seemed that the dissertation was paid more attention than essays, since the two teachers (T1 and T2) who supervised students writing dissertations reported that they had met their students frequently and had given oral feedback on their progress. In addition to weekly meetings with her students, T1 also reported that there was a dissertation advisory group consisting of at least three members of the academic staff for each student. Normally, the group met with the student three times: before the start of the project, in the middle of the work, and at the student's final oral presentation meeting. T1 stated that the feedback on students' writing or progress covered various aspects, such as the dissertation structure, reasoning and argumentation, research methods, and the reliability of the data. T2 from the Department of Foreign Languages declared that he only read each student's dissertation drafts twice. He made it clear to the students that a feasible proposal at the start was more important than the report itself. Apart from oral and private discussion with the students, he sometimes asked the whole class to

discuss one or two students' drafts with the writer's name deliberately concealed, and he claimed that most of the students were very interested in such a kind of peer feedback. T1 and T3 also used class/group discussion as a source of feedback on students' essays. In fact, as T3 declared, this kind of discussion was a useful way to tell students what their teachers valued or did not value in their writing, especially when their teacher had no time to give individual feedback.

From the above discussion, it seemed that students had received a variety of feedback on their writing, especially on the dissertation. However, the quality of the feedback remained unknown and was worth further discussion with both the students and the teachers in the main study. The complaint from the English female student, as noted in Section 8.2.1.3, probably suggested that the students and the teacher held different views on the formats and content of feedback as well.

All the three teachers showed great concern as well as disappointment about the incidence of plagiarism among students. However, there were apparent mismatches in their comments on this issue. On the one hand, both T1 and T2 pointed out that the government was now paying more attention to this issue than before, and all the students had to promise in their dissertations that they had not committed plagiarism. On the other hand, all the three declared that plagiarism was very common in China, for example:

Plagiarism is very common and not only among students. I don't think it can be avoided completely, although the government has stressed this issue very often recently. (T1)

Plagiarism has aroused great attention recently in China. However, it's difficult to take effective measures to deal with this issue among undergraduates. (T2)

I think it is very common and I don't think it will change overnight. (T3)

According to the teachers' comments, the reasons for this phenomenon can be summarised as follows. Firstly, T1 and T2 stated that fourth-year students did not have enough time to write dissertations because they were facing other pressures such as job-hunting. It seemed that the university even supported the idea that students' main task in the fourth year was to find a job. Both T1 and T2 indicated that all the teachers understood the students' situation, and therefore they would not give harsh penalties to the students involved. The second reason, as T1 noted, was the popularity of the Internet, which undoubtedly provided a convenient channel for plagiarism.

Thirdly, T2 pointed out that there was not an effective supervision system. Whereas in Shanghai, students' dissertations would be examined anonymously by external examiners, no such system existed in the city where the present research was carried out. Fourthly, T2 expressed his concerns about some teachers' unawareness or sometimes even purposeful ignoring of this issue. This could be seen from T1's comments as well, for example:

The plagiarism of undergraduates cannot be treated as academic corruption, because they are not required to publish their articles. (T1)

Finally, T3, the American teacher from the Department of Foreign Languages, declared that most of his students did not realise the seriousness of this issue at all. However, it was clear that the department's and teachers' attitudes towards this issue did affect students' attitudes.

In contrast to T1 and T2, who both declared that there were no efficient measures to deal with the problem, T3 seemed to be stricter:

In terms of spotting it, that's never a problem. In terms of reducing it, I try to do everything I can and I explain to them what it is, ... and tell them that in the future, they will get no credit, and they will fail a lot of classes if they do it again. (T3)

The teachers' comments on this issue were basically consistent with students', and this consistency supported the earlier suggestion that respondents have been found to be more likely to tell the truth in interviews, than in questionnaires.

8.2.2.2 Teachers' understanding of critical thinking

Without being notified of the meaning and a working definition of the term "critical thinking" in advance, all the three teachers were asked for their own understanding of the term, the importance of CT in education, and the measures they took to foster CT in students.

The three teachers' understanding of critical thinking concerned different aspects of critical thinking skills. For example, T1 explained that her understanding of critical thinking was to evaluate existing theories:

First, you need to know what the strengths of the theory are, or what the problem is that it can solve. ... Secondly, we make a lot of assumptions, and we apply existing economic models to the domestic market, to see the applicability of the theories. (T1)

Unlike T1, T2's understanding of the term as synonymous with logic was consistent with what is claimed to be the origin of the term, as suggested by Thayer-Bacon (2000). Further, T2 claimed that knowledge and comprehension should be the basis of the evaluation step, and therefore, a person needed to read before he attempted to evaluate. This point was supported by Reichenbach's (2001) explanation of Bloom's taxonomy of educational objectives, that knowledge and comprehension are the basic steps underlying other thinking skills. T3, who was from America where CT had been promoted enthusiastically, pointed out that analysis and application, rather than rote learning, were the key factors of critical thinking:

It has nothing to do with memorization, but with applying the information you have learned to a specific situation. (T3)

By comparing the three teachers' understanding of CT to the theories in the literature, it can be seen that the skills they mentioned were only part of the broader list of CT skills identified by theorists such as Ennis (1987) and Facione (1990).

The comparison between the teachers' understanding of CT with that of the students in this study showed that they shared quite a few points regarding what CT involved, such as logic, evaluation, analysis, and application.

When answering the question of the importance of CT in education, T1 noted:

I think the purpose of introducing CT in education is to help students develop an objective attitude towards an issue.

T2 considered CT and logic to be very important in education, and viewed it as the basis of student writing. T3 agreed with T2 on the importance of CT in education, but primarily from the perspective of students' future personal development.

As far as the measures taken to foster CT in students were concerned, T1 admitted that the department had not taught CT to students specifically, due to the excessive teaching workload. What they could do, she said, was to ask students to write and practice on their own, and the teachers would give feedback either privately or in classroom discussions. T2 taught students how

to evaluate different writers' views and draw conclusions, while T3 asked students to think independently in different types of writing. Nevertheless, because of the teachers' varied understandings of CT, as noted above, it was also possible that they *had* taught certain aspects of CT, as defined by western theorists (see Section 4.5), to the students implicitly. Thus, in the main study, a working definition could be usefully offered to the interviewees in advance to obtain more accurate answers to this question.

As both T2 and T3 were running a writing course, they were asked what the main purposes of their courses were and what they emphasised in them. T2 maintained that at undergraduate level, it was very hard for the students to show originality or creativity in writing. Therefore, he did not have high expectations of his students' texts, but stressed more the basic format and process of doing research. However, he claimed that his requirement for MA students was higher than for undergraduate students. T3's answers to the questions were similar to his own answers to Question 1, in that he emphasised the different types of writing and several thinking skills such as analysis and application. As his course was not specifically designed to teach academic writing, his purpose in running the course was to equip the students with basic writing skills for their future career.

8.2.2.3 Suggestions for the interviews in the main study

In the interviews, several problems emerged which could be avoided in the main study.

- 1) The vague and varied understanding of the term "critical thinking" affected both the students' and the teachers' answers to several questions such as Question 3 in Part 3 of the interview schedule (see Appendix 8). Therefore, a working definition of critical thinking can usefully be provided in the main study, to generate more accurate answers, and to investigate what factors are likely to facilitate CT in students, and what factors will inhibit it.
- 2) Some researcher biases need to be paid attention to in the main study. For instance, when I wanted to know what the students wrote for their degrees, I first used a vague Chinese phrase which could mean only the final dissertation if it was translated into English. I then used more appropriate translations for the final dissertation and essay. Thus, when English texts are translated into Chinese, or vice versa, caution need to be paid to the accuracy of the

translation, or explanation, especially when it is hard to find an equivalent word in the other language.

- 3) A clarification of the meaning of the term “plagiarism” in the main study is necessary to avoid misleading answers to certain questions, such as the students’ attitudes towards this issue.
- 4) Because the differences between the students from the two departments might be attributed to the different study stages, it would be better to focus on the students in the same year in the main study.
- 5) The format of pair interviews with Finance students was found to be ineffective for a discussion of sensitive questions. For instance, when the two Finance students were asked for their views on plagiarism, they seemed to hesitate to tell the truth before their peers. In the main study, this kind of interview will be avoided, and just one student will be interviewed at a time.
- 6) The apparent differences between the three teachers suggested that academic staff teaching a more comparable set of courses needed to be involved in the future interviews.
- 7) Although the amount of feedback on student writing seemed abundant, the quality of the feedback needs to be investigated.

8.2.3 Findings from the classroom observations

Two classroom observations were conducted, with specific attention paid to the interactions between the teacher and the students and between the students themselves. One class in English Writing observed was taught by T3 and one by T2 in the Department of Foreign Languages. Both observations lasted 50 minutes, and three general post-observation questions were asked to both teachers after the observation. Field notes were taken to record the classroom activities, especially the interactions either between the students, or the students and the tutor. There was a large difference between the participant numbers in the two classes, though. The American teacher had 30 third-year students, while the Chinese teacher had only seven fourth-year students attending the observed lessons. The reason for this, as the Chinese teacher reported in the follow-up interview,

was that the department encouraged fourth-year students to go out to look for jobs or attend job-training courses, rather than to sit in the regular lectures. By comparing and contrasting the two classes, it could be seen that the teaching and learning activities, as well as the class atmosphere, differed enormously. In the American teacher's class, the classroom atmosphere seemed unthreatening and relaxed. Students were encouraged to ask questions when the teacher was presenting and the teacher left abundant time for group discussion. In order to involve all the students, the teacher used simple topics and nominated the less active students to answer questions or do exercises. However, it seemed that sometimes students misunderstood the teacher's teaching objectives. For example, when the teacher asked the students to compare and contrast something with meaningful similarities and differences, the students' performance in exercises did not meet his expectations of in-depth thinking with respect to the word "meaningful". This finding may well explain the earlier discrepancy in the interviews between the teacher's intention of making students think and the male student's complaint about the simplicity of the topics in class (see Section 8.2.2.1).

In contrast, the Chinese teacher's class was primarily dominated by the teacher's presentation. The teacher could hardly get answers from the students to his few questions. To avoid embarrassment, he had to answer the questions himself after long silences of more than ten seconds. No group discussion was carried out among students during the whole 50-minute period, and only one student asked a question in class. In the last five minutes, the teacher asked the students to do some exercises by themselves and he walked around the classroom to answer their questions individually. In contrast to the "noisiness" of the American teacher's class, this class was extremely quiet. The post-observation interview with the two teachers suggested that both classes observed had been typical classes and they felt their teaching goals had been achieved. In the post-observation interview, the Chinese teacher attributed the silence of the students to the quiet characteristics of Chinese students in general and students' lack of questioning abilities. It seemed that he had not realised that his teaching style could markedly affect students' performance in class.

No systematic categories, such as those suggested by Tsui (2002) were applied to the observations. However, in the main study, similar categories as Tsui's (2002) (see Appendix 13), which are designed purposefully to examine the activities related to critical thinking, like group

discussions, can be used. Another significant problem with the pilot observation was the sampling of the classes. In the main study, more subject-related classes, rather than the training modules, need to be observed in both departments.

8.2.4 Results from the text analysis

Six samples of student assignments (three from the Department of Foreign Languages, three from the Department of International Trade and Finance) were collected and analyzed in order to reveal students' application of argumentative skills and critical thinking in academic writing. The three samples (hereafter Samples 1, 2, 3, and Students 1, 2, 3 for the writers of each sample) from the Department of Foreign Languages were written by three third-year students as weekly assignments for the English Writing Course. Two of the writers, Writers 1 and 3, were also interviewed. The length of the texts was fairly short (around 250 words on an A4 page), and they were not strictly in the form of essays, which normally range from 2000 words to 5000 words in the UK. All the titles of the pieces of writing implied an expectation of argumentation. For example, the title of Sample 2 was "Do What You Already Do Well or Try New Things", which seemed to require students to weigh two kinds of attitudes towards life, choose a position, and argue for it. The titles of Samples 1 and 3 were "Being Single" and "Competition is Ultimately More Beneficial than Detrimental to Society", which also indicated a demand for argumentation in writing. A detailed analysis using Andrews's (2007) seven principles of argumentation and ten CT skills elicited from Facione's (2006) article and Tsui's (2002) study (see Appendix 10) was carried out.

All three students exhibited an ability to use a single authorial voice, but differed in the use of personal and impersonal voices. In Sample 1, the student used both personal and impersonal voices skillfully, whilst in Sample 2, personal voice, which was expressed in words such as "we", "our", "us", "I", and "you", was dominant in the text. While it is true that the use of personal voices does not necessarily mean that the author is subjective and uncritical, the use of personal voices in this essay gave readers the impression that the writer was writing in a very casual style and that she was forcing her own opinions on others, as she kept saying that "we" should do something without justifying her suggestions. Sample 3 seemed to have the similar problem as

Sample 2, by using “we” in the conclusion paragraph.

In all three samples, the students seemed to write using a very similar argumentative structure, choosing a position on a controversial topic, reasoning by providing evidence (either from daily life or personal experiences, and thus involving no references), and usually ending with a short conclusion (but not in Sample 2). Here are two excerpts from Samples 1 and 2 in which the two students were trying to use common-sense and personal experiences to justify their positions:

“As everyone knows, being single means being lonely.” (Sample 1)

“Also, the trying of new things will bring us totally different experience. As we regard life as a long journey, why don’t we make our journey plentiful. Who would like a long tedious trip? Take myself as an example. When I first entered the university, I decided to change my old habit of always doing what I did well.” (Sample 2)

As regards Andrews’s 3rd principle, “a vertical and paradigmatic structure and organization”, all three students seemed to assume that readers had already understood the concept and terms in their text, because there was no clarification of ideas, definitions, classifications or categorisations.

In terms of the 4th principle, “logical or quasi-logical structure momentum”, all three students preferred to take a position first and then collect evidence, usually explained in two or three paragraphs, to justify their positions. Therefore, even without explicit connections between paragraphs, the logical structure was discernible. Because the topics of the assignments, as noted above, did not concern students’ subject knowledge, but related more to everyday experience, it appeared that students did not bother to refer to authorities, but turned to common sense and their own experiences. In Sample 1, the writer attempted to weave a logical flow by justifying her support for the idea that people should get married instead of staying single, from the perspectives of psychology and convenience, while in Sample 2, the relationships between the paragraphs was not very clear. In Sample 3, the writer was trying to defend his position by using examples in the areas of economy and politics, which were fairly convincing. However, it seemed that language was an obstacle to his fluency of expression, and he ignored the importance of a good conclusion.

Andrews’s final principle (evidence of critical thought), however, was not embodied in any of the three samples. Firstly, students did not appeal to authorities to support their positions, so there was no chance of weighing up one source against another. Secondly, students did not seem to have

read anything for the assignment, and therefore, we do not know whether they would read with skepticism or not. Lastly, a “detached” attitude in writing was rarely found in the samples, for all the writers seemed simply to focus on the supporting evidence while minimizing or even ignoring possible contradictory factors or voices. As regards the CT skills derived from Facione (2006) and Tsui (2002), only the 6th, 9th, and 10th skills are applicable to the samples. It is hard to establish whether the writers could use other skills, such as the ability to identify key issues in a text, simply by looking at the samples available, because there was no trace of any references in their writing. However, it is interesting to examine the students’ application of the 6th, 9th, and 10th skills on the list in their writing.

In Samples 1 and 3, there was a separate conclusion section, but both were very short and neither served the function of summarising the main points of the composition or suggesting any implications, but only restated the writer’s position. As for the 9th skill, all the three writers appeared to try to explain the basis of their viewpoints using examples from daily life or personal experiences as evidence, although the structure of Sample 1 was slightly clearer than the other two. In terms of reflective thinking about their own reasoning, all the writers simply ignored this aspect or seemed to be unaware of the need for it in their writing.

In sum, because of the topics and the nature of the samples, the argumentative principles and critical thinking skills were not extensively applied. It is hard to say whether students could or would have performed better with strictly academic writing. In order to obtain clearer evidence, students’ dissertations or other academic writing samples need to be used in the future.

Three student writing samples (hereafter, Samples 4, 5, 6) were also collected from the Department of International Trade and Finance, and the writers were again third-year undergraduates. However, unlike the samples from the Department of Foreign Languages which were only around 250 English words on one A4 page, these essays were much longer (around 5000 Chinese characters on ten A4 pages)¹, were closely related to their subject and were completed with the collaboration of 3 to 4 students. However, as the students from this department stated earlier in the interviews, they had not written these kinds of long essays frequently (only once a term). The following analysis of the three essays considers them in the order of their ratings (from the highest to lowest) by their tutor.

In Sample 4, a group of four students tried to explain the reasons for the collapse of a large

corporation in Korea, by looking at the function of Financial Leverage and Management Options in the company. The students started the essay by briefly giving the history of the company, and then shifted to the possible reasons for the failure of the company provided by the mass media that the ultimate financial crisis had been caused by excessive expansion and the arrogance of the company. The students then attempted to explore the underlying reasons from the perspectives of Financial Leverage and Management Options. The essay ended with a definite conclusion that the reason for the failure of the company was its management mode, which had a negative effect on Financial Leverage. The whole structure of the essay is complete and the connection between the sections is explicit. The first six principles of academic forms and genres from Andrews are embodied in it. However, there are two problems. First, it begins abruptly with the history of the company, instead of with an introduction to the main research questions and the structure of the essay. Secondly, there is no indication of any relevant literature, and therefore no references either. Even the history of the company and the theories used in the analysis are introduced without any references. In this case, readers would not know whether the sources of the evidence were at all trustworthy. Again, due to this weakness, readers cannot judge whether the writers had the ability to weigh up different sources, to read with skepticism, and whether they had the first five critical skills derived from Facione (2006) and Tsui (2002). However, the students exhibited their abilities to draw conclusions, to recognise a problem, to formulate multiple alternatives to solve the problem, and to explain the basis of their comments. Unfortunately, they did not reflect on their own reasoning, and thus there is no mention of the weaknesses of their study.

Sample 5, which was completed by three students working together, investigated two financial scandals, one about bribery and one about corruption, in a large company in China. The essay explores the reasons for the bribery, the means by which those convicted committed corruption, and the lessons people can learn from the events. The essay begins with an introduction to the two criminal events and the company concerned, followed by the possible reasons for the bribery, which are elicited from an analysis of newspaper reports. After that, the essay moves on to a series of financial reports on the company, but without any indication of the sources of these reports. Then the writers try to find the possible financial problems of the company from these seemingly flawless reports. The essay ends with the lessons people can learn from the company, such as how to protect the rights of investors and how to build confidence in currency markets in

Mainland China.

Using Andrews's principles and the list of CT skills, the essay is far from sound. Both the subjects 'we' and 'I' can be found in the essay, and therefore readers are not clear who is actually telling the story: one of the writers or all the group. The balance of personal and impersonal voice in this essay seems appropriate because most of the content was copied from newspapers or the Internet, and these media tend to use an impersonal voice to show their objectivity. However, there is scarcely a "vertical, paradigmatic structure and organization", neither is there a "logical or quasi-logical structure momentum", because there is no explanation of any terms or concepts, no classification or categorisations, and no connections between the two events and the sections in the essay, let alone an appropriate introduction and conclusion. To make it even worse, the basis of several comments made by the writers is not explicitly given. For instance, the writers arrive at the conclusion that the scandals in Hong Kong currency markets will help build confidence in Mainland currency markets. However, this assertion is not well-founded, because it is possible that the situation in Mainland currency markets is even worse than that in Hong Kong. Ironically, the assertion is contradictory to the earlier statement that the scandal of the company in Hong Kong reflects the strict and impartial features of Hong Kong markets, because such an event, which had taken place five years ago, could still be discovered and made public. Further, since all the evidence comes from the Internet and newspapers, and there is no indication of skeptical evaluation of the sources, the evidence is hardly trustworthy. Again, because of these problems, the essay is not a positive example of using the list of CT skills from Facione (2006) and Tsui (2002). Like the above samples, readers cannot tell, from the essay, whether the writers have mastered the first four skills on the list or not. Except for the 7th skill, which the students might have used if they had selected the topic on their own, the other skills are either not embodied or are used inappropriately.

Sample 6 was completed by three third-year undergraduate Finance students. They attempted to propose a Financial Evaluation Index System based on cash flow, by comparing and contrasting this system with traditional financial evaluation index systems through a case study. Interestingly, in terms of argumentative language and critical thinking skills, this essay is much better than the other two samples from this department, which goes against what their tutor suggested, namely, that this essay was the worst of the three. The essay has a concise introduction, which Samples 4

and 5 do not, covering the background, purpose, approaches taken in the analysis, and the results of the study. There is a clear logical thread running through the main body; each section of the essay has a focus or task, and explains explicitly the key terms (by defining and categorising them), the approaches taken, and the results of the analysis; the evidence presented seems well-founded with a great deal of statistical data; the connections between the sections and ideas are arranged and spelt out clearly, and exhibit a “logical or quasi-logical structure” (Andrews, 2007). Further, the essay demonstrates an appropriate academic tone by using subject-specific terms and an impersonal voice, as well as explicit connecting words or sentences. The essay starts with traditional systems which are in contrast to, but help to define, the proposed system, and embodies one of the features of the argumentative and critical approach recommended by Andrews. Further, the writers showed their ability to think critically by drawing several implications and proposing possible constructive approaches. Finally, unlike with Samples 4 and 5, the writers did not forget to summarise the main points in the conclusion section, which helped to build a coherent structure for the whole essay.

However, in this essay there exist problems too, similar to some of those in the other samples, among the most obvious of which is the absence of the sources of the evidence. There is no indication of any literature review or referencing in the essay, and therefore, it is impossible to judge whether the writers could weigh up different sources or read with skepticism. Similarly, because of this limitation, the first five CT skills in the list are not applicable to this case. Like all the other samples in this study, the skill of “reflective thinking on one’s own reasoning” is not embodied in the essay either.

Although the samples from the two departments differ a great deal in genre and argumentative style, by comparing and contrasting these six samples, it is not difficult to find the following problems in all or most of them: a lack of appropriate referencing and thus no convincing evidence, no skeptical evaluation of literature, no reflective thinking about one’s own reasoning, and a lack of a convincing conclusion. If it is understandable that in informal writing, such as the assignments of the three English students, students can appeal to daily experience to argue for a position, it is not wise to rely on untrustworthy evidence in argumentation in academic writing. In the main study, it is worth further exploring the reasons for students’ lack of skeptical thinking and reflective thinking. Moreover, as the outcome of the analysis in reflective thinking is

inconsistent with the Finance students' self-reports in the interviews, more academic writing samples, such as BA dissertations could be studied, to see the performance of students with respect to argumentation and criticality.

To conclude, the list of criteria has been found to be applicable, and the above textual analysis provided a great deal of information concerning students' argumentation and critical thinking skills in writing. The results show that what students do might be different from what they say in interviews; for instance, the lack of reflective thinking in all the samples was inconsistent with the interview reports by the Finance students on this issue. Therefore, textual analysis of student writing needs to remain a major research instrument in the main study. The evaluation framework combining Andrews's seven principles and four aspects of a critical approach, as well as the set of critical thinking skills derived from Facione (2006) and Tsui (2002), has proved to be an effective and practical tool for analyzing students' writing assignments, and therefore, will be used again without any major modification in the main study.

8.3 Conclusions and implications for the main study

The main purposes of conducting this pilot study were: to provide insights into the research questions in the second phase of the project and to help refine the research methods and procedures in the main study. The second phase aimed to investigate what effect Chinese students' learning experiences at undergraduate level has on their critical thinking in academic writing. Based on the above findings, a tentative conclusion can be drawn that neither critical thinking nor academic writing was the main teaching and learning objective at undergraduate level in either department, and therefore, insufficient attention was paid to these two aspects, although there was a great deal of variation in the two departments, for example, in the teachers' expectations and students' performance in writing. Specifically, the following key findings led to this conclusion.

- 1) The academic staff did not have high expectations of students with respect to argumentation and critical thinking in writing, especially in assignments other than the dissertation. This is manifest from the types of feedback students received on their writing, the teachers' self

reports on their attitudes towards students' performance and plagiarism in writing, the lack of assessment criteria, and students' actual performance in the texts analyzed.

- 2) Practice on, and training in, academic writing at undergraduate level seemed insufficient in both departments. The English students had basically no practice or training in academic writing, except for the final dissertation. The education at undergraduate level in the Department of Foreign Languages still remained at the language skills level, and even the dissertation simply served as a signal of the end of a period of study. The situation in the Department of International Trade and Finance seemed better in terms of the kinds of feedback given and the genre of writing requested. However, because no formal training in academic writing was provided, there were salient deficiencies in students' writing, such as failure to cite sources. To make matters worse, students in both departments were busy attending lectures, dealing with various exams, and looking for a job in the fourth year, and the staff members were struggling with excessive teaching loads.
- 3) Plagiarism, as acknowledged by both the students and the teachers in the study, was still a major problem at undergraduate level. In the students' writing samples, there are no indications of appropriate literature reviews or referencing. Sometimes, students took it for granted that they could use the words from newspapers or the Internet freely, as demonstrated in Sample 5. The popularity of plagiarism might be a significant factor inhibiting the development of higher-order thinking skills such as original and creative thinking and critical thinking.
- 4) Critical thinking was more or less ignored in writing in both departments, and evidence of the key skills of critical thinking, such as skeptical reading, reasoning with convincing evidence, reflective thinking, and drawing a sound conclusion is missing from the students' texts.

The interviews yielded a large amount of useful methodological information which helped shape the main study. In the main study, most of the interview questions and the sequence of the questions (see Appendices 8 and 9) will be retained, except for the following alterations and new ideas:

- 1) A working definition of critical thinking will be used to generate more accurate answers, and to investigate what factors are likely to facilitate CT in students, and what factors may inhibit it. This revision will lead to a few new questions and a change to all the original questions in

Part 2 (see Appendices 11 and 12). For example, the following new questions can be discussed with student participants, such as “Do you know these skills?”, “Do you use them?”, “Do you need them?”, “Why don’t you use this skill?”, and “What teaching and learning activities do you think help you develop these skills?”, and “what prevents you from doing this?”.

- 2) A definition of “plagiarism” will be provided.
- 3) Student participants beginning in the same year in the two departments will be interviewed in the main study, to avoid different answers due to different school years, and both male and female participants need to be involved.
- 4) The format of pair interviews will be avoided in the main study.
- 5) The quality of the feedback on student writing will be investigated.
- 6) Finally, students’ apparent deficiency in skeptical thinking and reflective thinking, as revealed in the textual analysis, will be explored further in the interviews in the main study.

In the pilot study, the classroom observation proved to be a useful device with which certain learning and teaching activities related to critical thinking can be examined. Hence, it will be kept for the main study. However, the findings of the two classroom observations showed that both the teaching styles and students’ performance were significantly different, which indicated the need for a larger sample in the main study, especially of subject-related classes. Further, systematic categories, such as those suggested by Tsui (2002) (see Appendix 13), which are designed specifically to examine the activities relevant to critical thinking, will be used.

Whilst the classroom observations provided information about what students learnt *in class*, textual analysis of student writing was an effective way to evaluate students’ actual performance in critical thinking in writing *outside class*. Conversely, the results of the textual analysis can be used in interviews and in analyzing classroom observations. For instance, in the main study, activities which are considered to facilitate certain critical thinking skills, such as skeptical thinking and reflective thinking, which were found to be absent in the student writing samples, can be examined in classroom observations. Further, textual analysis served the function of checking the validity of the research findings, since, as the analyses showed, students’ performance in writing could be contradictory to what they reported in their interviews. The evaluation framework adopted in the pilot study has proved to be effective and will be kept in the main study, with a larger sample of

academic writing analyzed, to explore the students' application of argumentative and critical thinking skills in their texts.

Notes

1. It is widely accepted that Chinese characters take less space than English words. As a result, although there is no agreed criterion on the direct comparison of the word length of Chinese and English texts, the Finance students' essays are considered much longer than the English students'.

Chapter 9

Study 2: Findings and discussion of the main study

9.1 A summary of the pilot study

As discussed in Section 7.1, the main purpose of Study 2 is to explore what impact the training Chinese students receive at undergraduate level in China has on students' critical thinking in academic writing. It is a case study of two departments, the Department of Foreign Languages and the Department of International Trade and Finance, at a Chinese university. A tentative conclusion was drawn from the pilot study that neither critical thinking nor academic writing was a main educational objective in either department, and accordingly not enough attention was paid to either skill. Findings also showed that the research instruments adopted in the pilot study were effective, and therefore these instruments could be retained for the main study (see Section 8.3). However, a series of alterations to the original research methods and procedures was also proposed in order to avoid problems arising in the pilot study (see Section 8.3). The alterations resulted in new interview outlines (see Appendices 11 and 12) with a working definition of the two key concepts in the study, critical thinking and plagiarism, and the inclusion of Tsui's (2002) Categories for the Classroom Observation Data (see Appendix 13). Section 9.2 explains in detail the process of data collection in the main study, and Section 9.3 focuses on the results and discussion of the study, including the findings from the interviews, classroom observations, and text analysis. The last section summarises the main findings.

9.2 Research methods

9.2.1 Research sites and time

The main study was conducted in the same departments at the same university as the pilot study.

so that the potential subjects would have similar educational backgrounds to those in the pilot. It was carried out in December 2007 and January 2008, when the autumn semester was ending, and just before the winter vacation. My colleagues from both departments invited students and teachers to be interviewed, introduced classes to be observed, and collected student writing samples to be analysed. Randomized samples would have been preferred, but the situation did not allow that as it was hard to obtain permission from the departments.

9.2.2 Re-piloting

In order to test whether the new interview outline and Tsui's categories (see Appendices 11, 12, 13) could serve their functions of collecting appropriate data in the main study, re-piloting interviews were conducted in September 2007 with one teacher and one student from the School of Economics and Management, and one class was observed and analysed using Tsui's categories in the Department of Foreign Languages, while at the same time a chronological record of the major events and activities in class was made.

In the interview, the student had difficulties in answering Question 5 "What teaching and learning activities do you think help you develop these skills?" in Part 2 of the Interview Outline with the Students (see Appendix 11), and the teacher had difficulties with a similar question, Question 6 of the Interview Outline with the Academic Staff (see Appendix 12). I then tackled the questions from another perspective inside the same interviews with the question "in what teaching and learning activities do you think you/your students need to use these skills?" (see Appendices 14 and 15), and prompts such as "for example, could you tell me whether you/your students have used these skills in lectures, class discussions (if there are any), and essay writing". The alteration proved to be effective in yielding appropriate answers from both the student and the teacher. Similar alterations were made to Question 6 in Part 2 in the Interview Outline with the Students (see Appendix 11), and Question 7 in the Interview Outline with the Academic Staff (see Appendix 12). The student also reported a difficulty in understanding the phrases "hidden assumptions" and "inferences", so in the main study, an example of hidden assumptions and a definition of inference would be provided, along with the definition of CT (see Appendix 15). Apart from these two, no

other obvious problems were found with the two interviews.

As regards the classroom observation, the teacher only asked three questions, without receiving any spontaneous answers from the students: two questions were answered by the students nominated by the teacher, and one was answered by the teacher himself. As a result, three categories, “number of questions with no answers”, “number of questions answered by one student”, and “number of questions answered by the instructor”, were added to Tsui’s list. In addition, as not many questions were posed in either the classes in the pilot study or the class in the re-piloting, it seems that the percentage labels in Tsui’s categories (see Appendix 13) would not make much sense. As a result, the percentage labels have been altered to just the number of different types of question in class (see Tables 9.4 and 9.5).

9.2.3 Data collection

As in the pilot study, data were collected with three main research instruments or data sources, interviews, classroom observations, and text analysis. My colleagues in the two departments introduced the purpose of the study and invited students and staff to participate, and only those who volunteered or agreed were involved.

9.2.3.1 Interviews

In sum, nineteen face-to-face interviews were carried out individually with five third-year female English-major students (coded as ES and a number), five teachers from the Department of Foreign Languages (two males and three females, coded as ET and a number), five Finance students (two males and three females, four third-year students and one fourth-year student, coded as FS and a number), and four staff members (two males and two females, coded as FT and a number) from the Department of International Trade and Finance. Findings from the pilot study showed that it was necessary to interview students starting from the same year, and both males and females needed to be involved (see Section 8.3). However, regrettably, there were no male students from

the Department of Foreign Languages, and not all the students from the Department of International Trade and Finance were in the same year¹. The gender of the students and teachers, and the year of study are summarised in Table 9.1 and Table 9.2 below.

Table 9.1 Study 2 Main study: Gender of the interviewees

	Department of Foreign Languages		Department of International Trade and Finance	
	Students	Staff	Students	Staff
Male	0	2	2	2
Female	5	3	3	2
Total	5	5	5	4

Table 9.2 Study 2 Main study: Year of study of the students

	Department of Foreign Languages	Department of International Trade and Finance
Year 3	5	4
Year 4	0	1
Total	5	5

The interviews lasted approximately thirty minutes on average. For the interviewees' convenience, all the interviews took place on campus. The interviews with the students were carried out in a quiet garden on campus, and those with the staff members were conducted in their individual offices. Seventeen of the nineteen interviews were audio-recorded and transcribed in Chinese. As permission was not obtained from the other two participants, only notes were taken quickly in these two interviews.

An explanation of "hidden assumptions" and "inferences" was added to the interview outlines (see Appendices 14 and 15), in order to avoid the problems of understanding of these two terms in the re-piloting. The example of "hidden assumptions" was taken from Brown and Rutter's (2006) *Critical Thinking for Social Work*.

9.2.3.2 Classroom observations

Altogether five more classes were observed in the Department of Foreign Languages, in addition to the one observed in the re-piloting, and four classes were observed in the Department of International Trade and Finance. Each class was fifty minutes long and conducted by a different teacher. A summary of the titles of the classes observed, the year of the students, and the numbers of male and female students in the classes are given in Table 9.3 below.

Table 9.3 Study 2 Main study: A summary of classes observed

Department	Code	Title of course	Year of students	No. of boys	No. of girls	Total No. of students
Department of Foreign Languages	A	Advanced English Reading	3	6	9	15
	B	Comprehensive English	2	6	16	22
	C	Interpretation	3	6	9	15
	D	Translation	3	4	10	14
	E	A History of American Literature	3	0	9	9
Department of International Trade and Finance	F	Marketing Research	3	11	11	22
	G	Economic Forecast and Policy-making	3	13	7	20
	H	Risk Management	3	13	20	33
	I	Human Resources Management	3	29	17	46

9.2.3.3 Text analysis

My colleagues in the two departments introduced the purpose for which the assignments would be used, and invited students to participate. Only the essays by those who volunteered were collected. These essays, according to my colleagues, were a mixture of grades. However, due to what was available, most of the dissertations were chosen from the top end, except for the three English ones which were written by the student writers of the essays in the pilot study. In order to examine the difference between students' argumentation and critical thinking skills in essays and dissertations,

the dissertations of the three English students were included.

In sum, ten assignments (coded as EE and a number) which were single authored by third-year English students in early 2007, and five dissertations (coded as ED and a number) which were submitted in June 2007, were collected from the Department of Foreign Languages.

In order to compare the student writing from the two departments, the same number of essays (coded as FE and a number) and dissertations (coded as FD and a number) were also collected from the Department of International Trade and Finance. The dissertations from this department were also submitted in June or July 2007 by students who had graduated by the time of the study. Unfortunately, it was hard to use the dissertations of the students whose essays had been analysed in the pilot study, because it was difficult to contact them and obtain their permission. Therefore, the dissertations used were written either by students who had obtained their bachelor degrees but remained at the same university pursuing a Masters degree, or who were still in touch with their teachers. Unlike the situation with the Department of Foreign Languages, the essays were not single authored, but were written by groups of three to five third-year students, and were submitted in December 2007. A summary of the essays and dissertations is given in Appendix 16, along with the titles, the length in pages, and the time of submission.

9.2.4 Ethical considerations

My colleagues had introduced the purpose of the interviews when they gave a general invitation to the students and teachers, and only those who were willing to be interviewed were contacted individually. I briefly introduced the nature of the research and the purpose of the data collection at the start of each interview. In particular, anonymity and confidentiality were stressed, and the interviewees were notified that they had the right to refuse to answer any of the questions. In addition, an “Informed Consent Form” (see Appendix 17) was signed by each interviewee after they had read the form and agreed to be interviewed. Permission was requested from each interviewee before recording, and only two members of academic staff refused to be recorded. Classroom observations were also conducted with the oral permission of the teacher and students involved. Oral permission from the students whose essays and dissertations were used for text

analysis was obtained through the researcher's colleagues in both departments.

9.2.5 Trustworthiness of the study

Several different strategies were adopted to increase the trustworthiness of the study. One strategy was to collect data from various sources as in the pilot study, for example, both the students and the staff, and to employ different methods including interviews, classroom observations, and student writing samples, to offset the limitations of any single method (see Stark and Torrance, 2004; Denscombe, 2007, also see Section 7.2.3).

Another strategy was to use a series of double checks in the process of data analysis. First of all, one of the transcripts was given to one of the researcher's Chinese friends who offered to check the consistency between the texts and the audio recording. Except for two errors which were caused by typing, the rest of the transcript was considered to be consistent with the audio file.

Secondly, in order to check the raw data with the sources (Bassey, 1999), two transcripts were given back to the teacher participants. Except for some minor mistakes, they had no objections to the main body of the transcript.

Thirdly, an unmarked interview transcript was given to a Chinese sociology student studying in the UK who looked through it and highlighted the substantive statements. The substantive statements underlined by myself and the sociology student were fairly consistent. We agreed on most of the statements which needed to be looked at, but the student tended to mark fewer statements than me. For instance, all the 17 statements that the student underlined were among the 22 I identified. Since this student was fluent in both English and Chinese, she checked a translation of one of the quotes from the interviewees as well, and did not find a misinterpretation in the translation.

Finally, an English writing sample was also analysed by a different Chinese student who was doing an MSc in Social Informatics in the UK, after a detailed explanation of the purpose of the study and the meaning of each item in the framework. It took him 38 minutes to finish the analysis, and no obvious hesitation was detected in the process. The results of his analysis were consistent with mine, except for identifying the 8th skill on the CT definition list. Whilst I thought that the

skill was not applicable to the sample, the MSc student pointed out that the writer could have used it, but not to do so because she was able to argue from another perspective. We agreed on the fact that, because of the nature of the sample, many items were not applicable, and it might be unfair to assert that the writer lacked critical thinking.

The third strategy was to use a series of pilot studies. In addition to the pilot study reported in Chapter 8, in order to test the new interview outline and Tsui's categories (see Appendices 11, 12, and 13), re-piloting interviews were conducted with one teacher and one student from the School of Economics and Management, and one class was observed and analysed using Tsui's categories (see Section 9.2.2).

The fourth strategy was to allow issues to evolve from study to study and throughout the piloting phases (in line with Bassey, 1999). Thus, findings from the first study in the UK triggered the second study in China, and all the issues arising from the first study were attended to in the second. For instance, the differences found between English-major students and other social science students led to the sampling of the two departments in Study 2, and specific attention was paid to the relevance between the training and students' CT performance in writing in the two departments.

The fifth strategy was to test the "working hypothesis" against the "analytical statements" (Bassey, 1999: 76). The working hypothesis of the study was derived from the literature review, that "small culture" tends to have a marked impact on the critical thinking of students. This hypothesis was tested against the findings of the empirical studies in the two phases.

The sixth strategy was to try to describe the context and the process of data collection and analysis in detail, or in Guba and Lincoln's (1989) words, to provide a "thick description" (see Section 7.2.5), so that the reader can be confident about the findings (Bassey, 1999: 76).

The seventh strategy was to have the whole process of data gathering and analysis scrutinized by others. As suggested by Bassey (1999), the standard scrutiny by the supervisory team was supplemented by a colleague of mine who agreed to be the critical reader or a "critical friend" and challenged the logic of the argumentation in the key parts of the thesis.

Finally, a case record was kept for a future potential audit trial (Bassey, 1999). All the completed questionnaire, interview audio files, interview transcripts, notes of classroom observations, and student writing samples, which were the basis of the case study report, were kept

in a secure and systematic way to provide basis for a future audit in an effective way.

However, there were two weaknesses, which were hard to eliminate due to the nature of the project and Chinese traditional culture. Ideally, in the process of data collection and data analysis, especially in classroom observations and the analysis of student writing samples, an empirical project should have more than one researcher and a high inter-rater reliability, as in Stapleton's (2001) study of the writing samples of Japanese students. However, as this was a self-funded doctoral research project, it was just not possible to pay others to do part of the research across a three-year period. Another weakness lay as reported earlier with the sampling process. The ideal would have been to have had randomized samples from the departments. However, personal relations still play an important role in Chinese culture and this applies equally to Chinese higher education and access to it (Shen, 2000). This serves to make it very difficult for researchers to obtain permission from a university or its departments unless one has some personal connections.

9.2.6 Data analysis

As all the analysis strategies used in the pilot study, such as the analysis tool for the interview data and the analysis framework for texts, had been shown to be effective (see Section 8.3), they were all kept in the main study.

9.3 Findings and discussion

9.3.1 Findings from the interviews

All the findings are explained and discussed following the order of the questions in the Interview outlines (see Appendices 14 and 15).

9.3.1.1 Findings from the interviews with the students

9.3.1.1.1 Amount and nature of writing for degrees

Findings from the interviews showed that the students from the two departments had markedly different experiences of writing for their degrees. First of all, the English students had to write in their second language, English, while Finance students wrote all their essays in their first language. This is a very important point, as the language markedly affected their expression of ideas and argumentation in essays, and was of considerable concern to the English students, as ES1 complained:

Sometimes you know how to say it in Chinese, but you do not know how to say it in English. When you translate your ideas into English, you will find the English words do not express what you really want to say. I once saw my classmate drafting his essay in Chinese first, and then translate it into English. We just do not know how to think in English.

Apart from the language points, what the English students wrote was also significantly different from what the Finance students wrote. The writing assignments of the English students mainly related to three courses: English Writing, Comprehensive English, and Extensive Reading. For the English Writing course, students wrote a short assignment, usually of less than 500 words, in each week in the first three months of the term. These assignments had to be written in the format and style their tutor introduced that week, for example, how to write a business letter in English. Therefore, students did not have much freedom in expressing their ideas in these types of writing. However, in the final month of the term, their course tutor from the US assigned them a 5000-word essay, for which students had the freedom to choose their topics. They could write for example an academic essay, or even a story. Since this final essay counted towards the final mark, and plagiarism was strictly not allowed, they had to devote more effort and time to it. They also had to draft an outline or a plotline and discuss their progress with the tutor each week, and if it was an argumentative essay, they had to read widely to collect evidence to support their viewpoints.

The writing for the other two courses was not as frequent as that for the writing course. The students reported that they had two assignments from the Comprehensive English course, and four from the Extensive Reading course. Neither of the two tutors had any specific requirements for the assignments, and therefore students had considerable freedom as regards the style of writing. The topic which the tutor for Comprehensive English specified was only the word “change”, and students could write any type of text, even a story. For the second assignment, students were simply asked to write a short story. The tutor for Extensive Reading usually asked students to write a “book report” in which students stated their attitudes or feelings about a book.

In contrast to the informal writing styles of the English students, the writing of the Finance students appeared to be more academic. The interviewees reported that they had four assignments of approximately 5000 words in length in the Autumn term as a form of “course project”, in which they were required to carry out a case study and report the results in a departmentally agreed format, with an abstract, a background study, a discussion of the problem, and a conclusion. All these projects were to be conducted with the collaboration of about five students. Except for one student who claimed that she had undertaken an empirical questionnaire-based survey for the project, the remaining four students reported that they had done the project simply by carrying out a literature review. Most of the literature came, they said, from the one or two key textbooks recommended by the tutor, relevant journals or books in the university library, and information or news about the case in question on the Internet. Interviewee FS5 reported that she and her group members had searched for high-quality journal articles on databases on the Internet. Unfortunately, she also admitted that most of her classmates wrote the essay by copying parts of journal articles and pasting them into their own essays, and therefore failed to apply their own ideas and thinking to the task.

Because the language and content were different in the two departments, what students considered to be a good essay and what they were worried about when writing also varied. The findings suggested that language use was regarded as the most important criterion for assessing an article in the Department of Foreign Languages, while all the Finance students believed that an original and thought-provoking idea was a key characteristic of a good article. However, one common factor between the two groups of students was that they all believed that a good article must be supported by sufficient evidence in argumentation. The importance of logic was

mentioned by just one interviewee from each group.

What they worried about in writing was also different. Whereas four of the five English students were concerned about the use of language in writing, four of the five Finance students were worried by whether their writing was original. English student ES2 also mentioned cultural clashes when she discussed an issue with the tutor:

I'm currently writing about the election in the US but my tutor and I disagree on democracy in the two countries. He said Chinese democracy was not a real democracy, but I do not think so. But he is the marker and I have to change my own viewpoint when writing.

Other aspects which were each mentioned once by English students ES3, ES4, and ES5 included the topic and the outline or plotline.

In addition to originality, the Finance students also reported that they were worried about the sources of literature or data, and the analysis of the data. As Interviewee FS5 explained:

If the topic concerns Mathematics, or you need to analyse quantitative data, it becomes more difficult and complicated. But if you only do a literature review, it is much simpler, because you can copy and paste.

9.3.1.1.2 Critical thinking in student writing

Findings from the first four questions in Part 2 of the Interview Outline suggested that critical thinking, as defined in this study and explained before the questions were asked, was not a mysterious concept to the interviewees from both departments, although they still had difficulties in understanding some of the skills on the list (see Appendix 7).

All the interviewees claimed that they knew Skills 1, 3, 5, 6, 7, and 9, and only Interviewee FS2 reported that she was not familiar with Skill 8. Three English students and two Finance students reported that they had never heard about Skills 2 and 10 before, and two English students and one Finance student had difficulty in understanding Skill 4. Interviewee ES1 reported that their American teacher had required them to use Skills 1, 3, 5, 6, and 7 in writing the 5000-word essay. ES5 even reported that she had already used these skills when she was preparing for the

College Entrance Examination at secondary school. The two finance students FS2 and FS4, who were preparing for the advanced study abroad, claimed that these skills were a key part of tests such as GMAT (Graduate Management Admission Test) and GRE (Graduate Record Examination), in which candidates must show an ability to think logically. Interviewee FS5 had heard about these skills before, but she did not know they were critical thinking skills, as her understanding of CT covered only the reading skills on the list. According to FS5, a critical thinker needed to maintain a sceptical attitude towards what other people said and find the potential problems with their arguments.

After they had understood the meaning of the skills on the list, nine of the ten interviewees declared that they needed the skills in reading and writing, especially Interviewees FS1 and FS2, who expressed an urgent need for them. However, Interviewee ES3 was a bit worried that an over-emphasis on these skills might restrict students' creative thinking. Interviewee FS4 reported that since most of the topics had been given by the tutors, Skill 7, "to recognise a problem or formulate a research question", was not as important as the other skills. Interestingly, Interviewees ES2, ES4, FS3, and FS5 claimed that they had already used *all* these skills unconsciously in their writing. That is, they had used them but did not know they were critical thinking skills. Skills 2, 4 and 10 were not as frequently used as the other skills for the following reasons. First, some of the interviewees had not been told about them before, so were unaware that they needed to use them. Another reason was that they had not developed the habit of thinking deeply about "hidden assumptions" or "evaluating evidence", as Interviewee FS4 explained:

It is a habit of thinking. For many years, we have taken it for granted that all that we learned from textbooks is correct. We just accept what the writers say in the books and seldom think whether they are correct or not.

This was particularly common in writing essays which were not considered as very important. For Skill 10, Interviewees ES3 and FS5 claimed that they did not usually read their essays again because the time was not sufficient and they did not think it was necessary to do so. The importance of an assignment to the students appeared to determine how much time and effort they would devote to it. Unfortunately, as traditional exams were still the dominant form of assessment, essay writing seemed to be less important than exams to the students. In addition, Interviewee FS5

admitted that although they all had a conclusion section at the end of their essay, there was nothing new or constructive in it, as the ideas were all borrowed from other people, because most of her classmates wrote essays by copying and pasting sections from other journal articles.

9.3.1.1.3 The influence of training on students' critical thinking

The findings from Questions 5 and 6 suggested that the assessments had significantly affected students' learning objectives and styles. As the English students had to pass TEM4 (Test for English Majors, Level 4) and TEM8 (Test for English Majors, Level 8), unlike the Finance students, they were more concerned about training and skills which were directly related to the exams. First, they said they urgently needed their teachers to teach exam-related skills. Secondly, Interviewees ES1 and ES3 reported that reciting beautiful texts was a good way to improve their use of language for the tests. Thirdly, they also realised that writing assignments and teachers' feedback could help them improve writing skills and critical thinking skills. Interviewees ES1 and ES2 even claimed that these tests had forced them to practice their writing skills, and therefore they positively appreciated the pressure the exams had brought.

Because there were no such tests for Finance students, none of them mentioned tests or reciting as good ways to improve critical thinking skills or writing skills. All of the five Finance students claimed that writing course projects could improve their CT skills. Four students reported that they had used a lot of the CT skills to prepare for the class presentations. In addition, reading, teachers' questioning in class, and group discussion after class were all mentioned by one person as facilitating students' CT.

In terms of the factors which might *not* be conducive to the development of CT, the most frequently reported factors were the traditional teacher-dominant lectures, and traditional exams which did not require students to use these CT skills. Two English students and four Finance students believed that classes dominated by the teacher's presentation had considerably restricted their own thinking skills, as Interviewee ES5 explained:

I think we should have plenty of chances to practice these CT skills in the Extensive Reading classes, if the teacher gives us an article and asks us to find the key issues in

it. However, the teacher only teaches us how to use words or phrases, in order to get us ready for the up-coming exams. Your thinking becomes very rigid, and is restricted by those words he has introduced.

In addition, Interviewees FS1 and FS5 reported that such teacher-dominant lectures without thought-provoking questions led to a habit of passive acceptance of whatever the teacher had said in class. All of the five Finance students believed that the traditional exams which were designed to assess students' grasp of knowledge taught in class were not helpful to the development of CT. Normally, the teachers told students roughly what would be tested in the exams, and then they would know what needed to be reviewed and recited. As a result, students had few chances to practice CT skills in traditional exams, which were still the main form of assessment in their department.

As teachers play an important role in students' CT, all the student participants were asked whether their teachers had ever emphasised or mentioned CT skills. The students' self-reports suggested that the writing assignments and CT skills seemed to be more stressed in the Department of Foreign Languages than in the Department of International Trade and Finance.

First of all, four English students reported that their American teacher emphasised the skills for their 5000-word essay, as Interviewee ES2 noted:

He did not give us a list of skills as you have, but he did talk about the skills in class. He said we must have logic in our writing. He said that our language did not have to be perfect, but the structure and line of argumentation must be clear. We must have a topic sentence, etc.

In addition, the English students ES2 and ES3 thought that CT skills were very important in writing tasks in tests such as the TEM4 and TEM8, and the teachers in their department had accordingly taught them how to write a concise but coherent passage of the sort required by the tests. However, the English students also reported that because they had to write in English, a great deal of time in class had been used to increase their language skills, especially the use of words and grammar.

In contrast, the Finance students reported that CT skills had not been emphasised a great deal in their department. Although they had had a writing course in the first year of study at university, the tutor had emphasised grammar more than writing skills. Very few of the other teachers in the

department had emphasised these skills. Instead, Interviewee FS4 reported that their teachers only required students to follow the academic format of an article, which included an abstract, key words, a main body, and a reference list, as in most of the journals. However, according to Interviewee FS5, the head of the department worked in a different way from the other staff, as he laid more emphasis on students' abilities than on their knowledge. His assignments always demanded a degree of "deep" thinking, and the tests he designed required students to use CT skills. Unfortunately, it seemed that his teaching style had little influence on the other academic staff in the department.

According to the findings from Questions 8, 9, 10, and 11 (see Part 2 in Appendix 14), CT was not one of major concerns of most of the teachers in either department, and it appeared that CT skills were unlikely to be much improved by writing assignments. This is clear from the students' reports of the requirements of the writing assignments given by the various teachers, the feedback they had obtained, and what their teachers valued in students' writing. First of all, few of the teachers in either department had stressed CT much when they gave their writing assignments. In the Department of Foreign Languages, the tutors of Extensive Reading and Comprehensive English only had a requirement for word length. The tutor for English Writing required students to strictly follow the format introduced that week, for example, the format of an English résumé. However, for the term essay, the same tutor had emphasised the issue of plagiarism, and asked students to submit an outline or plotline before they started writing. As the tutor gave students numerous opportunities to discuss their outlines and ideas with him, some of the CT skills had been mentioned or discussed in this process. For example, Skills 3, 5, 7, and 9 were embodied in the following response:

Our tutor looks at the topic we choose. We can only write on those topics he considers acceptable. He also points out the vague points in our writing. He does not like redundant descriptions or us expressing our feelings in our writing. Instead, he said we just need a topic sentence, plus examples to support it. (ES4)

Unfortunately, this American teacher seemed to be the only one who had stressed certain aspects of CT with students in the department.

In the Department of International Trade and Finance, when assigning an essay, the teachers usually gave students an area to write on, reminded them about plagiarism and the format of

academic writing, and stressed the value of collaboration between team members.

Secondly, the students in both departments reported that they had not obtained appropriate feedback from their teachers, and the CT skills were not sufficiently stressed or mentioned in the feedback they did get, especially in the Department of International Trade and Finance.

In the Department of Foreign Languages, the Extensive Reading tutor never gave back students' assignments, and only pointed out the common problems in the assignments in class, but without giving any feedback on individual texts. In addition, students did not know the score for their assignments, as writing only accounted for part of the final mark, and they could only see their final mark on the university intranet. As a result, students had no idea about their performance in writing or how to improve their writing skills. The tutor for Comprehensive English offered individual feedback and a score, but she did not explain the criteria for the scores, and was more concerned in the feedback about the use of language than about students' writing skills or thinking skills. As the students were still working on the 5000-word term essay assigned by the tutor for the Writing course at the time of the interviews, they did not know what feedback they would obtain on their completed work. However, as discussed earlier, they had obtained a great deal of feedback from the tutor on their chapters, which had, they said, helped them improve certain CT skills.

In the Department of International Trade and Finance, although there were requirements about the format to adopt and the avoidance of plagiarism, it was hard to estimate the degree to which the teachers' expectations had been achieved, because of the poor feedback students reportedly obtained and the lack of an efficient evaluation system. The fact that the teachers had never given the assignments back to the students and never gave any individual feedback made it unclear whether the teacher had ever read them:

We do not know the criteria for the grades or marks, and we never get any individual feedback from the teacher. We do not know how well we did, and what our teachers think about our assignments. We just submit them. (FS3)

Interviewee FS5 also expressed the feeling that writing and CT skills had not been appropriately taught in her department, as she was able to produce an "excellent" assignment simply by coping and pasting. Students could obtain individual feedback from their tutors in class

after their presentations, but this occurred “only occasionally” (Interviewee FS1).

In terms of the criteria used to award grades, the students all claimed that they had never been given any at all. According to their experience and feedback from the teachers, the English students reported that their teachers of Extensive Reading and Comprehensive English considered language to be the most important aspect of student writing. The writing course tutor only looked to see if format of short assignments was appropriate, but ignored certain aspects of CT, such as explanation and evaluation, in the term essay. The Finance students’ reports suggested that their tutors were in fact concerned about their attitudes towards their writing tasks. They said that the tutors seemed to be able to judge how much effort and time students had spend on writing by looking at aspects of essays such as format, word length, originality, and references.

The answers to Question 12 again suggested that the students’ learning needs were significantly affected by their assessments. As critical thinking was not one of the main educational objectives in the Department of Foreign Languages, none of the five English students mentioned CT when they were asked to offer suggestions on the current writing course. Instead, they wanted their tutor to teach them skills to cope with the up-coming tests, and help them with their grammar. The Finance students expressed a need for reading and writing skills, as they had to write course projects which accounted for part of their final mark, but felt they had not been taught properly how to write.

9.3.1.1.4 The question of plagiarism

Findings from the three questions in Part 3 showed that although the teachers and students in both departments had an awareness of plagiarism and the foreign teachers in the departments took this issue seriously, plagiarism was still prevalent among students, mainly because there was a clear lack of effective measures in both departments to deal with the problem.

In both departments, there were foreign teachers who might come from a country where plagiarism was strictly forbidden, and as a result they objected to plagiarising and often stressed the issue to their Chinese students. Thus the English students reported that their American tutor had explained clearly what plagiarism was and required them to point out all the sources of

literature they used. Failure to do this would incur a fail grade for the course. However, Interviewees ES1, ES2, and ES3 admitted that when they wrote short assignments for the Extensive Reading and Comprehensive English courses, they did not point out the sources of literature if they only used one or two sentences from it, and sometimes, if they paraphrased the original words in the literature, they would not point out the sources either. This implies that teachers' attitudes actually affected students' attitudes as well as their performance. In addition, the culture of an institute as a whole can play an important role. Thus, Interviewees ES1, ES3, and ES4, for example, reported that it was common for students to use other writers' findings or ideas to support their own, without pointing out the sources.

The Finance students also claimed that they knew about plagiarism because they had had an American teacher in the first year of their study at the university, and several students had failed his course due to plagiarism. Unfortunately, because some of the Chinese teachers in the department, especially those teaching option courses, did not have an effective means of dealing with plagiarism or did not intend to take any measures to stop it, and gave students the impression that their writing assignments were not very important, students usually did not treat such assignments very seriously. This appeared to be one of the key reasons why plagiarism was still prevalent among students, as noted by all five Finance students. However, Interviewee FS5 pointed out that students treated their dissertations more seriously, as there were clear regulations about plagiarism in dissertations and the teachers' awareness and attitudes towards it were evidently stronger than for normal assignments.

In addition to the influence of the culture of the institute, the students were affected by the social cultures as well, for example, that of their friends and even families, as Interviewee FS5 explained:

My father tells me that borrowing ideas from others or using just a few words from other people is not a kind of plagiarism. He says that plagiarism means you copy the whole article of other writers. My father used other people's words in his writing as well, and his book has been published.

Furthermore, effective measures were far from enough in both departments. The English and Finance interviewees reported that only the foreign teachers in their department gave those who had committed plagiarism a fail grade. None of the Chinese teachers in the departments would

give students a fail grade even if they copied a great deal. Interviewees FS1 and FS4 reported that some Chinese teachers would warn them orally when assigning the writing tasks, and gave a lower mark if one committed plagiarism. Interviewee FS5 reported that some teachers tried to avoid plagiarism by giving students a very narrow area to write on, and thereby limiting the number of articles which could potentially be copied. Interviewees FS2 and FS5 also claimed that the oral warning was often useless if the teacher did not take other measures, such as a severe punishment, or if they did not read what students had written.

9.3.1.2 Findings from the interviews with the academic staff

Ten questions were discussed with nine academic staff, five from the Department of Foreign Languages and four from the Department of International Trade and Finance. The following findings were derived from the answers to the ten questions in Appendix 15.

9.3.1.2.1 Main problems with student writing

Interestingly, use of language in writing seemed to be one of the teacher participants' main concerns in both departments. Four English teachers were concerned about students' grammar and word use, the impact of Chinese on their English writing, and the use of an informal style in academic writing. Finance teacher FT3 was also worried about students' use of a colloquial style in academic writing, whereby many students used language found on Internet forums. In addition, Finance teacher FT1 claimed that some of his students did not know how to express their ideas accurately or concisely. This seemed to be very frustrating to him, as Chinese was the students' first language and they should, he felt, have no problems with Chinese writing after many years of literacy education.

Another salient problem in student writing was felt to be a lack of thinking skills required for writing. Two English teachers and two Finance teachers were not satisfied with students' logical thinking, as ET1 explained:

Some students do not know the basic structure of an article, in which you need an introduction, main body, and a conclusion. For each paragraph, they do not know there should be a topic sentence and examples or findings to support your claims. Besides, there is a lack of objectivity and cohesion in their writing. I think this is primarily due to a lack of appropriate training in writing.

In addition, English teacher ET3 claimed that students' thinking was also affected by their first language, in the sense that they tended to think in Chinese and then translate their ideas into English. English teacher ET4 was also worried about the depth of thinking, or rather the lack of it:

It seems that most of the students think about a question in a very similar way. They have no individual ideas and do not think very deeply. I don't know if their thinking has been restricted by traditional education, or they want to protect themselves, or they have not been taught how to think critically or independently.

English teacher ET5 reported that another problem with students' thinking was that generally, students did not know how to critique or express different views on a question.

Several possible reasons for the above problems were suggested by the teachers. English teacher ET1 and Finance teacher FT1 both believed that students needed more training in writing, especially academic writing. Another possible reason, according to Finance teacher FT2, was that most of the students were pragmatic:

As most of their future employers will not pay attention to applicants' writing abilities and writing is not the main form of assessment at the university, many students do not take writing assignments seriously. Nobody realises that their abilities can be improved, or that their thinking horizons can be broadened, or that knowledge can be accumulated through writing.

Although most of the teachers interviewed tended to treat the students as a homogeneous group with problems, two of them, ET1 and ET2, did recognise that there was variation: students differed a great deal, as some of them *could* argue logically, and some of them *could* use English more competently than others.

A comparison of these findings with those from the interviews with the students (see Section 9.3.1.1.1) showed that what the English students were worried about was fairly consistent with what the English teachers reported about students' difficulties in writing. Language appeared to be

of the greatest concern to both the students and teachers. However, it seemed that the Finance students had not realised the problem of language use and logical thinking in their writing, as reported by the Finance teachers.

9.3.1.2.2 Plagiarism in student writing

According to the discussions with the teachers, plagiarism was indeed prevalent among students. English teachers ET1, ET2, and ET4 all reported that in the Department of Foreign Languages, students tried to avoid committing plagiarism in writing short assignments, as this could be easily identified by the teachers. It was, however, very common in students' dissertations. However, in the Department of International Trade and Finance, plagiarism could be found, the teachers said, both in students' term essays and in their dissertations.

Evidence derived from the teacher interviews showed that plagiarism was mainly felt to be caused by the following two factors. First of all, two English teachers and four Finance teachers reported that many students did not realise that they had committed plagiarism, due to a lack of education and the influence of the social and institutional culture, as explained by English teacher ET1:

I do not think students commit plagiarism on purpose. On the contrary, I think this is the problem of our education system. Our education system does not tell students what ethical issues they need to pay attention to, but as far as I know, educators in many foreign countries do this...It is also the culture of the institute or society. Students take it for granted that it is not wrong to use other people's ideas or words in their writing, as many people around them have done it, including those people who have published articles in domestic journals.

English teacher ET2 also claimed that Chinese social culture had encouraged students to cite well-known sayings or words of famous people in students' (Chinese) writing for a long time. She said this tradition might have influenced students' English writing as well.

In addition, the teachers agreed that there was a lack of severe punishments for plagiarism. None of the nine interviewees reported that they would give students a fail grade if they identified

plagiarism in students' dissertations, as there was a consideration for students' feelings. Interviewees ET1, ET2, and ET4 reported that in their final year, many undergraduates had to face the pressure of job hunting and had not paid much time and attention to their dissertations. Most of the teachers understood the students' situations, and only asked students to rewrite their dissertations if they did commit obvious plagiarism. Because the term essays were not the main means of assessment in either department, the teachers had not taken them very seriously, and therefore only gave a lower score, or asked students to rewrite the essays.

The teachers' reports on plagiarism were highly consistent with the students', as they all agreed that plagiarism was still prevalent among students mainly because writing assignments were not very important in assessment and measures to deal with this issue were not sufficiently severe.

9.3.1.2.3 What is valued in student writing

The teachers' answers to Question 4 showed that what they valued in students' writing was very consistent with what they thought the main problems of student writing were. Three English teachers and three Finance teachers claimed that language was one of the key factors of a good piece of student writing. In particular, the three English teachers reported that they would first look at the accuracy and fluency of the English, for example, the grammar and the connecting words between paragraphs. The Finance teachers, on the other hand, were mainly concerned about whether students could express their meanings clearly and concisely.

In addition to the language, criteria on which the teacher participants assessed a student essay included thinking abilities. For example, English teachers ET1 and ET3 and Finance teacher FT1 stated explicitly that they expected logical thinking by students, as ET1 noted:

I want students to have a clear line of argumentation, including a viewpoint and sufficient and appropriate evidence to support the point.

Although the Finance teachers FT2 and FT4 did not mention logical thinking by students, they were both particularly concerned about whether students had a research question, an appropriate

method to deal with the question, and whether they achieved any results. ET2, ET4, and FT3 expected their students to go beyond the ordinary thinking mode and think deeply about the underlying reasons for phenomena. Finance teacher FT3 was very interested in students' research questions. In general, a comparison of the findings with the CT skills showed that the points the interviewees mentioned were similar to the 5th, 7th, 8th, and 9th CT skills.

English teacher ET1 valued the originality of students' writing. She also claimed that her expectations for graduate students were different from those for undergraduate students:

I would expect graduate students' writing to be more coherent and cohesive than undergraduates', and I would treat the need for the research questions and references in graduate students' dissertations as being greater than for undergraduate essays.

A comparison of the teachers' answers to this question with those of the students suggests that the communication between English teachers and students seemed to be more effective than that between Finance teachers and students, as the English students knew exactly what their teachers valued in their writing, while the Finance students did not. The two most important aspects suggested by the Finance teachers, namely language and logical thinking, were not what the students had reported their teachers valued.

9.3.1.2.4 Teachers' criteria for marking

The teachers' responses to this question were fairly consistent with those to Question 4. The two most important factors were the language and the argumentation in students' writing, which were stressed by five and six teachers respectively. Apart from these two points, two English teachers and one Finance teacher reported that they would give students a higher mark if their ideas were particularly creative or unique. English teacher ET5 and Finance teacher FT4 also mentioned the references in students' assignments, because these could show whether students had read the key literature. Interestingly, English teacher ET1 claimed that her current criteria for marking were different from those she had used when she started her teaching career. At the beginning, because of a lack of teaching experience, she only looked at grammar and language use, but as experience

accumulated, she began to pay more attention to students' ideas and argumentation when she marked. Finance teacher FT3 claimed that when she marked she looked at the organization and the structure of students' essays, and the originality of the content. None of the teachers reported that they had given students a written document about the criteria for marking. These two findings support the Finance students' answers to the question about what their teachers valued in student writing, and the question about whether there were any criteria for teachers' marking (see Section 9.3.1.1.3).

9.3.1.2.5 Teachers' feedback on student writing

All the five English teachers reported that they had assigned students short essays and given brief written feedback on student's work, pointing out the strengths and weaknesses and concerning aspects such as language use and argumentation. However, the Finance teachers all admitted that they only summarised the strengths and weaknesses of the whole class and did not give individual feedback. Because of excessive workload, they did not give students' assignments back either. These findings were fairly consistent with the students' reports on the feedback they obtained from their teachers in Section 9.3.1.1.3.

As regards dissertations, however, all the teachers claimed that they had frequent tutorial meetings with students, in which they discussed the outlines and the problems of students' drafts.

9.3.1.2.6 Teachers' views on critical thinking in education

The teachers' self reports of their views of the importance of CT in education indicated that CT played an important role in education, but that Chinese students were felt to be weak in CT in general.

The teachers believed that CT was the fundamental basis of academic research and argumentation. A typical explanation came from FT 1:

I'm afraid CT is the most important thing in education. It is the basis of modern scientific methodology.

In addition, FT3 claimed that the CT skills on the list would be conducive to students' independent thinking.

However, four English teachers and one Finance teacher stated explicitly that their students were particularly deficient in CT, because CT was not given enough attention in the Chinese education system and current teaching and learning practices were not conducive to developing it. FT2 even reported that he had never come across the concept or thought about it until his own child was accepted by a Hong Kong university where CT was one of the educational objectives. ET3 admitted that students' individuality had been ignored by teachers in China for a long time. In particular, English teacher ET1 pointed out that her students were not good at the 2nd, 4th, 6th, 8th, and 10th skills on the list, but the 5th skill was closely related to students' experience and reading habits. A comparison of these findings with the students' self reports of their use of CT skills (in Section 9.3.1.1.2) suggests that the students were weaker in CT in their teachers' eyes than in their own, or the teachers had higher expectations which had not been communicated effectively to the students.

The teachers' self reports showed that the key reason for students' deficiency in CT was that the current teaching and learning practices were not conducive to the development of CT. The pedagogical practices which the teachers believed were facilitative of CT were either not emphasised or even ignored in teaching and learning practice.

The teachers' reports suggested that encouraging students' active involvement in learning activities tended to improve their CT skills. Activities which required students' active involvement included the following: writing assignments or essay exams (reported by four teachers); classroom discussions (reported by two Finance teachers); classroom debates (reported by ET3); students' presentation (reported by ET3); and teachers' appropriate questioning in class (reported by ET1). In addition, both ET4 and FT1 claimed that students needed to be trained systematically to use CT skills, as the following quotation from FT1 indicates:

We should teach students some basic principles, for example, how to pose a question, what research methods need to be used, and how to provide evidence to support your findings and conclusions. I think this is very important.

However, evidence from the interviews suggested that these activities were not given much attention in either department. Three teachers reported that most of their current classes were still dominated by teacher's presentations. Finance teacher FT2 provided the following explanation for this:

The current teaching mode, I mean the way the teacher conducts a class, is not conducive to CT. The teacher uses most of the time in a class to present materials and the students just listen passively. Especially in a big class, you are unable to ask questions and student discussion is impossible. Even if students were not listening, or were sleeping, we would not interfere.

Furthermore, three teachers claimed that the amount of writing assigned to students was far from enough, as ET4 noted:

In China, reciting and exams are more emphasised than writing, unlike in western countries. Students have no chances to think independently about the whole procedure of an activity, for example, to do an experiment and write a report.

In addition, two teachers reported that there was a lack of interaction between teachers and students, and two teachers attributed students' deficiency in CT to a lack of appropriate training in CT. A lack of reading was reported by FT1 as one of the factors which might inhibit students' CT as well.

According to teachers ET3, FT1, and FT3, the teacher-dominant lectures and a lack of writing and interaction could be attributed to the current forms of assessment. ET3 complained that the current exams had largely limited students' thinking, as most of the questions were designed to have only one answer. Further, FT1 reported that students only needed to recite the points the teachers had highlighted before the exams.

According to FT1, other reasons could be the teachers' excessive workloads and the education policy of the government:

The government has just announced an evaluation system of educational quality at undergraduate level. There are regulations about the forms of exams. As writing as a form of exam is not encouraged in the system, and marking assignments demands a great deal of time, most of the teachers do not bother to do that. Students do not like writing either. The normal exams which assess

students' mastery of knowledge in the textbooks are much easier for both students and teachers.

English teacher ET1 also believed that teachers' attitudes towards the relationship between the teachers and students would affect the degree to which students' were involved in lessons. She explained that some teachers still held the old view that teachers were the authoritative sources of knowledge and students had no right to question them. In such a relationship, students had to accept all that the teachers had taught. She suggested that teachers should discard the old ideas and give students more chance to express their own ideas.

When asked about the measures they had taken to foster students' CT, as CT was not emphasised or required in exams, none of the teachers reported that they had deliberately designed any teaching activities to improve students' CT skills, although the three English teachers ET1, ET2, and ET3 claimed that some of the activities in their class might require students to use some of the skills on the list. For example, ET2 had asked students to summarise passages, and this required students to use the 1st, 3rd, and 9th CT skills. FT3 stated that some of the questions in her exams might require students to draw inferences and explain the bases for their claims. However, she admitted quite freely that CT was not her main teaching objective. FT1 said he encouraged students to read broadly, but this task was only optional and not assessed in exams. FT2 reported that students needed to use almost all of the CT skills in their dissertations, but he admitted that this was far from enough practice. ET1 pointed out that teachers' personalities were also an important factor, as some teachers were inclined to try different teaching activities and encourage students to speak in class, while others tended not to do so.

Interestingly, the English students' answers to the question of what teaching and learning activities improved students' CT were different from those of the English teachers. While English students believed that the tests required practice in CT skills, the English teachers did not mention this point. The Finance students' answers to this question were, on the other hand, basically consistent with those of the Finance teachers. On the question of what activities inhibited the development of CT, all the students and teachers from both departments agreed on teacher-dominant classes and the traditional forms of exams. However, while the students, especially the Finance students, were not satisfied with the amount of feedback they received from their teachers, and complained about the teachers' failure to mention CT skills in their feedback,

the teachers attributed the students' deficiency in CT to a lack of writing assignments and of interaction between the teachers and the students. The teachers further explained the underlying reasons for these phenomena by pointing out the problems with the current education policies.

9.3.1.3 Summary of the interviews

The main purpose of conducting this interview survey was to explore the effect of the education students received at undergraduate level on their critical thinking. The following conclusions were drawn on the basis of the above findings.

First of all, the English students had considerably different experiences of writing from the Finance students. While the English students wrote in English and in a variety of styles, the Finance students mainly wrote course essays in their first language. The assignments of the English students were also markedly shorter than those of the Finance students. However, normally, the Finance students worked in groups of around five members. The differences between the two departments in the nature of writing and what the students and staff valued and worried about in student writing showed that the English course seemed to be more skills-based and less academic or theoretical than the Finance course in general. As a result, Finance students could possibly have had more chance to apply argumentative and CT skills to their writing than English students. Interestingly, whilst both the students and the staff members from the Department of Foreign Languages considered language use to be the most difficult aspect of student writing, it seemed that the Finance students did not realise they had problems with language as reported by the Finance teachers. Further, very few Finance students appeared to worry about thinking skills, even though these were one of the main concerns of their teachers,

Secondly, there seems to be a discrepancy between the students' and teachers' views on students' CT skills. The students' reports showed that CT was not a complete mystery to them and that they had indeed used most of the skills unconsciously when writing, except for Skills 2, 4, and 10, which were largely dependent on how important the writing tasks were to them. However, the teachers' reports showed that students were very weak in CT. Given that there was little feedback by teachers on student writing or interaction between teachers and students, one possible reason

for this discrepancy could be that the teachers had high expectations of students as regards CT, but had not conveyed this efficiently to them. Findings from the interviews with the students also showed that teachers' attitudes towards the writing task had greatly affected students' attitudes and their use of CT skills. For instance, students would not re-read their essays if they thought their tutors did not take them seriously. In addition, students' use of CT skills was influenced by the forms of assessment. If the essays did not contribute to the final mark and the CT skills were not tested in traditional exams, it was hard for students to pay much attention to CT.

Thirdly, writing was not given enough attention by either students or teachers, especially in the Department of International Trade and Finance. This conclusion was derived from the following findings: plagiarism was still prevalent among the students; writing was not one of the key forms of assessment; the requirements were not detailed or precise enough for the assignments, and the feedback was insufficient. However, findings also showed that the English students were more satisfied with both the help and the feedback received from their teachers than were the Finance students.

Lastly, CT skills were not paid appropriate attention in either department. The students' reports showed that their teachers seldom mentioned CT in their requirements or feedback on writing tasks, and CT skills were unlikely to be much improved by what writing was done. The teachers reported that the current teaching and learning practices were not conducive to the development of CT. For example, the courses were mostly conducted with teacher-dominant lectures, and there was a lack of writing assignments and teacher-student interaction. All these seemed to be closely related to the government's education policy, which did not take CT skills into account, and the culture of the department, the institute, or even society.

9.3.2 Findings from the classroom observations

Five classes were observed in the Department of Foreign Languages and four in the Department of International Trade and Finance, with each class lasting 50 minutes. The five classes observed in the Department of Foreign Languages were as follows:

Class A Advanced English Reading,

- Class B Comprehensive English,
 Class C Interpretation,
 Class D Translation,
 Class E A History of American Literature.

The four classes observed in the Department of International Trade and Finance were:

- Class F Market Research,
 Class G Economic Forecast and Policy-making,
 Class H Risk Management,
 Class I Human Resources Management.

A summary of the classroom observation data is given in Tables 9.4 and 9.5 below. The questions posed in class were classified using Tsui's categories (a detailed explanation of the categories can be found in Appendix 13), and three more categories were added after the re-piloting, "number of questions with no answers", "number of questions answered by one student", and "number of questions answered by the instructor" (see Section 9.2.2). The purpose of classifying the questions using these categories was to examine the impact of interactions and discussions in class on the likely development of CT in students.

Table 9.4 Study 2 Main study: A summary of classroom observation data in the Department of Foreign Languages

	A	B	C	D	E	Mean
Class size	15	22	15	14	9	15
Total number of questions	8	17	27	10	14	15.2
Number of questions with no answers	1	3	0	2	0	1.2
Number of questions answered by one student	0	0	25	7	2	6.8
Number of questions answered by the instructor	2	3	0	0	9	2.8
Number of questions posed by students	0	0	0	0	0	0
Number of questions with multiple responses	5	11	2	1	3	4.4
Number of students responding to students	0	0	0	0	0	0
Number of student participations in class discussions	N/A	N/A	N/A	N/A	N/A	N/A
Number of student challenges	0	0	0	0	0	0
Number of volunteered comments	0	0	0	0	0	0
Number of compliments by professor	0	0	1	0	0	0.2

Table 9.5 Study 2 Main study: A summary of classroom observation data in the Department of International Trade and Finance

	F	G	H	I	Mean
Class size	22	20	33	46	30.25
Total number of questions	2	4	4	7	4.25
Number of questions with no answers	0	2	1	0	0.75
Number of questions answered by one student	1	1	1	3	1.5
Number of questions answered by the instructor	0	0	0	3	0.75
Number of questions posed by students	0	0	1	0	0.25
Number of multiple responses	1	1	2	1	1.25
Number of students responding to students	0	0	0	0	0
Number of student participations in the class discussions	N/A	N/A	N/A	N/A	N/A
Number of student challenges	0	0	0	0	0
Number of volunteered comments	0	0	0	0	0
Number of compliments by professor	1	0	0	0	0.25

Tables 9.4 and 9.5 showed that the average class size in the Department of International Trade and Finance was more than twice that in the Department of Foreign Languages, while the average number of questions posed in class was about one-third. In fact, the classroom observations in the Department of International Trade and Finance showed that most of the class time was dominated by the tutor's presentation, with only occasional questions asked by the tutor. The tables also showed that there were questions unanswered, or answered by the instructor rather than by the students, in both departments. In particular, nine of the total of fourteen questions were answered by the tutor herself in Class E. Only one question was asked by the students in Class H in the Department of International Trade and Finance, while in the other classes, questions were all posed by the tutor. Unfortunately, there were no class discussions or small group activities in any of the classes observed, and as students rarely asked any questions, there were no student responses to another student, no student challenges, and no volunteered comments from students in either department. The number of compliments by the tutor in class was extremely low in both departments as well (only one in each department).

In terms of the nature of the questions, most of the questions were asked by the tutor in order to check whether students had understood the language points (in the Department of Foreign Languages), and some concepts (in the Department of International Trade and Finance), rather than to foster students' in-depth thinking of an issue. For example, in Class C, in which conspicuously more questions were posed than in the other classes, 25 of the 27 questions were

asked in order to get a translation of a specific sentence or paragraph from a student. In Class B, the tutor asked questions about the words or grammatical points, and most of these were couched as yes/no questions.

All these findings suggested that classroom interactions and discussions which would be expected to develop CT in students (Tsui, 2002) were not emphasised in any of the classes observed. This also implied that students' CT could hardly be improved by attending these kinds of classes.

9.3.3 Findings from the text analysis

In order to examine the critical thinking skills of Chinese undergraduate students in academic writing, ten student essays (coded as EE and a number) and five undergraduate dissertations (coded as ED and a number) were collected from the Department of Foreign Languages, along with ten essays (coded as FE and a number) and five dissertations (coded as FD and a number) from the Department of International Trade and Finance. Although the samples were different from those in the pilot study, the analysis framework used was the same, as it had proved to be effective in exploring CT skills in student writing (see Section 8.3). The report of the findings will start from the discussion of the English students' essays, then summarise the Finance students' essays, then the English students' dissertations, and finally the Finance students' dissertations.

9.3.3.1 The English essays

The essays were written by ten third-year undergraduate English-major students. Students were required to write on the importance of liberal arts in the college curriculum, the topic being assigned by the tutor for Comprehensive English. All the essays are less than 500 words in length, and seem to be argumentative, as the writers try to provide evidence to support their claims through their writing. The following are the results of the analysis using the evaluation framework combining Andrews's (2007) seven principles and four aspects of a critical approach, plus the set

of critical thinking skills derived from Facione (2006) and Tsui (2002) (see list in Appendix 7 and Appendix 10).

It seems that Andrews's first principle is not a problem for the writers of these ten essays, as it is evident that there is only one authorial voice, probably due to the fact that the writers did not need to refer to any published literature. As regards the second principle, "having a balance between the personal voice and the impersonal voice", all the writers wrote in a "personal" voice using "I" or "we", giving their opinions and/or stating what the reader should do or think. Except for EE08, in which there is a brief explanation of what subjects should be included in the domain of liberal arts, there is little or no awareness of the need to clarify key concepts. There are no examples of "classification" or "categorisation" in any of the ten essays. A possible reason for this could be that the key concept "liberal arts" had been explained in their textbook, and therefore they did not think it was necessary to explain it again.

With respect to Andrews's fourth and fifth principles, "logical or quasi-logical structure momentum" and explicit connection, all ten writers argued in a very similar way. The essays start with the same contradictory point that liberal arts in college education is not regarded as important by some people, and try to argue against this view, by providing evidence to support a conclusion that liberal arts should indeed be kept in the college curriculum. From this angle, it seems that the line of argumentation is obvious in each essay. However, the cohesion of the essays varies. Whilst the connections between and within each paragraph are clear and explicit in essays EE04 and EE05, they are not frequent in the other essays.

A further examination of the essays with respect to the 6th and 7th principles and the four aspects of a critical approach showed that the writers do not display strong abilities in evidence-oriented critical thinking. First of all, there are very few traces of "aspects of the discourse of an essay or paper". All the writers show a strong subjective approach to arguing by simply appealing to their personal experiences, or to knowledge which the writers assume to be true but do not adequately justify the points made, and thus there is a clear lack of sound evidence for the claims made. EE06 is a good example of this:

First, college students are always considered to be of better qualities. What can show the better qualities? Their words and behaviour count more than their knowledge of technology. Students who take the art courses are certainly superior

to those who not because the former are improved by art, which supplies a sense or an ability to know beauty.

Secondly, all the writers only use examples which are supportive of their conclusions, and ignore other possible contrary arguments. There is little evidence of their “evaluating different sources” either. Thirdly, eight of the writers try to persuade the readers of the general point that liberal arts are important to human civilization or of advantage to their personal development, and they seem to divert attention away from the original focus of the topic that liberal arts should be included in college education. As the key phrase “college education” is missing in their argumentation, the examples and evidence they provide has little relevance to their conclusions. Finally, because the writers did not base their conclusions on findings from other studies, it is hard to say whether they could read sceptically or critically.

As far as the CT skills derived from Facione (2006) and Tsui (2002) are concerned, because there is no evidence of reading before or during the writing, the first five skills are not embodied in the ten essays. As regards the 6th skill, all the ten essays have a conclusion paragraph. However, as discussed above, because there is a lack of sound evidence, none of the conclusions is very convincing. There are two other common faults with the conclusions. One is that six of them do not answer the question of whether liberal arts should be maintained in college education at all, for instance:

To sum up, if you are eager to live a more successful and more enjoyable life, then take liberal arts as your lifelong courses. (EE05)

The other problem is that the two writers of EE01 and EE06, introduce new premises to support their conclusions in the paragraph, rather than summarise the previous points, and as a result, give readers the impression that it is not a conclusion section.

As the topic was assigned by their tutor, it is hard to judge whether the students could recognise a problem or formulate a research question. As regards the 8th skill, it seems that the writers were able to approach the issue from different angles, by explaining reasons for their claims, although their reasons might not be very convincing. The 9th skill is not clearly embodied in the essays, as the evidence the writers provide can hardly support their points. Unfortunately, the 10th skill is completely absent from the essays, since none of the writers show any evidence of

reflecting on their own reasoning.

In addition to reasoning problems in the essays, there are other problems. First of all, language seems to greatly affect students' expression of their ideas, and grammatical errors or even spelling errors are prevalent in most of the samples. In addition, it was evidently hard for the writers to think in English. Evidence for this comes from clear traces of translation from Chinese into English, or the use of Chinese syntax. A typical example is the following excerpt from EE01 which was clearly translated from Chinese:

If you want to follow the society, you'd better follow the art courses to increase your various knowledge. (Pinyin: *ruguo ni xiang genshang shehui, ni zuihao xuexi yishu kecheng lai tigao gezhong zhishi.*)

In sum, except for Andrews's 1st principle and the 8th CT skill, the other points are either not applicable to the essays, (the first five CT skills), or inappropriately applied, (the 6th and 9th CT skills). The writers seem to argue at all times in a very informal style without sound evidence.

9.3.3.2 The Finance essays

Ten essays (coded as FE and a number) were collected from the Department of International Trade and Finance. Each essay was completed by a group of four or five third-year undergraduates in collaboration, for the 2007 Financial Management course. The essays vary markedly in their word length from just eight pages to 39 pages, and are presented in different styles. The designs of the cover pages are all different and the fonts vary as well. In addition, there is a reference list in five of the ten essays, but not in the other five. However, in the main body, only the writers of FE06 pointed out part of the sources of the words or ideas they had borrowed from others. Plagiarism thus appears to be prevalent among the texts. This is highly consistent with the findings from both the teacher and student interviews. It also indicates that the course tutor gave students a great deal of freedom to do the project, and maybe she was more concerned about how much the students could learn through the process of collecting materials and arranging them in a reasonable order, than about producing an improvement in students' thinking skills. However, even though the

students completed most parts of the essays by simply copying and pasting, or in Abasi and Akbari's (2008) words "patchwriting", the quality and arrangement of the materials could still reflect the effort the students had put into the essay and their thinking skills.

Andrews's first principle of argumentation, "a single authorial voice", is satisfactorily embodied in seven of the ten essays. However, in essays FE01, FE06, and FE07 the writers explain an idea or event in the voice of the original author of the copied texts.

The writers of the essays did not have difficulties in using Andrews's second principle, keeping "a balance between the personal voice and the impersonal voice", probably because they copied the texts from published books and articles or official websites of companies, most of which had been carefully constructed.

Andrews's third principle, "a vertical and paradigmatic structure and organization", is adequately embodied in the ten essays. For example, in FE07, the writers first offer a definition of the key concept, MBO (Management buy-out), and then explain different types of MBO, essential factors and evaluation standards of a successful MBO, and give a detailed explanation of various relevant financing strategies. This is likely to help those readers who are not familiar with the area to understand the rest of the article. However, the writers seem to have used too many words, specifically, 13 pages out of the 21 of the complete essay, to explain the concepts, and they leave little space for case analysis; as a result, they give readers an impression that this is primarily an explanatory and descriptive text, rather than an exploratory and analytical one. This problem not only exists with this essay, but can be found in FE05, FE09, and FE10 as well.

In terms of Andrews's fourth and fifth principles, a clear logic can be found in four of the ten essays (FE01, FE06, FE08, and FE09). All four start with an introduction in which the research questions and how the questions would be tackled are explained. There is an introduction to the main theories used, or the background of the case study, an analysis of the cases in question, and conclusions and even suggestions. The connections between sections are not necessarily articulated, but it is not hard for the readers to understand the argument. A representative example comes from FE06, which explores the underlying reasons for the failure of expansion and globalization of a well-known electronic company in China. The structure of this essay is fairly conventional, starting with an abstract and key words before the contents and the main body. There are six chapters, which are listed in the contents and indicate an explicit line of argumentation. The

first three chapters are used to introduce the history of global mergers and acquisitions, the globalization of Chinese companies, the history of the company in question and its global mergers and acquisitions in the past few years, and lastly theories of global mergers and acquisitions. Chapter four mainly focuses on the reasons for the company's failure in this area. Chapters five and six investigate the risks of overseas mergers and acquisitions, discuss strategies to cope with these risks, and offer suggestions on the future development of the company. However, this essay is not without problems. One is that not all the sources of the information or ideas are given, although there are footnotes, something which is absent in all the other essays. In addition, there are numerous language errors, suggesting that the writers had not read through the assignment before they submitted it.

However, the other six essays not only have these two problems, but also have argumentation problems. For example, in essays FE03, FE04, FE05, FE07, there is no explanation of the purpose of the study, and there is no question or problem to solve. In addition, the links between sections are not clear in FE03, FE04, and FE10, and it is hard for readers to know why the cases are being cited. In FE02, some parts are even self-contradictory. FE05 is perhaps the worst among them, as the whole essay focuses on an explanation of two concepts, so is presented using a descriptive approach rather than an argumentative or critical one. The style of the essay is more like a textbook which a teacher could use to present a concept in class. There is little evidence of any "logical or quasi-logical structure". Unfortunately, even though it is evident that the information presented in the essay is borrowed from other work, there is no reference to the sources involved.

As regards the sixth principle, because most of the writers completed their essays by copying sections from other articles or books which were already published, six of the ten essays do show certain "aspects of the discourse of an essay or paper, such as diction, an academic tone, a detached, disinterested energy". However, there are language problems which seem to be caused by careless typing or copying in four other essays.

Unfortunately, none of the ten essays demonstrates Andrews's four aspects of a critical approach to argumentation, as there is no evaluation of different sources, no mention of contradictory views, no evidence that the authors had read sceptically, and because of the absence of these three, a lack of an objective attitude. All the essays give readers the impression that the writers had borrowed words or ideas from other people and take it for granted that the points

concerned are truths or facts. It seems that the authors had no awareness of a critical approach, or even an argumentative approach, at all.

As six of the essays take an descriptive approach, and therefore, most of the CT skills derived from Facione and Tsui cannot be applied to them, except for the seventh skill, “to recognise a problem or formulate a research question”, where the titles were not already given by their tutors. None of the titles indicates a strong need for critical argumentation. Rather, the arguments remain at a surface-learning stage. The connections between sections are clearer in the four other essays in which there are analyses of the cases, implications and conclusions. However, the other skills, namely 1st, 2nd, 5th, 8th, and 10th CT skills are not embodied in these four essays either. These findings regarding CT skills are again supported by the teachers’ self reports on CT in the interviews.

To sum up, Andrews’s first three principles of argumentation are satisfactorily displayed in most of the ten essays, and there are stronger relationships between sections in some essays than others. However, although there are no word restrictions and the Finance students had more opportunities for argumentation and critical analysis, (because most of them took an explanatory or descriptive approach, and because plagiarism is much more prevalent in their writing than in the English students’ samples), all Andrews’s aspects of a critical approach to argumentation and most of the CT skills from Facione and Tsui are either not applicable or not embodied in them. It seems that the students passively accepted what they read in books or articles and displayed no awareness of, or intention to reflect on, their argumentation. Plagiarism and language problems in the essays further imply that students did not treat the writing tasks very seriously, and this in turn implies that if students kept on writing in this way, their CT skills would be unlikely to be improved by writing essays in the future.

9.3.3.3 The English dissertations

In order to compare and contrast students’ performance in short essay writing and dissertation writing, the dissertations of the three students (hereafter ED01, ED02, and ED03) whose essays had been analysed in the pilot study were collected. In addition, two other dissertations (hereafter

ED04 and ED05) awarded a distinguished grade were also recommended by the researcher's colleague in the department.

From the presentation formats of the dissertations, it appears that students had obtained some training in dissertation writing. There is a title page in all the five dissertations with all the information required by the department, including the title, the name of the department, the name and the major of the writer, the name of the supervisor, and the date of submission. There is also a brief outline of the dissertation at the start with the purpose, significance and the procedure of the study, and the main references. Interestingly, after this, there is a statement on the authenticity of the content from the writer in all the dissertations, which seems to be a strategy by the department to reduce or eliminate plagiarism. The rest of the dissertations are presented in a conventional sequence with an abstract, contents, an introduction, the various chapters, and a conclusion, which is followed by an acknowledgement and a bibliography.

In ED01, the writer tried to tell readers how important effective communication is by taking the film *Babel* as her antithesis. The analysis strategy is based on the theory of formalism which required a detailed structural analysis of a text, and the theory of narratology. ED01 analyses the causal relationships between poor communication and the tragic outcomes of the stories in the film, and thus concludes that good communication is the route to hope and success. To accomplish this, the writer analyses a great deal of the dramatic dialogues in the four short stories in the film which were set in four distinct places around the world, and analyses the communication problems in each. Basically, the dissertation is just a re-presentation of the theme of the film: poor communication between people is destructive and should be avoided as far as possible.

Andrews's first two principles of argumentation, "a single authorial voice" and "a balance between personal voice and impersonal voice", *are* embodied in the dissertation. However, the third principle, "a vertical and paradigmatic structure and organization", is not satisfactorily displayed, as there is no clarification of ideas and definitions, even for the two key terms, "formalism" and "narratology". The fourth principle, "logical or quasi-logical structure" is not manifested in the dissertation either, and this directly affects the application of the rest of Andrews's principles and aspects of a critical dimension. There is no trace of critical reading or evaluation of different sources. Neither is there an awareness of contradictory views. The whole dissertation is occupied by the writer's personal understanding and analysis of a film. However, in

terms of the ten CT skills, the writer does display her ability to draw inferences while analysing, and to draw a reasonable conclusion at the end on the basis of the analysis. In addition, as most of the undergraduate students had to choose a title on their own, the seventh skill, “to recognise a problem or formulate a research question”, is embodied. But apart from these three CT skills, the other seven skills are not in evidence in the dissertation.

In ED02, although the writer tries to take an argumentative approach by seeking evidence to support her conclusion that the decisive reason for people to maintain a relationship with others is to benefit from it at some point, the argumentation is limited, as the evidence comes from only one story, “A Rose for Emily”, written by William Faulkner. The writer explains the tragic fate of the main figure in the story, Miss Emily, from the perspective of the Marxist theory of commodification. She then explains in detail the commodification of the family name of Miss Emily, the commodification of Miss Emily’s love affair, and the commodification of the community, before she concludes that it is the commodification of these three areas that eventually leads to Miss Emily’s tragic destiny. However, a problem with this argument is that the writer makes the generalisation in the conclusion, that commodification is the motivation for all human relationships, on the basis of the evidence from just one story. As the writer uses most of the words to explore the commodification in the story itself, the style of the dissertation appears to be more descriptive, and the structure is basically a “vertical and paradigmatic” one, which requires “classification and categorisation” (Andrews’s third principle). For example, there is a classification of commodification from different angles, but a lack of a logical relationship between ideas and a weighing-up of different sources. Although the writer shows awareness of different ideas in, and explanations of, the story, she does not provide any contradictory views of her own. Therefore, except for the first three principles, the other principles and a critical dimension are not embodied in the dissertation. As far as the ten CT skills are concerned, the fourth skill, “to draw inferences”, is apparent in the analysis. The seventh skill, “to recognise a problem or formulate a research question”, had to be used in order to select a topic to write on, and the eighth skill, “to formulate multiple alternatives for resolving a problem”, is also used, as the writer tries to prove the existence of commodification from different perspectives. As regards the ninth skill, it seems that a language barrier still exists, but basically the writer does explain the basis for her comments. The other five CT skills are simply not used.

The writer of ED03 states his aim of the study in the introduction as follows:

The purpose of this study is to help foreign owned company in China understand Chinese culture clearly, to avoid unnecessary culture conflicts in company management. As human is the most important fact to any company who wants to succeed in China market, this thesis mainly studies the effect of human resource management in cross-cultural management. (p. 1)

In the following chapter, he defines the two most important concepts in the dissertation, culture and cross-cultural management, before he explains the theories of cultural difference, which are mainly borrowed from Hofstede's five cultural dimensions, and Hall's theory of "high" and "low" context. At the end of the chapter, he compares Chinese culture and American culture and discusses briefly the three dimensions of cross-cultural human resource management derived from another book. The whole of Chapter 3 is dominated by the writer's recommendations for three aspects of cross-cultural management: recruitment policy, training policy, and evaluation policy. Following this is a very brief conclusion of approximately 100 words. An examination of the dissertation shows that there are at least four weaknesses in the argumentation. First of all, the purpose of the study is not fulfilled in the main body, because the writer focuses on cultural differences and human resource management in general, rather than on *Chinese* culture and human resource management in *foreign-owned companies in China*. Secondly, in Chapter 3, all the comments and suggestions are made on the basis of limited premises taken from the three theories in the previous chapter, and are as a result not very convincing. This could leave readers the impression that the writer is lacking in objectivity, as indicated in this excerpt:

In some countries with centralization of state power, those who came from the higher class of society or those who graduated from elite universities will be the best candidates for management. Their high-blooded backgrounds always bring them a kind of personality of leadership or charisma. On the contrary, in the countries which lack of enough state power, the recruitment of management staff is usually depended on the performance of the candidates. (ED03)

Thirdly, there is no explanation of the reasons why only three aspects of human resource management, namely recruitment, training and evaluation, are discussed, but not other aspects, such as employee benefits and compensation. Thus, the information is incomplete. Finally, the conclusion is unfounded, as it is not based on the previous discussion and lacks appropriate

evidence to support it.

Andrews's first three principles are embodied in the dissertation, as they are in ED02, but the fourth principle, "logical or quasi-logical structure momentum", is not properly applied, because of the weaknesses in argumentation discussed above. The existence of these weaknesses also makes the other principles and CT skills inapplicable. Although the writer uses ideas from different sources, there is no evaluation of them, and it seems that he either has no awareness of contradictory views or simply ignores them. There is also no indication of a sceptical attitude in reading, and as a result the writer lacks objectivity. Over and above all these weaknesses in argumentation, language seems to be another problem for the writer, as there are quite a few grammatical errors, which seriously affect the clarity of the argument.

The purpose of ED04 is to classify scientific metaphors according to semantic structures via the conceptual labels of "source" and "target". The dissertation successfully achieves its aim by classifying scientific metaphors into three groups according to their structure: a) those with explicit source and target; b) those with only an explicit source; and c) those with only a reference to the target. Compared with the previous three dissertations, this one is much better as regards language use, logical structure, and referencing. Again, Andrews's first three principles of argumentation are adequately applied, and certain "aspects of discourse of an essay or paper, such as diction, and an academic tone", are not difficult to find. Finally, the writer also exhibits an ability to draw conclusions from previous discussions and to explain his results clearly. However, the other argumentative principles and CT skills are not observed.

The writer of ED05 examines the features of Chinese dish names, classifies them into six categories on the basis of the functionalist approach, and then suggests translations for each. As a result, the dissertation remains at an expository level. The purpose and structure of the dissertation are very clear, and the English language, although slightly weaker than that in ED04, is better than the other three and is clear enough to explain the results of the study. As both ED04 and ED05 obtained a distinguished grade, it seems that language was indeed an important criterion for marking. As regards Andrews's principles of argumentation and the ten CT skills, the writer's performance is similar to that of the writer of ED04. The only difference is that this writer demonstrates reflective thinking, by pointing out limitations of the study and advocating a flexible attitude towards the future practice of translation.

To sum up, generally speaking, some key principles of argumentation and CT skills are not well used in the English dissertations, regardless of the grades they received. In particular, the writers consistently fail to exhibit an ability to read critically and evaluate different sources. Rather, they seem to have accepted whatever they read in the literature. Even when they attempt to justify their points of view, the evidence does not seem to be very extensive, adequate, or convincing. This, with an absence of contradictory views, means that the writers do not come over as objective. Except for the writer of ED04, none displays an ability to think reflectively in writing. Having said that, the first three principles of argumentation *are* repeatedly observed in the dissertations. In particular, the third principle, “a vertical and paradigmatic structure and organization”, is successfully employed in both ED04 and ED05.

In addition, the writers differ in their language proficiency and in their ability to explain the results of their studies. The writers of ED04 and ED05, which received a distinguished grade from the department, are markedly more competent in English than the other three, and their conclusions are more reasonable and convincing as well.

A comparison of the dissertations written by the three students whose essays had been examined in the pilot study showed that there were no large differences concerning the argumentative principles and critical thinking skills between essay writing and dissertation writing. In both the essays and the dissertations, most of the principles and CT skills are not applicable or not used satisfactorily. In particular, the writers do not show an ability to read critically, evaluate evidence, or think reflectively in either case. The conclusions drawn are not supported by sound evidence, and there is a lack of objectivity in both essays and dissertations. There are several differences though. For instance, the writers demonstrate a better ability to deal with “personal and impersonal voices” in the dissertations than in the essays. In addition, there are more explanations of key terms and of the research background, and more “multiple alternatives for resolving a problem” in the dissertations than in essays, but the logical structure seems to be clearer in the essays. On a whole, a more argumentative approach is taken in the essays than in the dissertations. This is probably due to the fact that the essays assigned by the tutor were required to be of an argumentative genre and the tutor had provided guidelines in class, as all the three students argued using a very similar structure in the essays (see Section 8.2.4).

9.3.3.4 The Finance dissertations

Five dissertations written by Finance students (hereafter FD01 to 05) were collected from the Department of International Trade and Finance. The average page length of these dissertations was much longer than that of the English ones.

The aim of FD01 was to investigate the feasibility of direct exchange between the two currencies, RMB (Renminbi Yuan) and TWD (Taiwan Dollar). The dissertation basically adopts an argumentative approach. It begins with the fact that currently exchange between the two currencies has to be conducted in an indirect way, and attempts to prove that this is not suitable for either current or future economic and trade cooperation between Mainland China and Taiwan, and suggests several ways to realise a direct exchange between the two currencies. The writer justifies her proposal by explaining in detail the history of currency exchange between Mainland China and Taiwan, and the advantages of a direct exchange, especially to Taiwan. The writer then uses two financial models to analyse the economic and financial data across the Straits to calculate and evaluate the exchange rate. The dissertation concludes that direct exchange between the two currencies will be realised sooner or later, due to the increasing financial and business cooperation between Mainland China and Taiwan. According to the writer, a currency union could be usefully established in the future to prepare for the eventual monetary integration between Mainland China and Taiwan, which would reduce the cost of the trade to the greatest degree.

In terms of the argumentation principles and CT skills, the dissertation is fairly sound. The logical structure is quite clear and premises are adequately defended. Andrews's first six principles, and CT Skills 1, 3, 4, 6, 8, and 9, can be easily identified. However, the dissertation is not without its weaknesses. First, in the literature review chapter, there is a lack of deep and critical analysis, as the writer just states briefly the topic of each work cited, without mentioning their arguments, results or conclusions. As a result, the discussion of the problems with the literature at the end of this chapter is not very convincing. Secondly, there is a lack of contradictory views to her own, which has affected the objectivity expected in an academic text. Thirdly, not all the sources of the materials or data are given in Chapter 2, where the writer attempts to justify her proposal. And finally, although there are reflections and discussions on the advantages and disadvantages of

different theories and models, there is a lack of reflective thinking on the writer's own argumentation.

FD02 aims to explore the impact of the Beijing Social Security System on the mode of saving, consumption, and investment of Beijing residents since 1979. It examines the trend of changes, and particularly correlations between sets of data, such as the Social Security Investment ratio and the Savings ratio. The dissertation concludes that the employment of the new Social Security System policy after 1991 has had a marked effect on the savings ratio, and the correlation analysis of the two variables, the social security investment ratio and savings ratio, in the most recent ten years shows that an improvement in social security would reduce the savings ratio. The topic and results are not only interesting to ordinary residents, but could also be used by the government for policy-making. All the works which the writer cites are listed at the back of the dissertation.

As far as Andrews's argumentation principles and the CT skills from Facione and Tsui are concerned, the reasoning is basically coherent, as the writer has a clear research question at the beginning of the dissertation, uses reasonable methods to tackle the question, and has a conclusion made on the basis of the statistical analysis of the data obtained from authoritative sources. Andrews's argumentative principles are thus observed. The writer also displays his reflective thinking about his own reasoning, by pointing out three weaknesses of the dissertation.

However, the writer fails to demonstrate an ability to read critically, as he takes a purely descriptive approach to the literature review, seemingly accepting passively what he has read in the literature, without a deep analysis of the writers' hidden assumptions or an evaluation of the evidence they cite. In Chapter 4, the writer uses two analytic instruments, but does not introduce them in more than a cursory way. Thus, readers have no way of knowing why the instruments are chosen or how they work, and this would undoubtedly affect their understanding of the process of data analysis and results. In addition, there is a lack of a strong link between the literature review and the data analysis, giving readers the impression that the literature review has been conducted simply to respond to the requirements of the department, but not for the study itself. Further, there are one or two claims which are not defended adequately. For example, the writer does not offer any supporting evidence for the following comments in the conclusion:

The reform of the social security system reduced the residents' confidence in

social security, as they thought that the investment in social security across the country would decrease after the reform.

However, this kind of comment is not common and does not seriously affect the overall reasoning. Lastly, and as before, the inclusion of possible contradictory views would have increased the objectivity of the dissertation.

FD03 studies the factors which could affect the dividend policies of the real estate companies listed on the Shanghai stock exchange. Three kinds of analysis, Principal Component Analysis, Factor Analysis, and Multiple Linear Regression, are conducted on the 23 variables relevant to the dividend policies. The dissertation ends with the conclusion that the dividend policies of the real estate companies concerned are mainly affected by the following factors: the profit capacity of the company, the profit capacity of the real estate industry, the market value of the company, the size of the company, liquidity, the real estate market, ownership structure, and operational capacity.

Andrews's first three principles of argumentation are embodied in the dissertation, as the writer describes in detail the background of the study, and shows an ability to understand hierarchies of ideas. She also displays an ability to formulate a research question, and draw inferences and conclusions on the basis of the analyses. In addition, the writer reflects critically on the study by pointing out limitations and future possible directions of research in the area.

However, this dissertation has similar weaknesses to those in FD02. First of all, the review of the literature still remains at a descriptive level, without critical and deep analyses of the evidence in the literature. Secondly, as in FD02, the link between the literature review and the data analysis is not very strong. Thirdly, there is a lack of introduction to the research methods, in particular the three analysis instruments.

In addition to these weaknesses in the argumentation, the dissertation also has another serious problem concerning the referencing and language use. Most of the sources of the content or ideas which are borrowed from other writers remain unexplained, and thus it is hard to judge the originality of the content. There are also a few language mistakes in the dissertation, which are not acceptable for an important piece of work leading to a degree award.

FD04 examines the credit risk in residential mortgages. There are three main chapters: the first seven pages of Chapter 1 are used to introduce the background and significance of the topic and the current literature in the area; the 15 pages of the subsequent chapter describe in detail the

concept of a mortgage and the risks involved, especially credit risks; and in Chapter 3, which occupies the next seven pages, an analysis model is applied to a set of data to evaluate the key factors relating to credit risks. The dissertation ends with a very short conclusion of less than one page to restate the results of Chapter 3. From the above arrangement of the main content, it is clear that the writer of the dissertation yet again took more of a descriptive approach than an argumentative and critical one.

Andrews's first two argumentation principles are embodied in the dissertation. As far as the third principle is concerned, there are definitions and explanations of most of the key concepts such as mortgage and credit risks, but there are also a number of concepts which remain undefined. The fourth principle, "logical or quasi-logical structure momentum", can also be observed across the different chapters, despite the fact that Chapter 2 is slightly too long compared with Chapter 3, which should be the most important part as it forms the basis for the conclusion. The coherence between the chapters is mainly conveyed through the arrangement of sections. Andrews's four aspects of a critical dimension, however, are not satisfactorily embodied in the dissertation, as there is no evaluation of different sources, which indicates that the writer has not read sceptically, and there are no contradictory views. This might lead to an impression of subjectivity, but as the writer explains the analysis model and the sources of the data, and the analysis procedure is transparent, it would seem that an attempt has been made to be objective.

In terms of the ten CT skills, the 1st, 3rd, 4th, 6th, 7th, and 9th skills are used in the dissertation, although the conclusion is not complete. The writer does not display an awareness of or ability to "identify hidden assumptions", "to evaluate evidence" in reading, "to formulate multiple alternatives for solving a problem", or "to reflect on one's own reasoning".

There are other two obvious weaknesses regarding citing and referencing. First of all, the longest chapter in the dissertation, Chapter 2, basically takes a descriptive approach, by illustrating and summarising other people's research findings. However, the sources of these findings and ideas are not explained. Secondly, a number of references in the main body are not included in the References section either. Therefore, the originality of the content remains in doubt.

FD05 explores whether capital structures vary between industries in China. The dissertation begins with a literature review on the existing studies in the area, both overseas and domestic, followed by a chapter on theories of capital structure and the impact of industrial differences on

capital structure. The third chapter focuses on a quantitative analysis of the statistical data of 433 companies listed on the Shanghai stock market. SPSS is used to obtain descriptive statistics to compare and put in order the long-term liability ratio and the total liability ratio, which are frequently used to compare capital structures of companies, in different industries. In addition, the writer uses a non-parametric method, the Kruskal-Wallis one-way analysis of variance, to establish whether there are differences in the liability ratio between industries. In order to test the degree of consistency of the differences between industries from 2002 to 2006, the writer also applied Kendall's tau rank correlation coefficient test to the mean values of the total liability ratio in ten different industries from 2002 to 2006. The results show that capital structure does vary significantly across industries, the capital structure within one industry has a high degree of stability, and the differences of capital structure between industries also exhibit a high degree of stability over the four years.

Andrews's first three principles can be easily identified in the dissertation. The argumentation purpose and structure are basically clear, as stated above. However, although the writer uses some of the findings of overseas studies to explain her results, the link between the literature review and the findings of the quantitative analysis could be stronger. For example, the writer could correlate her own results with the findings of other domestic studies as well. The fifth principle, "explicit in the connections", is explained in the introduction. The sixth principle is not applied adequately, as there are still some language errors, and some of the sources of the citations are not made clear. The writer arrives at her conclusion mainly based on the statistical analysis of the data. However, the sample sizes of some industries, for example only five manufacturing companies are included in the study, are not ideal for a Chi-square test, and when making generalisations, there is no discussion of the size or the nature of the samples.

In terms of Andrews's four aspects of a critical approach to argumentation, as in the other dissertations, there is a lack of evaluation of different sources in the review of the literature. The writer simply describes the results of other people's studies, without any close examination of their research methods or argumentation. Again, as in the other dissertations, contradictory views are not mentioned. However, unlike the writers of the other four dissertations, the writer of FD05 points out the limitations of one theory and uses other people's findings to support her own results. Because of this, and because the writer tries to base her conclusions on a quantitative survey, she

does show a tendency to be objective.

As regards the ten CT skills, the writer of FD05 seems to be able to identify key issues in reading, but fails to show an awareness of or ability to identify hidden assumptions. It is hard to judge whether the writer can recognise important relationships between points and between texts in reading simply from her performance in the dissertation, but the links between chapters in the dissertation are clear. The writer exhibits an ability to draw inferences in both the data analysis and the discussions. She even makes suggestions on policy-making on the basis of her findings. However, there is no evaluation of the evidence or the soundness of other people's findings. As regards the 7th skill, the writer explains the significance of the research question and displays her ability to recognise a problem or a research question. However, the 8th skill, "multiple alternatives for solving a problem", is not observed. In terms of the 9th and 10th skills, basically, the writer bases her conclusion on the statistical analysis and she does try to explain the results clearly, although there are limitations, as discussed above.

In sum, four of the five dissertations written by the Finance students take a fairly descriptive approach, rather than an argumentative and critical one, particularly to reviews of the literature. Quantitative analysis instruments are used in all the five dissertations, such as financial modelling. Unlike the essays written by the students from the same department, all the five dissertations have a list of references, although the referencing and citation in the main body are not adequate in three of them, which put in doubt the originality of the work. Although Chinese is the writers' first language, there are still language errors in dissertations FD03, FD04, and FD05.

Basically, the writers display their abilities to apply the following aspects of argumentation and CT skills. First of all, they exhibit an ability "to recognise a problem or formulate a research question" and use appropriate methods to deal with the problem. Andrews's first three principles of argumentation, "a single authorial voice", "a balance between the personal voice and the impersonal voice", and "a vertical and paradigmatic structure and organization" are observed in all the five dissertations. All the writers seem aware of that their dissertation should be evidence-oriented, and they mainly base their conclusions on statistical analyses. The connections between chapters and sections can be identified through the headings of the various chapters and sections. In the literature review, all the writers manage to identify key issues in a piece of literature. In the process of analysis, the writers all draw inferences from the results of analysis,

and even make implications and suggestions based on the results. Moreover, they all explain clearly what research methods are used, what analysis is used, and what results they have obtained.

However, some aspects of critical argument are not evidently embodied in them. First of all, it seems that none of the writers knows how to do a literature review critically, as the literature reviews in the dissertations primarily remain at a descriptive level; the writers simply report the results of other people's studies, without any further evaluation or analysis. None of them "identifies hidden assumptions made by a writer", and there is a lack of a sceptical approach to reading. In addition, the links between the literature review and results of the empirical studies are not very strong in most of the dissertations. Further, the writers do not show their awareness of, or an ability to argue against contradictory views. The ability "to formulate multiple alternatives for solving a problem" is not embodied in any of the five dissertations either, as the writers primarily base their conclusions on statistical analyses. Finally, the writers do not demonstrate a strong ability to reflect on their own reasoning, as only two writers point out the weaknesses and limitations of their studies.

9.3.3.5 Comparison and contrast between the two departments

To sum up, ten essays written by English students, ten essays written by Finance students, five dissertations by English students, and five dissertations by Finance students were collected and analysed using an evaluation framework combining Andrews's principles of argumentation and the CT skills derived from Facione (2006) and Tsui (2002). While the essays received a mixture of grades, most of the dissertations gained top grades, (except for the three written by the English students whose essays were studied in the pilot study). A comparison of the results shows that there are both differences and similarities between the writing samples from the two departments.

The differences mainly concern the languages involved, the types of assignment and the reasoning styles in the dissertations. Firstly, the English students had to write their assignments and dissertations in their second language, and this affected their expression of ideas and reasoning skills, while Finance students wrote both their essays and their dissertations in their first language. Secondly, the forms and genres of the essays are markedly different. The English essays are only

approximately 500 hundred words in length (usually less than two A4 pages), while the Finance students' essays are much longer ranging from eight pages to 39 pages, and are normally completed with the collaboration of about five students. The topic of the English students' essays was obviously allocated by their tutor, who expected an argumentative genre. However, the English students appealed primarily to common sense or anecdotal evidence to justify their comments, and thus their conclusions are far from being well-founded. The topics of the essays written by the Finance students vary a great deal, but they chose to tackle the issue from a very similar approach by analysing statistical data. As both ideas and data are borrowed from other people, and there is little appropriate referencing in their essays, there may well be plagiarism. However, as there are quite a few grammatical and spelling errors, as well as clear traces of translation from Chinese into English in the English students' essays, it seems that plagiarism is not very common at least in the English assignments. Thirdly, the research approaches are very different in the dissertations written by the English and Finance students. While the English students preferred to take a qualitative approach to dealing with a question, the Finance students tended to take a quantitative approach. Finally, there is a lack of strong links between chapters in the Finance students' dissertations, especially between the literature review and data analyses. However, this problem is much less noticeable in the English students' dissertations.

Despite these differences, there are a number of similarities between the writing samples from the two departments, regardless of the grades received. First of all, both the English students and the Finance students preferred a descriptive or expository approach to dissertation writing, rather than an argumentative and critical one. As a result, they all tended to write using "a vertical and paradigmatic structure", but the resulting texts lack criticality, objectivity, and a clear logic. For example, there is scarcely any evaluation of different sources, no mentioning of hidden assumptions made by other writers or of contradictory views, and there is rarely any reflective thinking on their own reasoning processes. Lastly, there is a lack of appropriate referencing, and thus a lack of strong evidence, in the dissertations written by both the English and Finance students.

However, differences can be found in the writing samples written by students from the same department as well. They differ with respect to their language proficiency or accuracy, and the clarity of the explanations, especially between the two top-grade English dissertations and the

other three low-grade ones. There are also differences in reasoning and coherence, as the links between chapters and sections in some samples are obviously stronger than in others, and the conclusions are more reasonable in some dissertations than in others. However, as far as the finance dissertations are concerned, as they all received a top grade from the department, it seems that this difference bears little relation to the grades.

Notes

1. Although this could have proved problematic, in the event it was not, as the fourth-year student only disagreed with the third-year students at one point, in Section 9.3.1.1.4.

Chapter 10

Conclusions and implications

10.1 Overview of the research

In Chapter 2, I discussed a controversial issue raised by Paton (2005) about whether Chinese students' lack of critical thinking in academic writing is mainly due to their cultural background or to other factors such as a lack of training (though of course the two can at times overlap). Findings from my review of the literature in Chapter 2 showed that what Clark and Gieve (2006) called the "small culture", or the specific learning context, is starting to be of more concern to researchers than the general Confucian-heritage culture. However, the review showed that there has been a lack of empirical evidence to support their concerns, particularly qualitative ones. The literature review in Chapter 3 also showed that there has been a lack of attention to and empirical research into the training that Chinese university students receive concerning academic writing in China, and their application of argumentation and critical thinking to academic writing is thus largely unknown (see Section 3.5). As a result, the main aim of this study has been to explore the impact of the training Chinese students receive at undergraduate level on their argumentation and critical thinking with respect to writing at an advanced level in the UK, by seeking evidence mainly from qualitative data. Specifically, four key questions emerged from the literature reviews:

- RQ1 What do Chinese students write for their first degrees in China?¹
- RQ2 What challenges do Chinese students studying on postgraduate courses at UK universities encounter in academic writing?
- RQ3 How far do they think they apply critical thinking to academic writing in the UK?
- RQ4 What impact does the training received at undergraduate level in China have on students' critical thinking in academic writing?

In order to answer these questions, a mixed-methods approach combining both questionnaires and interviews was used in Study 1 at a UK university. As regards the first question, the questionnaire survey suggested that there is a great deal of variation in writing experiences of

Chinese students at undergraduate level (see Section 6.2.3). The results of the interviews further showed that there were individual differences in terms of the challenges they encountered at the UK university (see Section 6.4.9). However, the results also showed that academic writing in the UK was significantly different from that in China, and argumentation and critical thinking were more emphasised in the UK than in China. The interview results showed that students had applied all or some of the CT skills to academic writing in the UK unconsciously, although they were more confident with Skills 1, 5, 6 and 7 than with Skills 2 and 4 on the list (see Appendix 7). The data provided a partial but not complete answer to RQ4, on the impact of training students receive at undergraduate level in China on their critical thinking (see Section 7.1). For example, findings from the questionnaire survey (see Section 6.2.3) showed that the supervisor had played an important role in dissertation writing at undergraduate level in China, and that students had not done much empirical work for their dissertations. The interviews (see Section 6.4.7) indicated that students' different learning experiences in China might not have prepared them well for study at an advanced level in the UK. Further, the results of the interviews showed that teachers in the UK were perceived by a small proportion of students as more responsible (as they had obtained more feedback from British teachers), and more capable of detecting plagiarism than teachers in China. The results of Study 1 thus provided reasonably satisfactory answers to the four research questions, but in doing so, they raised several further questions (also see Section 7.1):

- RQ5 What kinds of writing are emphasised at undergraduate level in China?
- RQ6 How well do Chinese students apply CT skills to writing for their first degrees?
- RQ7 What do Chinese teachers think about students' performance in academic writing and critical thinking?
- RQ8 What is the focus of the training at undergraduate level in China?
- RQ9 How do the current teaching and learning practices affect students' use of CT skills?
- RQ10 What factors lie behind the differences between English-major students and other social science students in academic writing?

In order to answer these questions, a second study was designed, as a case study of two departments: a department of foreign languages and a department of international trade and finance at a roughly equivalent Chinese university. This again involved mixed methods: interviews, classroom observations, and text analysis. As with Study 1 it proved possible to answer the six

questions in large measure, albeit for a small sample of people. For instance, results of the interviews (see Section 9.3.1.1.3) and text analysis (see Section 9.3.3) showed that student writing was largely affected by the types of exam in the department. As a result, English-major students placed more emphasis on language, while Finance students were more concerned about originality. However, due to the little feedback students received from their teachers, and the prevalence of plagiarism, it seemed that writing was not the main focus of the education at undergraduate level. The evidence showed that argumentation and critical thinking skills were not satisfactorily applied in the student writing samples analysed, although there were individual differences (see Section 9.3.3.5). Interestingly, the teachers' views on students' performance in academic writing and critical thinking were different from those of the students themselves, in that both language and argumentation were of major concern to both sets of teachers (see Section 9.3.1.2.3). The findings from the interviews, classroom observations, and text analysis showed that the focus of the training at undergraduate level was the teacher-dominant lectures and information-oriented exams, which were not at all conducive to the development of CT.

The two studies generated a large number of findings which have to a large degree met the original research aim of exploring the influence of the training Chinese students receive at undergraduate level on their argumentation and critical thinking in writing. Three main conclusions can be drawn on the basis of the findings from the literature reviews in Chapters 2, 3 and 4, and the empirical studies in Chapters 6, 8, and 9. In the following sections, I will discuss these conclusions, look at the implications, make a number of recommendations for Chinese students, Chinese educators, and English educators, and lastly discuss the limitations of the studies and make suggestions for further research.

10.2 Key overall conclusions

On the basis of the findings of the two studies, three conclusions can be drawn:

1. Argumentative and critical thinking skills were not satisfactorily applied in the academic writing of the undergraduates in China;

2. Training at undergraduate level in China was not conducive to the development of argumentative and CT skills;
3. English-major students are likely to have considerably different experiences of learning and writing at undergraduate level in China from other social science students.

I shall deal with each of the three in turn.

10.2.1 Argumentative and CT skills were not satisfactorily applied in the academic writing of the undergraduates in China

Evidence which supports this conclusion mainly comes from the findings from the text analyses in Study 2 in China. In the pilot study (see Section 8.3), the results of the text analysis showed that the student writers did not demonstrate an ability to use several key CT skills, such as sceptical reading, reasoning with convincing evidence, reflective thinking, or drawing a sound conclusion. The findings from the text analysis in the main study (see Section 9.3.3.5) showed that, although there were significant differences between the writing of the English-major students and the Finance students, most of them preferred a descriptive approach to writing the dissertation, rather than an argumentative one, and there is a lack of key CT skills, for example, to identify hidden assumptions and to evaluate evidence, in all the dissertations analysed. In addition, the student writers did not show an awareness of contradictory views and rarely wrote reflectively about their arguments.

Another piece of evidence comes from the interviews with the academic staff in China (see Section 9.3.1.2). The reports showed that they considered students' CT in writing to be very weak. Interestingly, the student interviewees held different views on their CT abilities, as their reports showed that the CT skills were not a complete mystery to them and they thought they had actually used most of the skills unconsciously. The consistency between the staff's reports and the findings from the text analysis, and the inconsistency between the students' reports and the text analysis, could be explained by a lack of efficient communication between the two groups, and a lack of emphasis by teachers on academic writing and CT (see Section 9.3.1.3). If the staff had high expectations of the students' use of CT, but did not show this in either the writing guidelines or in

their feedback to the students, students would not know that they needed to use the skills. Additionally, writing is still not a mainstream form of assessment at undergraduate level in China, and the traditional exams did not seem to encourage CT at all. Therefore, it was very hard for both the staff and students to pay sufficient attention and efforts to these two areas.

The findings of students' lack of argumentative and critical thinking skills in writing support Andrews's (2007) claim that, in East Asian academic cultures, generally, exposition and clarity are regarded as important elements of a piece of high-quality writing, but argumentative and critical thinking skills are not equally emphasised. Therefore, the congruency of students in choosing a descriptive or expository approach may reasonably be attributed in large measure to the training they received, in which key argumentative and CT skills were largely ignored or at least not emphasised.

10.2.2 Training at undergraduate level in China was not conducive to the development of argumentative and CT skills

Findings from both Studies 1 and 2 supported this conclusion. In particular, the findings showed that the teaching strategies which are commonly recognised as likely to help students develop CT skills, such as writing and classroom discussion (Tsui, 2002), were poorly employed in the teaching and learning practices at undergraduate level in China. In addition, findings suggested that CT was not given sufficient attention by either the teachers or the students.

Although writing, particularly analytical writing, has been recognised as an effective technique for improving CT in students (Tsui, 2002; Dam and Volman, 2004), the findings from the studies in both phases showed that it is not given sufficient attention in China. The Chinese students studying in the UK (see Section 6.4.3) reported that their writing experience in China was significantly different from that in the UK; writing played a more important role in their UK education, while in China traditional exams had been more important. In addition, the regulations on referencing were also different. The students in the UK claimed that the clear regulations on referencing had markedly reduced the occurrence of plagiarism, had affected their attitudes towards, and effort spent on, writing and even their writing styles, whereas in China, plagiarism

was still very common and students tended to write in a similar style to each other. Moreover, two students also reported that their UK teachers' serious attitudes towards writing gave them the impression that teachers in the UK were more responsible than their teachers in China. The less important role of writing and the prevalence of plagiarism in China were also reported by the students and teachers in the interviews in China (See Sections 8.2.1.4 and 8.2.2.1, and Sections 9.3.1.1.4 and 9.3.1.2.2), and reflected in student writing samples (see Section 8.2.4 and Section 9.3.3). The students in China claimed that writing was not one of their main forms of assessment and neither teachers' guidance on writing nor their feedback on students' written work was sufficient. The poor quality of feedback students received on their writing in China was also reflected in the findings from the questionnaire survey of the Chinese students in the UK (see Chapter 6.2.2). These showed that although the students wrote more essays for their first degrees than I had expected, they had nevertheless not obtained appropriate help and feedback from their teachers and thus, CT skills were not as developed as could be expected.

The conclusion that writing is not given enough attention at undergraduate level in China is strongly supported by Cheng's (2000) argument that students in China do not receive adequate training in writing, because the traditional exams mainly test students' memorisation of information, and by Jin and Cortazzi (2006) and Rastall (2006), who argued that Chinese students lack practice in academic writing. In addition, the results of the literature review in Chapter 3 also suggested that writing is more emphasised at tertiary level in the UK than in China.

In addition to writing, other teaching strategies or characteristics of instruction which are considered helpful to the development of CT in students are class discussion (Tsui, 2002), a dialogical approach to teaching and learning (Paul, 1993), and interaction (Swartz, 2004; Dam and Volman, 2004). Unfortunately, the evidence from the classroom observations and interviews, as well as the literature review, showed that class discussion and interaction between teachers and students are far from enough at undergraduate level in China. Indeed, no group discussions at all occurred in the classroom observations in China, and only one student asked a question in any class. With this exception, all the questions were posed by the tutors, and particularly in the Department of International Trade and Finance, the classes involved overwhelmingly teacher-centred lectures (see Section 9.3.2). This is consistent with the findings from the interviews with the teacher participants that the current teacher-dominant lectures and a lack of

interaction between teachers and students were not conducive to the development of CT (see Section 9.3.1.2.6). The dominance of teacher-centred classes in China is also reported in the literature. Critics from China often blame the teacher-centred classes for their negative effect on the development of CT in students, as students in China are expected to respect teachers as authorities and thus do not challenge or question them (Yang, 2003; Zuo, 2004; Li, 2005; Zhu et al., 2006). Cheng (2000) specifically related this to studying overseas, arguing that Chinese students are used to teacher-centred lectures and do not know the rules of discussion in class when they study abroad.

Moreover, findings from both empirical studies and literature suggested that CT has not been given sufficient attention in current teaching and learning practices either. This conclusion is not only based on the above discussions that Chinese students lack opportunities to practice CT skills, for example in writing and classroom discussions, but also on the fact that when writing *is* practiced, CT skills are not encouraged and poorly employed. The students in the interviews in China (see Section 9.3.1.3) reported that their teachers did not mention CT in the requirements for, or feedback on, writing and their CT skills were unlikely to be much improved by the minimal exposure to writing they experienced. The finding from the text analyses, that the CT skills were not satisfactorily applied in the samples, serves to confirm the students' reports. Furthermore, the questionnaire survey (see Section 6.2.2) suggested that the guidance from the supervisors in China focused more on topic choice, structure and subject knowledge, rather than on higher-order thinking skills. In contrast, the interviews with the Chinese students in the UK (see Section 6.4.4) showed that CT *had* been stressed, or mentioned either explicitly or implicitly in the UK. Data from the interviews in the UK (see Section 6.4.3) also showed that the argumentation expected in the UK was qualitatively different from that in China. Students in the UK were required to provide sound evidence, and provide more empirical studies, and there was a greater requirement for logical and critical thinking in their arguments. The students further reported that their assignments in the UK were more question/problem based, while in China, they had been more direction or area oriented.

Insufficient attention paid to CT skills was also reflected in the types of question the teachers posed in the classes observed (see Section 9.3.2). Most of the questions were asked (by the tutors) in order to check whether the students had understood the language points or a concept, rather than

to encourage students' in-depth thinking of an issue. In addition, classroom interactions and discussions which are considered to be helpful to develop CT in students (Tsui, 2002) were not emphasised in any of the classes observed.

This finding is also supported by Jin and Cortazzi (2006), who argued that the attention and emphasis given to CT in education in China are not sufficient, and by Zhu et al. (2006) who alleged that Chinese students' lack of CT is partly due to students' lack of training in CT and teachers' lack of CT skills and dispositions themselves. Additionally, it has been argued that there is a lack of research into CT in China (Luo, 2000; Luo and Yang, 2001; Hong, 2003; Wu, 2004), and there is an over-emphasis on knowledge accumulation and traditional exams and an overlooking of pragmatic skills, such as CT, in education (Zhu, 2002; Du, 2004). Other supportive voices come from Liu and Wu (2004), who claimed that CT is only taught in certain disciplines in China, such as Logic.

Many of the features of the training Chinese students receive at undergraduate level, as discussed above, (e.g. a lack of attention to, and training in, writing and CT, an over-emphasis on traditional knowledge-oriented exams, an absence of interaction between the teachers and students, the dominance of teacher-centred classes, and teachers' own lack of CT), can be found in Mangena and Chabeli's (2005) list of factors which may inhibit the development of CT in students. For example, these could be "educators' lack of knowledge (of CT); use of teaching and assessment methods that do not facilitate CT" (p. 295) (see Section 4.6). As a result, it is suggested that, when studying the performance of Chinese students studying abroad, researchers should pay more attention to the "small culture" of the institute than to "big culture", such as the Confucian heritage of Chinese culture. It is also suggested that the characteristics of the "small culture" of the institute in China, such as the over-emphasis on the traditional exams and the prevalence of teacher-centred lectures, should be viewed as the main reason for Chinese students' being passive in class and lacking critical thinking skills (Clark and Gieve, 2006).

10.2.3 English-major students are likely to have considerably different experiences of learning and writing at undergraduate level in China from other social science students

Evidence derived from the case study in China indicates that English-major students may have considerably different experiences of learning and writing from other social science students, although not necessarily worse ones.

In the pilot study in China (see Section 8.3), the Finance students seemed to have received better training in academic writing than the English students, since they reported they had written more academic texts and they had obtained more feedback from their teachers. However, evidence from the main study in the same two departments showed that this could be misleading. The interviews with English students in the main study revealed that they had in fact received more feedback from their teachers than the Finance students (see Section 9.3.1.3). In addition, although the findings from the text analysis showed that the English students wrote considerably fewer words for their essays and dissertations than the Finance students (see Section 9.3.3.5), and they tended to focus more on different types of text than academic writing (see Section 9.3.1.3), plagiarism seemed to be more prevalent among the Finance students than among the English students (see Section 9.3.3.5). The difference in plagiarism could be attributed to the different languages the students used in their writing. As English-major students wrote in their second language, and their texts were different from the published ones, it was easier for their teachers to identify plagiarism if they had copied from the published articles. As a result, they tended to write their own words, while the Finance students had no such worries. However, the content of writing and the different focuses of the training in the two departments indicated that the English course was more skills-based and less academic than the Finance course and this could have affected the students' development of argumentative and CT skills in academic writing (see Section 9.3.1.3).

Findings from the text analysis also showed that the approaches to writing in the two departments were markedly different (see Section 9.3.3.5). The English students relied on common sense and personal experience as the evidence to justify their claims in short essays, and tended to use a qualitative approach to writing dissertations, while the Finance students appealed more to statistical data in both essays and dissertations. However, the results of the text analysis nevertheless showed that the links between the sections in the Finance dissertations seemed to be weaker than those in the English dissertations, even though the former all received a top grade, while only two of the latter did.

Moreover, the degree of agreement between the teachers and the students seemed to be

different in the two departments (see Section 9.3.1.3). While in the Department of Foreign Languages, both the teachers and the students considered the use of language to be the most difficult aspect of student writing, in the Department of International Trade and Finance, only the teachers were concerned about this. Further, the teachers and the students from the Department of International Trade and Finance disagreed about students' thinking skills. A possible reason for this phenomenon could be the lack of interaction between the Finance students and their teachers.

In addition, the classroom observation data revealed that the class size in the Department of Foreign Languages was considerably lower than in the Department of International Trade and Finance, and there were more questions posed by the tutors in the classes in the Department of Foreign Languages than in the Department of International Trade and Finance (see Section 9.3.2).

10.3 Implications and suggestions

10.3.1 Implications for Chinese students

Chinese students who plan to go to the UK to pursue an advanced degree in the humanities or social sciences after they obtain their first degrees in China need to bear in mind that the academic cultures of the target university in the UK and their home university may well be significantly different. They may accordingly find after arrival in the UK that they have to change their learning strategies in order to adapt to the new environment. The knowledge of the difference between the academic cultures will help students shorten the adjustment period after arrival. The findings suggested that Chinese students need to pay attention to the following three key differences in academic cultures if they want to pursue an advanced degree in the humanities or social sciences in the UK.

1) Writing may be markedly different in the UK from that in China.

Firstly, students need to know that the traditional forms of exam which are prevalent in China may be replaced by essays and dissertations in the UK. While the findings from the interviews both in

the UK and in China and the literature review in Section 2.3.3 indicated that traditional exams are still the major form of assessment at undergraduate level in China, evidence from the literature review in Section 3.2.1 shows that essays and dissertations are the default forms of assessment in most of the subjects in the humanities and social sciences in the UK.

Secondly, students need to know that both the essays and dissertations are likely to be question- or problem-based in the UK, rather than being direction- or area-oriented as they are in China, as the findings from the interviews in the UK (see Section 6.4.3) indicated. Teachers in the UK may well expect students to look at a specific question in an assignment, or narrow down the topic of a dissertation. This implies that, in comparison with the emphasis on the breadth of knowledge in China, UK teachers are more concerned about in-depth analysis in writing.

Thirdly, students need to be aware that some key elements in writing, which they may never come across in China, are considered very important in UK universities. As discussed above in Section 10.1, findings from the text analysis showed that argumentative and critical thinking skills were not satisfactorily applied in the samples. In addition, findings from the questionnaire survey (see Section 6.2.3) indicated that the social science and language students did not do much empirical work at undergraduate level, and evidence from the text analysis showed that there was a lack of sound evidence in the student writing. Findings from the interviews in the UK (see Section 6.4.3) suggested that students may be expected to conduct empirical studies or critical literature reviews to provide evidence for their conclusions, and they are expected to weave that evidence logically to make an argument in their essays or dissertations. In addition, students are likely to find that they are expected in the UK to read critically and evaluate evidence or conclusions in published studies. This may be frustrating at the beginning, as Chinese students may have never done it before. The text analysis showed that the students avoided mentioning views contradictory to their own and there was rarely any evidence of reflective thinking about their argumentation.

Fourthly, students need to be aware that there may be differences in discourse and rhetorical patterns between Chinese and English, as reflected in the findings from the interviews in the UK (see Section 6.4.3), and from the literature review in Section 3.4. For example, they need to know that in English, they may well be expected to place a topic sentence or main idea before their reasons, examples or explanations, rather than employ the reverse order as is common in Chinese writing.

Finally, students need to keep in mind that plagiarism is not allowed in the UK. This means they cannot write simply by copying from other literature, and they have to work hard independently. Findings from the interviews in the UK (see Section 6.4.3) indicated that there are clear regulations on referencing and plagiarism, and the UK teachers were more aware than their Chinese counterparts of the need to identify plagiarism in student writing.

2) Students need to participate actively in classroom activities in the UK

Evidence from the classroom observations (see Section 9.3.2) showed that the teacher-centred lectures were still dominant and there were rarely questions posed by the students or group discussions in class. However, this might not be the case in the UK. As Cheng (2000) suggested, students are expected to participate actively and make contributions in class discussions in western countries. Chinese students therefore need to be aware of this difference and adapt actively to the new academic culture in the UK.

3) Students need to have appropriate language proficiency to study at an advanced level in the UK.

Although students may, when they apply, meet the requirements of the UK university concerning the level of English language proficiency, they may well still have language problems when the course starts. The popular English language tests such as TOEFL (Test of English as a Foreign Language) and IELTS (International English Language Testing System) do not always predict students' actual language performance in specific contexts (Cheng, 2000). Evidence from the interviews in the UK (see Section 6.4.3) showed that language was indeed regarded by the students' teachers and themselves as a key weakness in their writing. In order to discover the requirements of English proficiency, students could search for as much information as possible, for instance, on the website of the department or the university, or where possible by emailing current or past students before they apply.

10.3.2 Suggestions for Chinese educators

There is currently controversy in relation to the purpose and outcome of education in China.

Huang et al. (2005) and Liang (2005) argued that the Chinese government has recognised the importance of improving various skills by proposing an all-round development scheme. However, the findings from the literature review and empirical studies showed that neither the teacher-dominant classes nor the forms of exam were conducive to the development of writing skills or thinking skills. Assuming that argumentative and critical thinking skills are needed in collecting and processing information, thinking creatively, analysing and solving problems, which is advocated in *The Decision about Further Education Reform and All-round Development of Quality Education* from the State Council of the PRC (1999), the controversial issue seems to be why the aims of the government are not being achieved in actual teaching and learning in higher education. In order to answer this question, it may be sensible to break the problem down into four inter-related questions. What specific skills are expected of students? Can these skills be assessed? If so, what is the best way to assess them? And what teaching and learning methods could be promoted to improve them? In terms of argumentative and critical thinking skills, the following suggestions can be made on the basis of the findings thus far. However, in consideration of the complexity of the issues regarding education in such a large country, caution is needed when trying to apply them.

The first suggestion is to change the form of assessment at universities, so that both teachers and students have to change their teaching and learning strategies to cope with assessment. If students had to employ independent and active thinking, rather than to simply memorise what has been taught in class and in the textbooks, they would rapidly adjust their learning strategies to meet the new requirements. In Elton and Laurillard's words, "the quickest way to change student learning is to change the assessment system" (1979, cited in Dahlin et al., 2001: 47). Gu and Schweisfurth (2006) also suggested that students have a strong desire to adapt to the new environment. The findings from the Study 1 interviews (see Section 6.3.7) implied that by the time they reached the UK, students *did* wish they had improved their higher-order thinking skills, such as argumentative and critical thinking skills, at the university where they did their first degree, though how far this represents a desire to adapt to a new environment is unclear.

The data from the interviews in the UK (see Section 6.4.3) suggested that students felt a significant improvement in their argumentative skills, critical thinking, and confidence after a period of study in the UK, where they were assessed on the writing of essays and dissertations.

Writing has often been reported in the literature as a good teaching strategy to improve critical thinking by students (e.g. Tsui, 2002). This suggests that writing could usefully replace traditional exams for assessment in the humanities and social sciences in China. However, three factors need to be taken into consideration here. One is that writing as a form of assessment may add to the workload of already busy Chinese university teachers and students (see Sections 9.3.1.2.5 and 9.3.1.2.6), and may on these grounds alone be resisted or even rejected. In addition, such a change requires that the teachers themselves need to be critical, as well as the students. However, the Study 2 findings showed that one Chinese teacher had never met the concept of critical thinking before (see Section 9.3.1.2.6). Lastly, due to the fact that plagiarism is prevalent among students and it is hard for Chinese teachers to identify it in student writing, writing as a form of assessment may be treated by some students as an opportunity to cheat, making the new approach unfair for honest and hard-working students.

The interviews in the two studies and the text analyses both indicated that plagiarism is still prevalent among university students in China. A range of reasons for this phenomenon was given by the students, among which the most frequently mentioned ones were the influence of the environment and a lack of clear guidelines or training (see Section 6.3.3). In the light of this situation, the following measures could be taken to reduce the occurrence of plagiarism. Firstly, systematic training could be provided for students to become aware of what plagiarism is and how to borrow and refer appropriately to other people's words and ideas. Secondly, regulations on penalties could be more explicit and harsher. Thirdly, an anonymous marking system could be introduced to maintain fairness in marking. Fourthly, computer technologies, involving both checking software and databases, could be introduced to make it easier for teachers to detect plagiarism in student writing. Finally, and most importantly, writing needs to be given sufficient attention by both teachers and students. In particular, teachers could focus more on depth than breadth in student writing and encourage students to link what they read to what they know (see Abasi and Akbari, 2008). However, the findings also showed that students might be affected by social culture outside the university (see Section 9.3.1.1.4), something which is beyond the control of the university or the department. For instance, Interviewee FS5 reported that her father had copied but had his book published. Therefore, it is suggested that the government needs to introduce additional measures, operating at staff and national levels, such as anonymous peer

review of journal submissions, to reduce plagiarism in publications and maintain fairness and a high quality.

The interviews with the students in the UK (see Section 6.3.3) also suggested that reasons for plagiarism included traditional teacher-centred classes and a lack of critical and systematic thinking in writing. In order to improve critical thinking in students, teachers need to have an adequate amount of knowledge and awareness of critical thinking, and be willing to help students. Teacher training and more research into critical thinking might be helpful to those teachers who have little knowledge of critical thinking, and the following actions could probably be taken by teachers to improve students' critical thinking: 1) giving students opportunities to practice critical thinking in class, by for example organizing group discussions, or asking thought-provoking questions; 2) becoming evidence-oriented and establishing a safe environment, so that students are allowed to ask questions; 3) setting assignments which require argumentation and critical thinking; 4) encouraging students to read broadly and critically; and 5) giving appropriate feedback so that students know their strengths and weaknesses in reasoning. The latter point seems particularly important, as the interviews in China showed that the teachers and students held different views on students' performance, and it seemed that this was due to a lack of communication between them (see Section 9.3.1.2.3). Additionally, departments could consider offering students systematic training in CT for the discipline, as it has been reported that training can help students improve their CT (e.g. Yeh and Chen, 2005). However, future research does need to explore how to improve critical thinking of students in large classes (of around 80 to 100 or even more), as this feature seems unlikely to change in the near future (see Section 9.3.1.2.6).

10.3.3 Implications and suggestions for British educators

It is suggested that the UK educators should also take into consideration the potential differences between the academic cultures in the two countries, which have been discussed in Section 10.2.1. In order to help Chinese students adapt quickly to the new environment, the following measures could be taken by UK educators.

Firstly, given the fact that Chinese students may well come from a teacher-centred and

exam-oriented academic culture, where writing is not as important as in UK universities, it is suggested that lecturers could explain explicitly what they expect of students in class and after class. For instance, although they may have mentioned the point in orientation sessions, they could usefully make it even clearer that they expect students to participate actively in classroom activities, to think independently and ask questions without worrying about offending authority, to read broadly, and to be able to demonstrate logical and critical thinking in writing. However, in consideration of the fact that students may be used to teacher-centred lectures, it may take time for them to change.

Secondly, it is suggested that systematic training in argumentation and critical thinking could usefully be provided, as the findings showed that student writing in China can be markedly different from that in the UK, and argumentation and critical thinking were not satisfactorily employed in the Study 2 writing samples. The results of the text analysis indicated that it is likely that many Chinese students will have never written the kind of argumentative essays which require convincing evidence. The need for systematic training was expressed by the Chinese students in the interviews in the UK, who reported that most of the time relevant CT skills were taught implicitly rather than explicitly (see Sections 6.4.4, 6.4.6 and 6.4.8).

In particular, the training could usefully address specific weaknesses of Chinese students which emerged from the studies, such as CT Skill 2, “to identify hidden assumptions made by a writer”, Skill 4, “to draw inferences from the text”, which the interviewees reported being less confident about than other skills (see Section 6.4.8), and Skill 10, “to reflect on one’s own reasoning”, which emerged from the text analyses. Moreover, the training could focus on aspects of a critical approach to argumentation suggested by Andrews (2007) (see Appendix 10), which were rarely used in, or missing from, the writing samples, such as “the ability to evaluate different sources” and “an awareness of contradictory views”.

However, UK educators also need to bear in mind that there are disciplinary differences, and that the above suggestions were derived from two case studies and the results may not be applicable to students from other institutions in China. The findings nevertheless showed that the English-major students obtained significantly different training at undergraduate level from the Finance students in China. Therefore, UK educators need to consider these differences, for example, by carrying out a small survey of students’ educational background at the beginning of

the course, and providing training which would ideally be integrated with students' subject areas. Evidence which supports this proposal also comes from the review of the literature, which suggested that currently most researchers and theorists advocate teaching CT within a subject area (see Section 4.6.2). Dam and Volman's (2004) review in particular concluded that CT skills developed in generic CT training frequently fail to be transferable to other contexts.

Suggestion three is that plagiarism needs to be addressed at the beginning of the course. This means that not only does the meaning of plagiarism need to be explained explicitly, but also appropriate methods of referencing and citation need to be given. The discussions with student interviewees in the UK showed that clear regulations on referencing had markedly reduced the occurrence of plagiarism, and had even changed the students' attitudes towards writing itself.

Finally, UK educators need to be aware that although Chinese students have passed exams such as TOEFL and IELTS, they may still have language barriers when it comes to academic writing or class discussion. As a result, it is suggested that the university could provide language support, particularly for those who have never written academic texts in English before, and could usefully address the differences in rhetorical patterns between the two languages. This could also be integrated with the training in argumentation and critical thinking, as these two elements are considered very important in English academic writing.

However, given the complexity of the education system in China and the large differences between places, it is suggested that cultural homogeneity should be avoided where possible. By way of illustration, Student 33 reported in her interview that she had obtained similar training at undergraduate level in China to that in the UK (see Section 6.3.4.2). Peverly's (2005) study showed too that marked variation in educational provision exists in China between urban and rural areas, between public and private schools, and between the main Han ethnic group and other ethnic minorities.

10.4 Limitations and suggestions for future research

The two major methodological concerns with this study are the size of the samples in the

questionnaire survey in the UK, and the process of sampling in the case study in China. A large and randomized sample would have been the ideal for the questionnaire survey. However, although various efforts were made to get in touch with the body of Chinese students who were studying at the UK university, only 40 students responded to the questionnaire, and this makes generalisation of the findings to a larger scale very difficult. Nevertheless, the in-depth follow-up interviews with 28 students yielded an abundance of data which allowed me to gain a much better understanding of students' writing experiences in the UK.

Due to the difficulty of obtaining access to research sites in China, where human relationships still play a very important role, the data collection in China mainly relied on my colleagues in the two departments. I liaised regularly with them, but they ultimately chose all the interviewees, the classes to be observed, and the writing samples. A randomized sample was simply impossible, as they could in practice but choose staff and students whom they knew. It is possible that this sampling process could have biased the outcomes. However, the variation in students' performance in writing indicated that they chose a broad range of texts and not just the very good and/or very bad examples.

In addition, as the evidence comes from only one case study, the findings may not be able to be applied to students from other universities in China. Moreover, the results of the text analyses showed that attention needs to be paid to the salient individual differences in language proficiency and argumentation even within the same department (see Section 9.3.3.5).

Another concern is that the studies were conducted by only one researcher, and thus personal bias became unavoidable, particularly in the data analysis. Ideally, in order to maintain a certain level of objectivity, more than one researcher needs to be involved and the inter-rater reliability of the text analyses needs to be considered, as in Stapleton's (2001) study. However, as this is a self-funded PhD project, it is hard for me to pay other people to do the research. In order to improve the trustworthiness of the study, a series of verification measures were nevertheless taken (see Sections 5.3 and 9.2.5). For example, one of the interview transcripts was read by a colleague to check its consistency with the audio record.

Another shortcoming of the study is the absence of more objective assessment instruments, such as the CCTDI (California Critical Thinking Disposition Inventory) and the CCTST (California Critical Thinking Skills Test), to test the CT skills or dispositions of the students.

However, in the review of the literature I concluded that the existing test instruments may not be fully applicable to Chinese students, and thus the study mainly relies on students' self-reports of their performance in academic writing and CT in the UK, and on the students' and staff's self-reports plus my analysis of the students' writing samples and observations of classes in China. However, according to Tsui (2002), evidence from the existing research studies indicates that self reports of cognitive abilities and standardized test scores are positively related. Future studies could investigate what tests can be used on Chinese students, and it might be interesting to test Chinese students before and after they study in the UK to see whether there is an increase in CT skills and dispositions after a period of study.

In addition, more comparative studies could be conducted in the future between Chinese students and English students at the same level, and between Chinese undergraduates and graduates. The conclusions of this study relied partly on comparing Chinese undergraduate students' performances in academic writing, argumentation and critical thinking in China with Chinese graduate students' performance in the UK. Although the study satisfactorily achieves its initial aim of investigating the impact of the training Chinese students receive at undergraduate level on their critical thinking in writing at an advanced level in the UK, future studies could compare the performance of Chinese undergraduates and English undergraduates in academic writing and critical thinking, by either looking at their writing samples or using reliable tests, on the condition that the institutes where the students are situated are equivalent and comparable. Future studies could also compare the performance of graduate students in the UK with those in China in academic writing and critical thinking. In addition, future studies could compare the performance of the undergraduates and graduates in China. These comparative studies could begin to answer the question of whether the differences in students' performance emerging from the present study are caused by the different stages of study, or by different academic cultures and practice in the two countries.

Further, future studies could look at the dispositions dimension of CT, and look at the relationship between familiarity with subject knowledge and the application of CT skills. As discussed in Section 4.5, CT is a very complex and broad topic, and a comprehensive definition of CT needs to involve both the cognitive skills and affective dispositions dimensions, and take into account the influence of familiarity with subject knowledge on the application of CT skills.

However, due to the limited time available and the maximum permitted length of a doctoral thesis, the present study has primarily focused on the skills dimension. In addition, the meaning of 'reflective thinking' in the working definition of CT has been narrowly focused on reasoning in writing and outcomes of writing in the present study, rather than the process of learning, as advocated in PDP (Personal Development Planning) in many UK universities. Future studies could possibly explore the role of reflective thinking in the process of learning as well as the outcomes.

Finally, further studies could investigate what might be the best methods of teaching and learning CT for Chinese students. One of the key findings of the study is that systematic training in critical thinking seems to be necessary for Chinese students. However, due to the fact that there is a great deal of controversy in this area (see Section 4.6), and the higher education situations in China differ markedly (e.g. with respect to resources available and class sizes), more effort and attention needs to be paid to the exploration of appropriate methods for teaching and learning CT.

To sum up, the findings of the two studies indicated that the learning context of students does play an important role in students' performance in argumentation and critical thinking in writing, and unfortunately, training at undergraduate level in China does not seem to be conducive to the development of these two skills. This strongly supports Paton's (2005) argument that the educational experiences of Chinese students may not prepare them for their study abroad and they need to be trained to apply CT skills. It also confirms the finding from the literature review in Chapter 2 that more attention needs to be paid to the specific learning context than the traditional Confucian-heritage culture of China. Educators also need to be aware of the complex and dynamic nature of the educational system in China, and in particular of the existence of institutional, disciplinary and individual differences, as well as differences relating to different stages of study.

Notes

1. This question was broken down into a set of nine sub-questions in Section 5.1.2.5, covering the amount and nature of writing, the processes perceived as being involved, the training and feedback received, and the amount and nature of supervision.

Appendix 1 Study 1 Preliminary study: Questionnaire

Q1 Which university or college did you get your first degree from?

Q2 What subject did you study?

Q3 How many words were required for your dissertation?

Q4 What was the topic of your dissertation?

Q5 How many credits did you get for the dissertation?

Q6 How important was your dissertation for your degree?

Q7 What kind of research did you do for your dissertation?

Q8 How much empirical work did you do?

Q9 Please state briefly how you wrote your dissertation? E.g., read some books and articles and summarised them, or did some research and reported the results and findings...

Q10 What kind of training did the university provide for your dissertation?

Q11 Had you written any essays for any course before the dissertation?

Q12 What kind of help did you get from your supervisor (if you had one) for your dissertation?

Q13 How often did you meet with your supervisor?

Q14 What kind of feedback did you get for your dissertation? The feedback could be the feedback comments when you submitted drafts to your supervisor, or informal feedback from supervisor afterwards, or a formal report from the markers.

Study 1 Preliminary study: Questionnaire (Chinese version)

- Q1 你本科读的是哪所大学或学院？
- Q2 你本科读的是什么专业？
- Q3 你的本科毕业论文要求写多少字？
- Q4 毕业论文题目是什么？
- Q5 毕业论文占多少学分？
- Q6 毕业论文对于学位的重要性如何？
- Q7 你为毕业论文做过什么研究吗？
- Q8 你做过多少实地调查类的研究？
- Q9 请简单陈述一下你是怎么写论文的？例如，看相关的书然后总结其中的论点，或者把自己的研究结果写出来.....
- Q10 你的学校给你们提供了什么样的论文写作方面的培训？
- Q11 在毕业论文之前你有为任何课程写过小论文吗？
- Q12 你的导师（如果有的话）给你提供了什么样的帮助？
- Q13 你多长时间和导师见一次面？
- Q14 你的毕业论文的反馈（来自学校或系）是什么样的？反馈可以是你的导师对你的论文初稿或定稿的意见或建议，或者是来自评分人的正式的书面报告。

Appendix 2 Study 1 Preliminary study: A summary of answers to the questionnaire

**ALL
PAGES ARE
BLANK
IN
ORIGINAL**

Appendix 3 Study 1 Preliminary study: Further questions in the interviews

1. Where did you obtain the reading materials for your dissertation?
2. What writing procedure did you follow?
3. Would you please tell me the structure of your dissertation?
4. What was the content of the training for the dissertation?
5. Did the department stress the problem of plagiarism?
6. Did the department or your supervisor tell you how to reference?
7. What did your supervisor emphasise when s/he read your dissertation? What problems did s/he point out and what suggestions did s/he give?

Appendix 4 Study 1 Questionnaire survey in the UK (English translation)

Hello,

I am a PhD student in the Department of Educational Studies at the University of York, and my research is on the critical thinking abilities of Chinese students in academic writing. In the research for my MA dissertation, many Chinese students studying in the UK claimed that they had difficulties in writing essays or dissertations. Among these difficulties, the most frequently mentioned one was critical thinking, which is regarded as an ideal educational objective in western countries. As a result, I want to do some further research in this area, and I hope the findings of the research will be of use to Chinese students. If you obtained your first degree in Mainland China, would you please take a few minutes to complete this questionnaire regarding your academic writing in China? Please write your answers to the multiple choice questions in the brackets following each question. If you are told to write some more information, please write your answers in Chinese, unless you need to use English. Your answers would be highly appreciated.

One point which needs to be explained here is about confidentiality. The questionnaire is not completely anonymous. I have suggested you leave your email address or telephone number at the end. If you do leave it, your private information will not be used in the final report of the findings, and the data gathered through the questionnaire will only be used for my research. I will contact you via email or telephone if you are happy to be interviewed later on.

I would be very grateful for your time and effort for completing this questionnaire.

Good luck with your study at York,

Jing Tian

The Department of Educational Studies

University of York

Email: jt148@york.ac.uk

1. Gender: ()
A. Male B. Female
2. Age: _____ years
3. How long have you been working after graduating from your first degree?
_____ years _____ months.
4. Your current subject at York is: _____
5. The name of your undergraduate university is: _____
6. Your major at undergraduate level was: _____
7. The title of your dissertation was: _____ (either Chinese or English can be used here; try to be consistent with your actual title)
8. In which language did you write your dissertation: _____
9. How many words did you write for your dissertation? _____
10. How many words did **your university require** for your dissertation? _____
11. How long did you spend on your dissertation from choosing the topic to submitting the final version? _____ months _____ weeks.
12. Did you need to write a dissertation in order to get your degree? ()
A. Yes B. No
13. Did you know the assessment criteria for dissertations? ()
A. Yes B. No
14. What did you think about the assessment of dissertations in your department? It was generally ()
A. Very strict
B. Strict
C. About average
D. Somewhat loose
E. Very loose
15. Do you know the approximate proportion of students whose dissertations failed in your department? ()
A. Yes, please specify: _____ B. No

30. What kind of feedback did you get for your essays?

There will be a brief follow-up interview after this questionnaire, please leave your email address or telephone here. If you can't accept the interview, please specify the reasons: _____

_____.

Your Email address: _____

Internal telephone number: _____

Mobile: _____

Questionnaire survey in the UK (Chinese version)

您好,

我是约克大学教育系的在读博士生, 研究课题是“如何帮助中国学生在学术论文写作中提高批判性思维 (critical thinking) 能力”。根据本人在英国的硕士论文研究, 在英国接受高等教育的很多中国学生普遍反映论文写作有困难, 其中最突出的问题是在论文写作中缺乏批判性思维能力, 而这正是西方教育领域极力推崇的关键能力。因此, 本人想在该领域做一些研究, 并希望研究的结果能给在国外求学的莘莘学子们提供些指导。如果您的本科学习地点是在中国大陆, 请用几分钟帮我回答以下跟本科阶段论文写作相关的问题。请将您选择的答案写在题后括号内。如果有需要文字表述的地方请尽量用中文 (除非不得不用英文)。请尽量选择和您实际情况相符的答案, 我将非常感激。

需要说明的是此问卷后续会有简短的访谈, 希望您能留下电子邮件地址或其他的联系方式。但问卷的结果仅限研究使用, 并且对个人信息绝对保密, 也即在最终的研究成果汇报中绝不会出现您的个人信息。

如您有任何问题请随时与我联系。我的电子邮件信箱: jt148@york.ac.uk。

再次感谢您的宝贵时间。祝您在约克学习生活愉快!

约克大学教育系 田静

2006年1月

1. 性别: ()
A. 男 B. 女
2. 年龄: _____
3. 本科毕业后曾工作过_____年_____月
4. 现在约克所学专业(此处可用英文): _____
5. 本科就读学校: _____
6. 本科所学专业: _____
7. 您的毕业论文题目: _____ (此
处可用中文或英文, 尽量和您毕业论文的实际题目一致)
8. 毕业论文所用语言: _____
9. 您本科毕业论文写了多少字: _____
11. 您的毕业论文学校要求写多少字: _____
11. 从选题到终稿, 您的论文一共花了多长时间? _____月_____周
12. 在您的本科学校, 毕业论文是学位的必要条件吗? ()
A. 是 B. 不是
13. 您知道毕业论文的评分标准吗? ()
A. 知道 B. 不知道
14. 您认为您的学校在论文评审时对论文质量要求: ()
A. 非常严格
B. 严格
C. 中等
D. 比较宽松
E. 很宽松
15. 您知道您所在系里学生毕业论文没过的比例吗? ()
A. 知道, 大约是: _____ B. 不知道
16. 您的论文主要侧重于(可以多选): ()
A. 文献综述 B. 实地调查, 如采访, 或调查问卷等
C. 做实验或试验 D. 根据理论设计计算机程序
E. 其他: _____

17. 您主要通过什么途径查找与论文相关的资料? (可多选) ()
- A. 图书馆
B. 互联网
C. 各种数据库
D. 书店
E. 导师
F. 朋友
G. 其他: _____
18. 针对论文写作, 您的本科就读学校提供了 (可多选): ()
- A. 专门的课程
B. 一到两次讲座
C. 老师在上其他课时顺带讲讲
D. 由导师提供指导
E. 论文写作格式和要求, 以书面或电子邮件形式
F. 优秀论文范文
G. 有关论文写作方面的参考书 (目)
H. 其他: _____
19. 在论文中您标明所有文献出处吗? ()
- A. 是
B. 不是
20. 您知道大概有百分之多少学生有抄袭现象但仍然通过了毕业论文评审吗? ()
- A. 知道, 大概是_____%
B. 不知道
21. 您和毕业论文导师的见面频率: ()
- A. 比较固定, 请写出具体频率 (如一周一次): _____
B. 不固定, 我和导师一共见了_____次
C. 一次也没见过
D. 其他: _____
22. 除了面对面的交流, 您还通过什么方式和导师沟通 (可多选): ()
- A. 电子邮件
B. 电话
C. MSN 或 QQ 等网上聊天形式
D. 书面写信或留言
E. 其他形式: _____
23. 导师的指导包括 (可多选): ()
- A. 选题
B. 论文基本框架
C. 写作步骤
D. 逻辑思维, 其中包括批判性思维
E. 研究方法
F. 专业知识
G. 句型语法
H. 参考书目
I. 其他: _____
24. 您觉得导师对您的帮助: ()
- A. 很大
B. 比较大
C. 一般
D. 不太大
E. 没有帮助

25. 您的论文获得的反馈有(可多选): ()
- A. 导师给每稿的口头反馈意见
B. 导师给每稿的书面反馈
C. 来自系里的等级或分数
D. 来自系里的书面报告
E. 来自校外评分人的书面报告
F. 有书面反馈, 但学生本人看不到
G. 没有任何反馈
H. 其他: _____
26. 毕业论文前您写过的小论文频率: ()
- A. 每学期都有, 请写出每学期写的小论文大约篇数: _____
B. 不一定每学期都有, 根据课程情况。本科阶段您写的小论文一共大概 _____ 篇
C. 没有写过小论文
D. 其他: _____
27. 如果您写过小论文, 每篇论文的字数大概多少: _____
28. 您的小论文用什么语言写: ()
- A. 中文
B. 英文
C. 根据课程用不同语言
D. 其他: _____
29. 您在写小论文时获得过什么样的帮助或指导? 请将您的答案写在以下空白处。
30. 您的小论文得到了什么样的反馈? 请将您的答案写在以下空白处。

此调查问卷后会有一个简短的访谈, 请在此留下您的联系方式:

您的 Email: _____

如住校内, 请留下内线电话: _____

其他方便的联系方式, 如手机: _____

或通讯地址: _____

如您不愿意接受后面的采访, 请注明原因: _____

Appendix 5 Study 1 Interview Part A: Follow-up questions from the questionnaire

1. How long did you spend on your BA dissertation? Do you think it was enough?
2. What makes you consider the assessment of your undergraduate dissertation strict?
(This question is based on the findings of the questionnaire and only applicable to those who answered “strict” or “very strict” to this question.)
3. What do you think are the main reasons for the problem of plagiarism among Chinese students in China?
4. For those students who had received guidance on argumentation and critical thinking, what is your understanding of these two concepts and what did your teachers stress to you?
5. What kind of guidance did you want to get from your supervisor?
6. What did you do with the supervisor’s feedback?
7. What did you learn from the supervisor’s feedback?

Study 1 Interview Part A (Chinese version)

1. 你的本科论文花了多长时间？你觉得这些时间够吗？
2. 请解释一下是什么让你认为本科毕业论文的考核严格或非常严格的？（此问题只适用于那些在问卷中回答“严格”或“非常严格”的学生。）
3. 你认为中国学生抄袭现象普遍的原因是什么？
4. 如果你在本科阶段接受过有关批判性思维 (critical thinking) 或议论文 (argumentation) 写作方面的指导，请谈谈你对这两个概念的理解？你的老师当时是怎么强调这两个概念的？
5. 你在写毕业论文的时候期望导师能提供哪些方面的指导？
6. 导师给你反馈后你如何处理？（例如：你会根据导师的反馈修改你的论文吗？）
7. 你从导师的反馈中学到了什么？

Appendix 6 Study 1 Interview Part B: Questions regarding learning experiences in the UK

1. According to the feedback you have received so far, how satisfied are you with your performance with writing in the UK?
2. What in your writing has been highlighted by the teachers in the UK? What do you think your strengths and weaknesses are? What are you worried about the most? What are you doing to overcome these problems?
3. Do you think your writing in the UK is significantly different from that in China? What are the differences?
4. On the basis of your interaction with your teachers and their feedback on your writing in the UK, do you think they stress critical thinking? How do they explain the concept to you?
5. After a period of study in the UK, have you established an understanding of critical thinking? What is it?

The following three questions are asked after an explanation of the skills (see Appendix 7).

6. Do your tutors and supervisors in the UK stress the critical thinking skills on the list? In what ways do they stress them?
7. How satisfied are you with your ability to apply these skills to academic writing?
8. If you have used some of the skills, what are they? If you have not used any of the skills, what are the main reasons?

Study 1 Interview Part B: Questions regarding learning experiences in the UK (Chinese version)

1. 根据你到目前为止写作的反馈，你认为你在英国的写作表现如何？
2. 你的英国老师认为你的写作比较好的方面有哪些？比较弱的方面有哪些？你自己认为呢？你在写作时最担心什么？你怎么克服写作中遇到的困难？
3. 你认为在英国的写作和在中国的有很大的不同吗？有哪些不同的地方？
4. 根据你和英国老师的交流以及写作的反馈，你认为他们强调批判性思维（Critical Thinking）吗？他们是怎么强调的？（强调哪些方面？概念本身？应用？）
5. 经过一段时间在英国的学习，你自己建立起对批判性思维的理解了吗？能谈谈吗？
在解释完批判性思维的定义（Appendix 7）后我们将讨论以下三个问题：
6. 你在英国的老师或导师强调批判性思维吗？他们是怎么强调的？
7. 你认为自己在写作中应用批判性思维的能力怎么样？

8. 如果你认为在写作中应用了批判性思维，你用了哪些批判性思维的技巧和技巧？如果没有，你认为阻碍你应用的原因是什么？

Appendix 7 A list of critical thinking skills

1. To identify key issues in a text;
2. To identify hidden assumptions made by a writer;
3. To recognise important relationships between points and between texts;
4. To draw inferences from texts (if X happened, this implies Y);
5. To evaluate evidence (or authority);
6. To draw conclusions;
7. To recognise a problem or formulate a research question;
8. To formulate multiple alternatives for resolving a problem;
9. To explain clearly the basis for one's comments and the results of one's study;
10. To reflect on one's own reasoning (E.g., to recognise one's personal bias, to detect and correct errors, and to identify the limitations).

Appendix 8 Study 2 Pilot study: Outline of interview with students in China

Part 1: Questions about writing in general

1. How often do you write essays?
2. How many words do you write for each essay?
3. How do you write an essay? (E.g. by doing a literature review, or an empirical study?)
4. How many books and journal articles do you read for each essay?
5. What do you think the characteristics of a good essay are?
6. What difficulties do you have in writing?

Part 2: Questions about critical thinking

1. Do you know the term Critical Thinking? If you do, what is your understanding of it?
2. Do you try to develop a line of argument in your essay? If you do, how do you defend your own points?
3. Do you try to use any evidence to support your points? If you do, where is the evidence from? (E.g. by using the research findings of others?)
4. Do you question the points in the articles you are reading?
5. Do you take into account the opposite points in your writing? How do you refute them?
6. Have you done any research to test your hypotheses? (E.g. doing a survey study to test your hypothesis that lecture attendance rate for girls is higher than that for boys.)
7. Are you aware of the weaknesses in your own arguments when you write? How do you find them? What do you do about them? (e.g. by having a 'with hindsight' section, or pointing out further research directions?)

Part 3: Questions about training (for those students who are attending a training course on writing)

1. Please tell me some details of the current training course: how many hours per week? What are the aims of the course? What content is included? What types of teaching are involved? What assignments are left to be done?
2. What do you think about the current training course? Do you think it helps you with your

essay writing?

3. Does your course tutor on writing emphasise critical thinking in students' writing? How about other academic staff who teach you in your department?
4. Are there any requirements for your essay assignments? What are they?
5. What feedback have you received on your writing?
6. Do you know the criteria for the grades for students' writing? What are they?
7. According to your feedback and experience, what do your teachers value in students' writing?
8. What are your suggestions for the current training course?

Part 4: Questions about plagiarism

1. How do you quote in your writing?
2. What do you think about plagiarism? Is it OK or wrong? Is it very common among students?
3. What measures do your teachers take to deal with plagiarism?

Study 2 Pilot study: Outline of interview with students in China (Chinese version)

第一部分：有关写作

1. 你多长时间写一篇小论文？
2. 你每篇小论文要写多少字？
3. 你是怎么写小论文的？（是文献综述，还是要做一个调查研究？）
4. 你写小论文的时候要读多少书和文章？
5. 你认为一篇好的论文应该具备哪些特征？
6. 你在写作的时候都遇到过什么困难？

第二部分：有关批判性思维

1. 你知道批判性思维吗？如果知道的话，你对这个概念的理解是什么？
2. 你写过议论文吗？如果写过，你是如何论证的？
3. 你试图通过论据来支持你的论点吗？你的论据都来自哪儿？（例如：用别人的研究发现？）
4. 你在阅读文章的时候对其中的一些观点提出过质疑吗？
5. 你在写文章的时候会考虑和你相反的观点吗？你是怎么反驳他们的？
6. 你做过调查研究来证明你的假设是否成立吗？（例如：你假设女生的出勤率比男生高，你做一个问卷调查来证明你的假设。）
7. 你在论证的时候能意识到自己的缺陷吗？你怎么找出这些缺陷？你怎么对待这些缺陷？（例如：在专门章节中讨论这些缺陷，或者是指出未来的研究方向等。）

第三部分：有关写作培训课程

1. 请阐述一下写作培训课程的基本情况：例如一周多少小时？课程的目的是什么？课程的内容是什么？采取什么形式？课后有什么作业？
2. 你怎么看待现在的写作课程？你觉得课程能帮你提高写作水平吗？
3. 你们写作课老师强调批判性思维吗？系里其他的任课老师呢？
4. 你们老师布置小论文的时候有什么要求吗？如果有，都是什么要求？
5. 你的作业都有什么样的反馈？
6. 你知道老师给学生作业判分的标准吗？如果知道，能谈谈吗？
7. 根据你的经验和收到的反馈，你觉得你的老师在学生写作中都注重哪些方面？
8. 你对现在的写作课有什么建议吗？

第四部分：有关写作中的抄袭现象

1. 你在写作的时候是怎么引用的？
2. 你怎么看待写作中的抄袭现象？是对的还是错的？在学生当中普遍吗？
3. 你们老师都采取什么措施来对付抄袭现象？

Appendix 9 Study 2 Pilot Study: Outline of interview with academic staff in China

1. What do you value in students' writing?
2. What is your understanding of the term Critical Thinking?
3. What do you think about the importance of Critical Thinking in education, especially in student writing?
4. How do you foster critical thinking in student writing?
5. What are your criteria for marking?
6. Do you make comments on student writing? Do you discuss drafts with students? Do you ever give feedback orally or privately?
7. What do you think the main problems of student writing are?
8. What do you think about plagiarism? Do you take measures to reduce or avoid plagiarism in student writing? What are they?
9. What do you emphasise in the writing course? What are the main purposes of the course? (for the tutors of writing courses only)

Study 2 Pilot Study: Outline of interview with academic staff in China (Chinese version)

1. 你在学生作业中都看重哪些方面？
2. 你是怎么理解批判性思维的？
3. 你怎么看待批判性思维在教育中的重要性，特别是在学生写作中？
4. 你怎么帮助学生在写作中提高批判性思维？
5. 你给学生判作业的时候有标准吗？都是什么？
6. 你给学生的作业留评语吗？你和学生讨论他们的初稿吗？你给学生口头的或书面反馈吗？
7. 你认为学生写作的主要问题是什么？
8. 你怎么看待学生写作中的抄袭现象？你采取措施来避免或减少抄袭的发生吗？都是什么措施呢？
9. 如果你教写作课，你在写作课里都强调些什么？写作课的目的是什么？

Appendix 10 Study 2 Evaluation framework for text analysis

This framework combines Andrews's (2007) principles of argumentation and aspects of a critical approach with Facione's (2006) critical thinking skills and Tsui's (2002) definition of critical thinking.

- ◆ Andrews's seven principles of argumentation
 1. "Use a single authorial voice".
 2. Find a balance "between the 'personal' voice and the impersonal voice".
 3. "Have a vertical and paradigmatic structure and organization", which requires "classification and categorisation", and "clarity of ideas, definitions, understanding of hierarchies of ideas, making distinctions between phenomena, etc."
 4. "Have logical or quasi-logical structure momentum: one idea or paragraph must lead to another and have some clearly defined connection to it."
 5. Be "explicit in the connections".
 6. Demonstrate "aspects of the discourse of essay or paper writing", such as "the use of a certain kind of diction", "an academic tone", "a detached, disinterested energy", and being evidence-oriented.
 7. Show "evidence of critical thought". (p. 6)

- ◆ Andrews's four aspects of a critical approach to argumentation:
 1. the ability to evaluate different sources;
 2. the awareness of contradictory views to one's own;
 3. a tendency to be sceptical in reading;
 4. and being as objective as possible.

- ◆ A list of CT skills derived from Facione (2006) and Tsui (2002) (also see Appendix 7)
 1. To identify key issues in a text;
 2. To identify hidden assumptions made by a writer;
 3. To recognise important relationships between points and between texts;
 4. To draw inferences from texts (if X happened, this implies Y);

5. To evaluate evidence (or authority);
6. To draw conclusions;
7. To recognise a problem or formulate a research question;
8. To formulate multiple alternatives for resolving a problem;
9. To explain clearly the basis for one's comments and the results of one's study;
10. To reflect on one's own reasoning (E.g., to recognise one's personal bias, to detect and correct errors, and to identify the limitations).

Appendix 11 Study 2 Main study: Outline of interview with students

Part 1: Questions about writing in general

1. How often do you write essays?
2. How many words do you write for each essay?
3. How do you write an essay? (E.g. by doing a literature review, or a study?)
4. How many books and journal articles do you read for each essay?
5. What do you think the characteristics of a good essay are?
6. What difficulties do you have in writing? (E.g., developing a line of argument?)

Part 2: Questions about critical thinking

1. Do you know these skills?
2. Do you need these skills?
3. Do you use these skills?
4. Why don't you use these skills?
5. What teaching and learning activities do you think help you develop these skills?
6. What activities do you think prevent you from doing these?
7. If you have a training course on writing, does your course tutor on writing emphasise these critical thinking skills in students' writing? How about other academic staff who teach you in your department?
8. Are there any requirements for your essay assignments? What are they?
9. What feedback have you received on last 2 or 3 pieces of work?
10. Do you know the criteria for the grades for students' writing? What are they?
11. According to your feedback and experience, what do your teachers value in students' writing?
12. If you have a training course on academic writing, what are your suggestions for the course?

Part 3: Questions about plagiarism

1. Do you point out all the sources of other people's ideas or words in your writing?
2. What do you think about plagiarism? Is it OK or wrong? Is it very common among students?

3. What measures do your teachers take to deal with plagiarism?

Study 2 Main study: Outline of interview with students in China (Chinese version)

第一部分：有关写作

1. 你多长时间写一篇小论文？
2. 每篇小论文要写多少字？
3. 你是怎么写小论文的？（是文献综述，还是要做一个调查研究？）
4. 你写小论文的时候要读多少书和文章？
5. 你认为一篇好的论文应该具备哪些特征？
6. 你在写作的时候都遇到过什么困难？

第二部分：有关批判性思维

1. 你知道这些批判性思维技能技巧吗？
2. 你需要它们吗？
3. 你用了这些技能技巧了吗？
4. 如果没有用，是什么原因呢？
5. 你认为哪写教学活动能帮助你提高这些技能技巧？
6. 你认为哪些教学活动阻碍了这些技能技巧的提高？
7. 如果你有写作课，你们写作课老师强调学生在写作中应用这些技能技巧吗？其他的任课老师呢？
8. 你们老师布置小论文的时候有什么要求吗？如果有，都是什么要求？
9. 你最近的两、三篇作业都有什么样的反馈？
10. 你知道老师给学生作业判分的标准吗？如果知道，能谈谈吗？
11. 根据你的经验和收到的反馈，你觉得你的老师在学生写作中都看重哪些方面？
12. 如果你有学术论文写作课，你对现在的课程有什么建议吗？

第三部分：有关写作中的抄袭现象

1. 你在写作的时候是怎么引用文献的？
2. 你怎么看待写作中的抄袭现象？是对的还是错的？在学生当中普遍吗？
3. 你们老师采取什么措施来对付抄袭现象？

Appendix 12 Study 2 Main study: Outline of interview with academic staff

1. What do you think the main problems of students' writing are?
2. What do you think about plagiarism? Do you take measures to avoid or reduce plagiarism in student writing? What are they?
3. What do you emphasise in the writing course? What are the main purposes of the course? (for the tutors of writing courses only)
4. What do you value in students' writing?
5. What do you think about the importance of Critical Thinking in education, especially in student writing?
6. What teaching and learning activities do you think help students develop these skills?
7. What activities do you think prevent students from doing these skills?
8. How do you foster critical thinking in student writing?
9. What are your criteria for marking?
10. Do you make comments on students' writing? Do you discuss drafts with students? Do you ever give oral or written feedback individually?

Study 2 Main study: Outline of interview with academic staff (Chinese version)

1. 你认为学生写作中都存在哪些问题?
2. 你是怎么看待学生抄袭现象? 你采取措施来避免或减少抄袭的发生吗? 都是什么措施呢?
3. 如果你教写作课, 你在写作课里都强调些什么? 写作课的目的是什么?
4. 你在学生写作里都看重哪些方面?
5. 你怎么看待批判性思维在教育中的重要性, 特别是在学生写作中?
6. 你认为哪些教学活动可以帮助学生提高这些批判性思维技能技巧?
7. 你认为哪些教学活动阻碍了这些技能技巧的提高?
8. 你怎么帮助学生在写作中提高批判性思维?
9. 你给学生判作业的时候有标准吗? 都是什么?
10. 你给学生的作业留评语吗? 你和学生讨论他们的初稿吗? 你给学生口头的或书面反馈吗?

Notes (for Appendices 11 and 12)

- ◆ A list of CT skills derived from Facione (2006) and Tsui (2002):
 - 1) To identify key issues in a text; 找到一篇文章的核心问题

- 2) To identify hidden assumptions made by a writer; 能够说出作者文中隐含的假设
- 3) To recognise important relationships between points and between texts; 能理解文中段与段之间, 点与点之间的关系
- 4) To draw inferences from texts (if X happened, this implies Y); 推断
- 5) To evaluate evidence (or authority); 对文中的论证有自己的分析判断
- 6) To draw conclusions; 下结论
- 7) To recognise a problem or formulate a research question; 确立研究问题
- 8) To formulate multiple alternatives for resolving a problem; 多种解决问题的途径和方法
- 9) To explain clearly the basis for one's comments and the results of one's study; 清楚地阐述自己的观点和研究结果
- 10) To reflect on one's own reasoning (E.g., to recognise one's personal bias, to detect and correct errors, and to identify the limitations). 对自己的研究能进行认真反省(如是否有个人偏见, 能认识到错误并纠正过来, 能认识到自己的局限性等)

◆ A working definition of plagiarism

Plagiarism is using others' ideas and words without clearly acknowledging the source of that information 使用别人的思想或原话但没有标明信息的来源。

(Source: <http://www.indiana.edu/~wts/pamphlets/plagiarism.shtml>).

Appendix 13 Study 2 Descriptions of categories for the classroom observation data

Category	Description
Class size	The number of students in a class.
Number of questions	The total number of questions posed by students and the instructor.
Percent of questions by students	Percentage of total questions that were posed by a student (as opposed to the instructor).
Percent of multiple responses	Percentage of total questions that elicited a response from more than one individual.
Percent of students responding to students	Percentage of questions posed by a student that were met by a response from another student.
Percent of student participation	Percentage of students present in class who participated in the class discussion.
Number of student challenges	Number of statements by a student that expressed dissent or disagreement with what had been said in the class discussion.
Number of volunteered comments	Number of comments that were volunteered by a student (this excludes questions posed by students or students responses to a question posed).
Number of compliments by professor	Number of compliments by an instructor to a student for his or her contribution to the class discussion.

(Source: Tsui, 2002: 760)

Appendix 14 Study 2 Main study: Outline of Interview with students – the revised version after re-piloting

Part 1: Questions about writing in general

1. How often do you write essays?
2. How many words do you write for each essay?
3. How do you write an essay? (E.g. by doing a literature review, or an empirical study?)
4. How many books and journal articles do you read for each essay?
5. What do you think the characteristics of a good essay are?
6. What difficulties do you have in writing? (E.g., developing a line of argument?)

Part 2: Questions about the ten critical thinking skills

1. Do you know these skills?
2. Do you need these skills?
3. Do you use these skills?
4. Why don't you use these skills?
5. What teaching and learning activities do you think you need to use these skills?
6. What teaching and learning activities do you think you do not need to use these skills?
7. If you have a training course on writing, does the course tutor emphasise these critical thinking skills in student writing? How about other academic staff who teach you in your department?
8. Are there any requirements for your essay assignments? What are they?
9. What feedback have you received on your last 2 or 3 pieces of work?
10. Do you know the criteria for the grades for student writing? What are they?
11. According to your feedback and experience, what do your teachers value in student writing?
12. If you have a training course on academic writing, what are your suggestions for the course?

Part 3: Questions about plagiarism

1. Do you point out all the sources of the ideas or words from other people in your writing?
2. What do you think about plagiarism? Is it OK or wrong? Is it very common among students?

3. What measures do your teachers take to deal with plagiarism?

Study 2 Main study: Outline of interview with students – the revised version after re-piloting (Chinese version)

第一部分：有关写作

1. 你多长时间写一篇小论文？
2. 你每篇小论文要写多少字？
3. 你是怎么写小论文的？（是文献综述，还是要做一个调查研究？）
4. 你写小论文的时候要读多少书和文章？
5. 你认为一篇好的论文应该具备哪些特征？
6. 你在写作的时候都遇到过什么困难？（例如：怎么论证？）

第二部分：有关批判性思维

1. 你知道这些批判性思维技能技巧吗？
2. 你需要它们吗？
3. 你用了这些技能技巧了吗？
4. 如果没有用，是因为什么原因呢？
5. 你认为哪写教学活动你需要用到这些技能技巧？
6. 你认为哪些教学活动你不需要这些技能技巧？
7. 如果你有写作课，你们写作课老师强调在写作中应用这些技能技巧吗？其他的任课老师呢？
8. 你们老师布置小论文的时候有什么要求吗？如果有，都是什么要求？
9. 你最近的两、三篇作业都有什么样的反馈？
10. 你知道老师给学生作业判分的标准吗？如果知道，能谈谈吗？
11. 根据你的经验和收到的反馈，你觉得你的老师在学生写作里都注重哪些方面？
12. 如果你有学术论文写作课，你对现在的课程有什么建议吗？

第三部分：有关写作中的抄袭现象

1. 你在写作的时候是怎么引用文献的？
2. 你怎么看待写作中的抄袭现象？是对的还是错的？在学生当中普遍吗？
3. 你们老师采取什么措施来对付抄袭现象？

Appendix 15 Study 2 Main study: Outline of interview with academic staff – the revised version after re-piloting

1. What do you think the main problems of students' writing are?
2. What do you think about plagiarism? Do you take measures to reduce or avoid plagiarism in student writing? What are they?
3. What do you emphasise in the writing course? What are the main purposes of the course? (for the tutors of writing courses only)
4. What do you value in student writing?
5. What are your criteria for marking?
6. Do you make comments on student writing? Do you discuss drafts with students? Do you ever give feedback orally or privately?
7. What do you think about the importance of Critical Thinking in education, especially in student writing?
8. In what teaching and learning activities do you think your students need to use these skills?
9. In what teaching and learning activities do you think your students do not need to use these skills?
10. How do you foster critical thinking in student writing?

Study 2 Main study: Outline of interview with academic staff – the revised version after re-piloting (Chinese version)

1. 你认为学生写作中都存在哪些问题?
2. 你是怎么看待学生抄袭现象? 你采取措施来避免或减少抄袭的发生吗? 都是什么措施呢?
3. 如果你教写作课, 你在写作课里都强调些什么? 写作课的目的是什么?
4. 你在学生写作里都看重哪些方面?
5. 你给学生判作业的时候有标准吗? 都是什么?
6. 你给学生的作业留评语吗? 你和学生讨论他们的初稿吗? 你给学生口头的或书面反馈吗?
7. 你怎么看待批判性思维在教育中的重要性, 特别是在学生写作中?
8. 你认为哪些教学活动中学生需要这些批判性思维技能技巧?
9. 你认为哪些教学活动中学生不需要这些技能技巧?
10. 你怎么帮助学生在写作中提高批判性思维?

Notes (for Appendices 14 and 15)

- ◆ A list of CT skills derived from Facione (2006) and Tsui (2002) (also see Appendix 7):
 - 1) To identify key issues in a text; 找到一篇文章的核心问题
 - 2) To identify hidden assumptions¹ made by a writer; 能够说出作者文中隐含的假设
 - 3) To recognise important relationships between points and between texts; 能理解文中段与段之间，点与点之间的关系
 - 4) To draw inferences² from texts (if X happened, this implies Y); 推断
 - 5) To evaluate evidence (or authority); 对文中的论证有自己的判断
 - 6) To draw conclusions; 下结论
 - 7) To recognise a problem or formulate a research question; 确立研究问题
 - 8) To formulate multiple alternatives for resolving a problem; 多种解决问题的途径和方法
 - 9) To explain clearly the basis for one's comments and the results of one's study; 清楚地阐述自己的观点和研究成果
 - 10) To reflect on one's own reasoning (E.g., to recognise one's personal bias, to detect and correct errors, and to identify the limitations). 对自己的研究能进行认真反省（如是否有个人偏见，能认识到错误并纠正过来，能认识到自己的局限性等）

◆ A working definition of plagiarism

Plagiarism is using others' ideas and words without clearly acknowledging the source of that information 使用别人的思想或原话但没有标明信息的来源。

(Source: <http://www.indiana.edu/~wts/pamphlets/plagiarism.shtml>).

◆ 1. An example of hidden assumptions

Premise 1: Fish can swim. 鱼会游泳。

Premise 2: My father can swim. 我爸爸会游泳。

Conclusion: My father is a fish. 我爸爸是条鱼。

(Source: Brown and Rutter, 2006: 4)

Hidden assumption: Anything which can swim is a fish.

隐含的假设是：任何会游泳的都是鱼。

◆ 2. Definition of *inference*: 推论的定义

- a. The act or process of deriving logical conclusions from premises known or assumed to be true. 从已知的条件或假设中通过逻辑推断得出结论的行为或过程。
- b. The act of reasoning from factual knowledge or evidence. 用事实或论据推理的过程。
(Source: <http://dictionary.reference.com/browse/inference>)

Appendix 16 Study 2 Main study: A summary of the essays and dissertations

Department	Essay/ Dissertation	Code	Title (FE and FD titles are translations)	Length (pages)	Time of submission
Department of Foreign Languages	Essay	EE01	Gain from arts	2	Nov 2007
		EE02	We all need arts	2	Nov 2007
		EE03	Liberal arts in college education	1	Nov 2007
		EE04	Do not say goodbye to liberal arts	2	Nov 2007
		EE05	More successful and more enjoyable	1.5	Nov 2007
		EE06	Liberal arts courses: essential for college students	1.5	Nov 2007
		EE07	Pay attention to the development of your mind	2	Nov 2007
		EE08	Appreciate the arts	1.5	Nov 2007
		EE09	Liberal arts courses should be required for a college degree	1	Nov 2007
		EE10	The art of life	1.5	Nov 2007
	Dissertation	ED01	Communication: the road leading to <i>Bable</i>	23	July 2007
		ED02	Tragic of Miss Emily – the tragic of all human beings	19	July 2007
		ED03	Research of company cross-cultural human resource management	18	July 2007
		ED04	On metaphors in scientific discourse	21	July 2007
		ED05	English translation of Chinese Dish names based on functionalism	21	July 2007
Department of International Trade and Finance	Essay	FE01	Cash pooling in group corporations	35	Dec 2007
		FE02	A comparative analysis of the capital structure of Yanjing Beer and the bankruptcy of United Airlines	23	Dec 2007
		FE03	An analysis of the merger between Guomei and Dazhong, and the development trend of electrical chain stores	8	Dec 2007
		FE04	Fund chains of companies: two case studies	21	Dec 2007
		FE05	Stock index futures and options	27	Dec 2007
		FE06	TDL – a Chinese way of going multinational	39	Dec 2007
		FE07	The concept of MBO and the essential elements of it	22	Dec 2007

		FE08	Feasibility of real estate projects	8	Dec 2007
		FE09	Interpreting Buffett's success	27	Dec 2007
		FE10	Valid tax avoidance	9	Dec 2007
	Dissertation	FD01	A quest for settlement based on RMB and TWD across the Straits	42	July 2007
		FD02	The foundation of the social security system of Beijing and the change in inhabitants' investment behaviours	36	July 2007
		FD03	Analysis of the dividend policy of companies listed on the estate board of the Shanghai Stock Exchange in China	38	July 2007
		FD04	Study of residential mortgage defaulting	35	July 2007
		FD05	Analysis of industry characteristics of the capital structure of companies listed on the Shanghai Stock Exchange	31	July 2007

Appendix 17 Study 2 Informed consent form for participation in research

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INFORMED CONSENT FORM

For participation in research

The purpose of this document, in accordance with the requirements of the university's code of research ethics, is to make explicit the nature of the proposed involvement between the researcher and the persons/organisation agreeing to supply information (the participants), and to record that the research subjects understand and are happy with the proposed arrangements.

The researchers The researcher in charge of this study is Jing Tian, a Ph.D student in the Department of Educational Studies, University of York, York, YO10 5DD, England. Complaints may be addressed or more information can be provided by the supervisor of the student, Dr Graham Low, at the above address. The research project is designed within the framework of the student's study for the award of the Doctor of Philosophy Degree.

The research The purpose of the research as a whole is to investigate the critical thinking of Chinese students in academic writing at UK universities. More specifically the research study seeks to explore (1) whether Chinese students studying on postgraduate at UK universities perceive that they lack, or are perceived to lack critical thinking in academic writing, and (2) what impact the training received at undergraduate level in China has on students' critical thinking in academic writing.

What participation in the study will involve As part of a case study which aims to explore the second research question, as mentioned above, participants (undergraduate students/teachers) will be invited for an interview which will last around 30 to 60 minutes and audio-recorded. It is understood that the interviewee is free to decline to answer any question, to terminate the interview at any time and to require that any section or the whole of the recording be deleted.

Use of the data The aim will be eventually to present the research along with the data collected in other parts of the study in academic contexts. Furthermore, it may be presented through publications, conference presentations, teaching and so on. If so requested the research will refrain

from using data that the subject considers sensitive. The university in which the main research will be conducted will be given copies of a summary of the results of the study.

Anonymity of participants All interview data acquired will be treated as confidential. Unless specifically agreed otherwise, no names will be made publicly available. References in publications, talks etc. to particular jobs, organizations, individuals etc. will be anonymised and features which might make identification easy will be removed.

Declaration by the research subject(s): I/we have read and am/are happy with the arrangements as set out above.

Signature of participant(s)

Researcher's signature

Date

Appendix 18 Study 2 A sample of interview transcript: interview with FT3

T (Interviewer): The first question is what you think the main problems of student writing are?

FT3 (Interviewee): I give lectures, and I also supervise students' dissertations. I think both student essays and dissertations are problematic. I found that the language in essays was very much like the language on Internet forums. You know, there are a lot of newly invented words on the Internet which are not appropriate for academic writing. There are also typing errors. Students wrongly use words provided automatically by "intelligent" language programmes on their computers. I think these problems are due to the popularity of computers. I once asked students why there were so many language errors, they told me they could not even recognise these errors when they re-read their own writing. It is a serious issue now. Another reason could be a lack of training in this aspect. They have not been trained in academic writing, and they do not know what language should be used, and thus use many words they see in novels. In addition, their use of punctuation is awful. They have no idea about appropriate punctuation in academic writing: they sometimes use English punctuation in Chinese writing, and Chinese punctuation in English writing. Generally speaking, I think student academic writing is very problematic.

T: The second question is about plagiarism among students. What do you think about this issue?

FT3: I used to be very serious about this issue, but I have changed my attitude after I had a chat with students. Once, I asked a class with more than 200 students to write an assignment about their career planning. After students had submitted their work, I found that ten of them were very similar to each other. I treated this as plagiarism at first, but the students involved told me that they had just used the same template but not the content. The template told them what needed to be included in the introduction, the main body and the conclusion, and they just replaced the content with their own. From then on, I began to divide the students who had copied into two groups: those who had just copied the form or structure; and those who had copied both the structure and content. I think the prevalence of copying is due to the popularity and convenience of the Internet. In the past, it took time to copy texts by hand, but now they just copy and paste from the Internet. These ten students all began with a description of the current economic situation which was very similar to each other, followed by a discussion of the future development of the economy, which

was also very similar, and then the personal plan, which showed individual differences. This is what I call copying the form or structure, which I treat differently from copying the whole text from others. Actually, the copy of the whole text is very rare among students.

T: Do you take measures to reduce or avoid plagiarism in student writing?

FT3: I told students that if they copied the whole text, they would not have the chance to write the assignment again. However, if they just copied the structure, I would give them a second chance to write the essay. I treat these two kinds of cheating differently, but I will make it clear to them that even copying the structure is wrong.

T: Do your students take writing courses?

FT3: No, not even the College Chinese does writing nowadays, but I believe they touch on some aspects of writing, for example, by giving students some good writing examples. There is no specific training in writing.

T: What do you value in student writing?

FT3: The first thing is that there should be some innovative ideas. I once asked my students to write a self introduction this year, and I told them their writing needed to be creative and impressive. I told them this had to be presented in a positive way, without leaving me with any negative impressions. The writing also needed to be realistic, avoiding any made-up stories. I got more than 180 assignments back from them, among which around 20 really impressed me. These essays shared two features: one was originality, one was the use of humorous language. One student described his role in his family: his sense of responsibility was unique and left a deep impression on me. I think innovative and unique ideas are worth 60% of the overall mark.

T: Do you mark students' work?

FT3: Yes.

T: Do you have criteria for marking then?

FT3: If they have very good ideas, I give them a high mark. If they only explain basic things clearly without any obvious mistakes, I give them a medium mark. If they do not have good ideas, and do not explain things clearly either, I would think they have not taken the work seriously and I would give them a low mark. I do not think students at this university have any big problems with ability. It is only an attitude problem if they do the work poorly.

T: Do you make comments on students' writing?

FT3: I give few written comments. I only summarise the general results of the assignments in class, such as the strengths and weaknesses they have in common. I do not give the assignments back to them, because I have too many students and no teaching assistants. I do all the work by myself.

T: Do you supervise student dissertations?

FT3: Yes, I do.

T: Do you discuss their drafts with them?

FT3: Yes, I do.

T: Do you give them oral feedback?

FT3: Yes, indeed I do.

T: The rest of the questions are about critical thinking. Here is the working definition of CT in my study which comprises ten skills. Would you please first have a look and tell me if you have any problems with understanding them?

FT3: I don't think I have problems with understanding them.

T: I will now ask you some question about CT. The first question is what you think about the importance of CT in education.

FT3: I think CT can help students with their independent thinking. This means they can think and argue logically.

T: What do you think is the role of CT in student writing then?

FT3: I think it is a necessary tool. I think it makes arguments more persuasive in academic writing, and will help you explain your ideas more clearly.

T: In what teaching and learning activities do you think students need to use these CT skills?

FT3: Probably writing. Because I teach Communication Skills, I differentiate, explicitly or implicitly, oral presentation from writing. I think when you write, you have to give reasons for the results and conclusion for the sake of completeness. Although you need to give reasons in oral presentations as well, I think they are less rigorous than essay writing. In addition, oral presentation is normally done by groups, which does not completely reflect an individual student's thinking ability. I think independent work is different from group work because independent work can better reflect students' CT. In group work, students divide the task and do their own part separately. It might be better if they discussed issues throughout the work together, but they normally do not do this because they have no time.

T: In what teaching and learning activities do you think students need CT skills to a lesser degree?

FT3: I think many ordinary classes have the same problem: they have constrained students' thinking, by giving students exercises such as factual or multiple-choice questions in normal exams. However, the writing exercises are better, as they require students to give viewpoints and supportive evidence, and to consider opposite views.

T: Have you tried to help students improve these skills in writing?

FT3: This is not the main objective of my classes. I personally object to students' rote learning, and have few memory-oriented items in tests. Most of the items in the tests I design require students to understand and think. Maybe this helps students with their CT.

References

- Abasi, A. and Akbari, N. (2008) Are we encouraging patchwriting? Reconsidering the role of the pedagogical context in ESL student writers' transgressive intertextuality, *English for Specific Purposes*, 27, 267-284.
- Albert, R. T., Albert, R. E., and Radsma, J. (2002) Relationships among bilingualism, critical thinking ability, and critical thinking disposition, *Journal of Professional Nursing*, 18 (4), 220-229.
- Andrews, R. (2007) Argumentation, critical thinking and the postgraduate dissertation, *Educational Review*, 59 (1), 1-18.
- Andrews, R., Bilbro, R., Mitchell, S., Peake, K., Prior, P., Robinson, A, See, B.H. and Torgerson, C. (2006) *Argumentative Skills in First Year Undergraduates: a Pilot Study*. York: The Higher Education Academy.
- Arksey, H. and Knight, P. (1999) *Interviewing for Social Scientists*. London: SAGE Publications.
- Atkinson, D. (1997) A critical approach to critical thinking in TESOL, *TESOL Quarterly*, 31 (1), 71-94.
- Bassey, M. (1999) *Case Study Research in Educational Settings*. Buckingham: Open University Press.
- Bensley, D. A. & Haynes, C. (1995) The Acquisition of general purpose strategic knowledge for argumentation, *Teaching of Psychology*, 22 (1), 41-45.
- Berg, B.L. (2004) *Qualitative Research Methods for the Social Sciences*. Boston: Pearson Education, Inc.
- Birley, G. and Moreland, N. (1998) *A Practical Guide to Academic Research*. London: Kogan Page Ltd.
- Bissell, A. N. and Lemons, P. P. (2006) A new method for assessing critical thinking in the classroom, *BioScience*, 56 (1), 66-72.
- Bloom, B. S. (1956) *Taxonomy of Educational Objectives: the Classification of Educational Goals*. London: Longman Group Ltd.
- Bourque, L.B. and Clark, V.A. (1994) Processing data: the survey example. In M.S. Lewis-Beck (eds.) *Research Practice: International Handbooks of Quantitative Applications in the Social Sciences* (pp. 1-88). London: SAGE Publications Ltd.
- British Council (2006) *British Council Annual Report 2005-06*.

<http://www.britishcouncil.org/bc-annual-report-2005-2006.pdf> (27 Jan 2007).

Brown, C.A., Dickson, R., Humphreys, A., McQuillan, V., and Smears, E. (2008) Promoting academic writing/referencing skills: outcome of an undergraduate e-learning pilot project, *British Journal of Educational Technology*, 39 (1), 140-156.

Brown, K. and Rutter, L. (2006) *Critical Thinking for Social Work*. Exeter/Glasgow, UK: Learning Matters Ltd.

Byrne, M. (1994) *Learning to be Critical*. Newcastle: MARCET (Material and Resources Centre for Enterprising Teaching).

Canagarajah, A. S. (2002a) *Critical Academic Writing and Multilingual Students*. Ann Arbor: University of Michigan Press.

Center for Advanced Research on Language Acquisition (2007) *What is Culture?* <http://www.carla.umn.edu/culture/definitions.html> (18 June 2007).

Center for Instructional Development and Research at the University of Washington (2005) *Class Observation Notes*. <http://depts.washington.edu/cidrweb/resources/observation-notes.pdf> (18 April 2006).

陈靖武, 马果成 (2002) 关于写作教学改革的几个问题, *湘潭师范学院学报(社科版)*, 24 (3), 239-241.

Chen, J.W. and Ma, G.C. (2002) On several issues of the reform of writing course, *Journal of Xiangtan Normal University (Social Science Edition)*, 24 (3), 239-241.

陈辽 (2006) 文科博士论文写作的几个问题, *徐州师范大学学报(哲学社会科学版)*, 32 (3), 108-111.

Chen, L. (2006) Some problems in writing dissertations of liberal arts, *Journal of Xuzhou Normal University (Philosophy and Social Sciences Edition)*, 32 (3), 108-111.

Cheng, X. (2000) Asian students' reticence revisited, *System*, 28 (3), 435-446.

Chia, R. (2002) *Writing and Academic Thesis, Dissertation or Essay: Guidelines, Academic Conventions, Rationale and Good Practice*. Exeter: University of Exeter, School of Business and Economics.

China University Alumni Association (2006) *Chinese University Rankings 2006*. <http://www.cuaa.net/2006> (9 June 2006).

Clark, H.H. and Schober, M.F. (1992) Asking questions and influencing answers. In J.M. Tanur (eds.) *Questions about Questions: Inquiries into the Cognitive Bases of Surveys* (pp. 15-48). New York: Russell Sage Foundation.

- Clark, R. and Gieve, S.N. (2006) On the discursive construction of 'the Chinese learner', *Language, Culture and Curriculum*, 19 (1), 54-73.
- Collins, K.M.T., Onwuegbuzie, A.J. and Jiao, Q.G. (2006) Prevalence of mixed-methods sampling designs in social science research, *Evaluation and Research in Education*, 19 (2), 83-101.
- Connor, U. (2004) Contrastive rhetoric. In K. Nagwa, I. Zeinab and A. Sabiha (eds.) *Contrastive Rhetoric: Issues, Insights, and Pedagogy* (pp. 1-24). Cairo: The American University in Cairo Press.
- Cortazzi, M. and Jin, L. (1997) Communication for learning across cultures. In D. McNamara and R. Harris (eds.) *Overseas Students in Higher Education: Issues in Teaching and Learning* (pp. 76-90). London: Routledge.
- Costello, P.J.M. (2000) *Thinking Skills and Early Childhood Education*. London: David Fulton Publishers Ltd.
- Cottrell, S. (1999) *The Study Skills Handbook*. Basingstoke: Macmillan.
- Cottrell, S. (2005) *Critical Thinking Skills: Developing Effective Analysis and Argument*. New York: Palgrave Macmillan.
- Creswell, J.W. (2003) *Research Design: Qualitative, Quantitative and Mixed Methods Approaches*. California: SAGE.
- Crombie, A. (1994) *Scientific Thinking in the European Tradition: The History of Argument and Explanation Especially in the Mathematical and Biological Sciences*. London: Duckworth.
- Cuyper, S. E. (2004) Critical thinking, autonomy and practical reason, *The Journal of Philosophy of Education*, 38 (1), 75-90.
- Dahlin, B., Watkins, D.A. and Ekholm, M. (2001) The roles of assessment in student learning: the views of Hong Kong and Swedish Lecturers. In D.A. Watkins and J.B. Biggs (eds.) *Teaching the Chinese Learner: Psychological and Pedagogical Perspectives* (pp. 47-74). Hong Kong: Comparative Education Research Centre, University of Hong Kong.
- Dam, G.T. and Volman, M. (2004) Critical thinking as a citizenship competence: teaching strategies, *Learning and Instruction*, 14 (4), 359-379.
- Davies, W.M. (2008) 'Not quite right': helping students to make better arguments, *Teaching in Higher Education*, 13 (3), 327-340.
- Denscombe, M. (2007) *The Good Research Guide for Small-scale Social Research Projects*.

Maidenhead: Open University Press.

Drever, E. (1995) *Using Semi-structured Interviews in Small-Scale Research: a Teacher's Guide*. Glasgow: Scottish Council for Research in Education.

Drew, S. and Bingham, R. (2001) *The Student Skill Guide*. Aldershot: Gower Publishing Limited.

杜环欢 (2004) 批判性思维在高校思想政治教育运行中的彰显, *理论探讨*, 6, 93-94.

Du, H.H. (2004) [The importance of critical thinking in moral education in colleges and universities], *Theoretical Investigation*, 6, 93-94.

East, J. (2006) The problem of plagiarism in academic culture, *The International Journal for Educational Integrity*, 2 (2), 113-125.

Elton, L.R.B. and Laurillard, D.M. (1979) Trends in research on student learning, *Studies in Higher Education*, 4, 87-102.

Emden, J.V. and Becker, L. (2003) *Effective Communication for Arts and Humanities Students*. Basingstoke: Palgrave Macmillan.

Ennis, R.H. (1987) A taxonomy of critical thinking dispositions and abilities. In J. B. Baron and R. J. Sternberg (eds.) *Teaching Thinking Skills: Theory and Practice* (pp. 9-26). New York: W. H. Freeman and Company.

Ennis, R.H. (1992) The degree to which critical thinking is subject specific: Clarification and needed research. In S. P. Norris (eds.) *The Generalizability of Critical Thinking: Multiple Perspectives on an Educational Ideal* (pp. 21-37). New York: Teachers College Press.

Facione, P.A. (1990a) *Critical Thinking: A Statement of Expert Consensus for Purposes of Educational Assessment and Instruction*.

http://www.insightassessment.com/pdf_files/DEXadobe.PDF (5 March 2006)

Facione, P.A. (1990b) *The California Critical Thinking Skills Test: College Level Technical Report #2 – Factors Predictive of CT Skills*. Millbrae, CA: California Academic Press. <http://www.insightassessment.com/articles3.html>. (20 January 2007)

Facione, P.A. (2006) *Critical Thinking: What It Is and Why It Counts*.

http://www.insightassessment.com/pdf_files/what&why2006.pdf (4 March 2006).

Facione, P.A., Giancarlo, C.A., Facione, N. C., & Gainen, J. (1995) The disposition toward critical thinking, *Journal of General Education*, 44 (1), 1-25.

Fairbairn, G.J. and Winch, C. (1996) *Reading, Writing and Reasoning: a Guide for Students*. Buckingham: Open University Press.

- Fisher, A. (1988) *The Logic of Real Arguments*. Cambridge: Cambridge University Press.
- Fisher, R. (1998) *Teaching Thinking: Philosophical Enquiry in the Classroom*. London: Cassell.
- Fox, H. (1994) *Listening to the World: Cultural Issues in Academic Writing*. Urbana, IL: National Council of Teachers of English.
- Franklyn-Stokes, A. and Newstead, S. (1995) Undergraduate cheating: who does what and why? *Studies in Higher Education*, 20 (2), 159-172.
- Gadzella, B.M., Stacks, J., Stephens, R.C., Masten, W.G. (2005) Watson-Glaser Critical Thinking Appraisal, Form-S for education majors, *Journal of Instructional Psychology*.
http://www.findarticles.com/p/articles/mi_m0FCG/is_1_32/ai_n13670699 (20 March, 2006)
- Gillham, B. (2000a) *Developing a Questionnaire*. London: Continuum.
- Gillham, B. (2000b) *The Research Interview*. London: Continuum.
- Giltrow, J. (2000) "Argument" as a term in talk about student writing. In S. Mitchell and R. Andrews (eds.) *Learning to Argue in Higher Education* (pp. 129-145). Portsmouth: Boynton/Cook Publishers.
- Gomm, R. (2008) *Social Research Methodology: A Critical Introduction*. New York: Palgrave Macmillan.
- Goode, J. (2007) Empowering or disempowering the international Ph.D. student? Constructions of the dependent and independent learner, *British Journal of Sociology of Education*, 28 (5), 589-603.
- Gorard, S. and Taylor, C. (2004) *Combining Methods in Educational and Social Research*. Maidenhead: Open University Press.
- Gregory, I. (2003) *Ethics in Research*. London: Continuum.
- Gu, Q. and Schweisfurth, M. (2006) Who adapts? Beyond cultural models of 'the' Chinese learner, *Language, Culture and Curriculum*, 19 (1), 74-89.
- 关兴丽 (2001) 论墨家的批判性思维, *社会科学辑刊*, 2, 31-36.
- Guan, X.L. (2001) [A discussion of Mohist critical thinking], *Social Science Journal*, 2, 31-36.
- Guban, E.G. and Lincoln, Y.S. (1989) *Fourth Generation Evaluation*. Newbury Park, California: Sage Publications.
- 郭立秋, 王红利 (2004) 浅析汉英语篇差异与英语写作, *外交学院学报*, 75, 103-111.

Guo, L.Q. and Wang, H.L. (2004) Tentative analysis of English writing and how it relates to differences between Chinese and English texts, *Journal of China Foreign Affairs University*, 75, 103-111.

Hare, W. (1999) Critical thinking as an aim of education. In R. Marples (eds.) *The Aims of Education* (pp. 85-99). London: Routledge.

何红, 张月明, 赵燕青 (2006) 大学生批判性思维能力调查, *护理研究*, 20 (3), 775-776.

He, H., Zhang, Y.M. and Zhao, Y.Q. (2006) A survey of critical thinking ability in college students, *Chinese Nursing Research*, 20 (3), 775-776.

Hinds, J. (1987) Reader versus writer responsibility: A new typology. In U. Connor and R.B. Kaplan (eds.) *Writing Across Languages: Analysis of L2 Text* (pp. 141-152). Reading, MA: Addison-Wesley Publishing Company.

Hitchcock, G. and Hughes, D. (1995) *Research and the Teacher: A Qualitative Introduction to School-based Research*. London: Routledge.

Hoadley-Maidment, E. (2000) From personal experience to reflective practitioner: academic literacies and professional education. In M.R. Lea and B. Stierer (eds.) *Student Writing in Higher Education: New Contexts* (pp. 165-178). Buckingham: SRHE and Open University Press.

Home2UK (2006) *Chinese Student Numbers in the UK's Universities?*
<http://www.how2uk.com/foi2.html>. (6 August 2007).

洪淑媛 (2003) 批判性思维教学的理论与实践初探, *广州大学学报(社会科学版)*, 2 (1), 84-87.

Hong, S.Y. (2003) A study of theory and practice in critical thinking-oriented teaching, *Journal of Guangzhou University (Social Science Edition)*, 2 (1), 84-87.

Hu, G. (2002) Potential cultural resistance to pedagogical imports: the case of communicative language teaching in China, *Language, Culture and Curriculum*, 15 (2), 93-105.

胡勇忠 (2006) 中英思维模式的差异与大学英语写作, *邵阳学院学报(社会科学版)*, 5 (2), 106-108.

Hu, Y.Z. (2006) [Different thinking modes in Chinese and English and college English writing], *Journal of Shaoyang University (Social Science)*, 5 (2), 106-108.

黄昌林, 艾莲, 谭筱玲 (2005) 培养现代写作精神的教学与实践, *成都大学学报(社科版)*, 3, 89-91.

Huang, C.L., Ai, L. and Tan, X.L. (2005) [Developing a modern writing spirit in writing courses], *Journal of Chengdu University (Social Science Edition)*, 3, 89-91.

黄妙轩 (2006) 做好第二次突破的奠基工作——评价《21世纪大学生毕业论文写作要义》, *广播电视大学学报(哲学社会科学版)*, 137, 73-74.

- Huang, M.X. (2006) Laying a foundation for the second breakthrough: review and introduction on The Essentials of Undergraduate Thesis Writing of College Students in 21 Centuries, *Journal of Radio and TV University (Philosophy & Social Sciences)*, 137, 73-74.
- Huemer, M. (2005) Is critical thinking epistemically responsible? *Metaphilosophy*, 36 (4), 522-531.
- Hughes, C. (1994) From field notes to dissertation: analyzing the stepfamily. In A. Bryman and R.G. Burgess (eds.) *Analyzing Qualitative Data* (pp. 35-46). New York: Routledge.
- Ip, W.Y., Lee, D.T.F., Lee, I.F.K., Chau, J.P.G., Wootton, Y.S.Y. and Chang, A.M. (2000) Disposition towards critical thinking: a study of Chinese undergraduate nursing students, *Journal of Advanced Nursing*, 32 (1), 84-90.
- Jin, L. and Cortazzi, M. (2006) Changing practices in Chinese cultures of learning, *Language, Culture and Curriculum*, 19 (1), 5-20.
- Johnson, R.H. (1992) The problem of defining critical thinking. In S.P. Norris (eds.) *The Generalizability of Critical Thinking: Multiple Perspectives on an Educational Ideal* (pp. 38-53). New York: Teacher College Press.
- Joiner, R. & Jones, S. (2003) The effects of communication medium on argumentation and the development of critical thinking, *International Journal of Educational Research*, 39 (8), 861-871.
- Jones, A. (2005) Culture and context: critical thinking and student learning in introductory macroeconomics, *Studies in Higher Education*, 30 (3), 339-354.
- Kachru, Y. (1997) Cultural meaning and contrastive rhetoric in English education, *World Englishes*, 16 (3), 337-350.
- Kaplan, R.B. (1966) Cultural thought patterns in inter-cultural education, *Language Learning*, 16 (1), 1-20.
- Kiely, R. (2004) Learning to critique in EAP, *Journal of English for Academic Purposes*, 3 (3), 211-227.
- Kubota, R. and Lehner, A. (2004) Toward critical contrastive rhetoric, *Journal of Second Language Writing*, 13, 7-27.
- Lea, M.R. and Street, R.V. (2000) Student writing and staff feedback in higher education: an academic literacies approach. In M.R. Lea and B. Stierer (eds.) *Student Writing in Higher Education: New Contexts* (pp. 32-46). Buckingham: SRHE and Open University Press.
- Levin, P. (2004) *Write Great Essays: Reading and Essay Writing for Undergraduates and Taught*

Postgraduates. Berkshire: Open University Press.

Lewis, M. and Reinders, H. (2003) *Study Skills for Speakers of English as a Second Language*. Basingstoke: Palgrave Macmillan.

李华 (2005) 关于加强高等学校批判性思维教育的思考, *煤炭高等教育*, 23 (6), 31-33.

Li, H. (2005) On the education of critical thinking in college, *Meitan Higher Education*, 23 (6), 31-33.

李俊 (2006) 论高校写作教学的“三位一体”, *贵州师范大学学报(社会科学版)*, 140, 124-127.

Li, J. (2006) “Three in one” of college-level writing teaching, *Journal of Guizhou Normal University (Social Sciences)*, 140, 124-127.

李剑锋, 刘桂珍 (2006) 论批判性思维训练的途径及其问题, *西北师大学报社会科学版*, 43 (3), 63-67.

Li, J.F. and Liu, G.Z. (2006) On training of critical thinking, *Journal of Northwest Normal University (Social Sciences)*, 43 (3), 63-67.

李文仁, 陈霞 (2003) 论文写作八戒, *长春工程学院学报(社会科学版)*, 4 (4), 27-29.

Li, W.R. and Chen, X. (2003) Eight abstains in paper writing, *Journal of Changchun Institute of Technology (Social Science Edition)*, 4 (4), 27-29.

联群, 时新 (2003) 试说大学生毕业论文的写作, *广播电视大学学报(哲学社会科学版)*, Issue 1, 46-49.

Lian, Q. and Shi, X. (2003) On composition of university student's graduation thesis, *Journal of TV and Radio University (Philosophy and Social Sciences)*, Issue 1, 46-49.

梁少梅 (2005) 论写作课在高校素质教育中的作用, *肇庆学院学报*, 26 (1), 62-63.

Liang, S.M. (2005) [A discussion of the role of writing courses in education for all-round development at universities], *Journal of Zhaoqing University*, 26 (1), 62-63.

Lillis, T. (1997) New voices in academia? The regulative nature of academic writing conventions, *Language and Education*, 11 (3), 182-199.

Lipman, M. (2003) *Thinking in Education*. New York: Cambridge University Press.

刘春杰, 武宏志 (2004) 简论批判性思维与高等教育, *中国成人教育*, 12, 8-9.

Liu, C.J. and Wu, H.Z. (2004) [A brief discussion of critical thinking and higher education], *China Adult Education*, 12, 8-9.

Liu, D. (1998) Ethnocentrism in TESOL: teacher education and the neglected needs of international TESOL students, *ELT Journal*, 52 (1), 2-10.

Liu, L. (2005) Rhetorical education through writing instruction across cultures: a comparative

analysis of select online instructional materials on argumentative writing, *Journal of Second Language Writing*, 14, 1-18.

刘儒德 (2000) 论批判性思维的意义和内涵, *高等师范教育研究*, 12 (1), 56-61.

Liu, R.D. (2000) [A discussion of the meaning of critical thinking], *Teacher Education Research*, 12 (1), 56-61.

Loo, R. and Thorpe, K. (2005) Relationships between critical thinking and attitudes toward women's roles in society, *The Journal of Psychology*, 139 (1), 47-55.

罗清旭 (2000) 论大学生批判性思维的培养, *清华大学教育研究*, 4, 81-85.

Luo, Q.X. (2000) [A discussion of the development of critical thinking in college or university students], *Research on Education Tsinghua University*, 4, 81-85.

罗清旭, 杨鑫辉 (2001) 《加利福尼亚批判性思维倾向问卷》中文版的初步修订, *心理发展与教育*, 3, 47-51.

Luo, Q.X. and Yang, X.H. (2001) Revision for CCTDI (Chinese version), *Psychological Development and Education*, 3, 47-51.

罗清旭, 杨鑫辉 (2002) 《加利福尼亚批判性思维技能测验》的初步修订, *心理科学*, 25 (6), 740-741.

Luo, Q.X. and Yang, X.H. (2002) [Revision of California Critical Thinking Skills Test], *Psychological Science*, 25 (6), 740-741.

Ma, T.T. (2004) *Confucius Said*. Shanghai: World Publishing Corporation Shanghai.

马文艳 (2004) 母语思维模式对大学英语写作教学的启示, *北京理工大学学报(社会科学版)*, 6 (S1), 74-77.

Ma, W.Y. (2004) The implication of Chinese thought patterns in college English teaching, *Journal of Beijing Institute of Technology (Social Sciences Edition)*, 6 (S1), 74-77.

Mangena, A. & Chabeli, M.M. (2005) Strategies to overcome obstacles in the facilitation of critical thinking in nursing education, *Nurse Education Today*, 25 (4), 291-298.

Marshall, R. and Tucker, M. (1992) *Thinking for a Living: Education and the Wealth of Nations*. New York: Basic Books.

McBride, R.E., Xiang, P., Wittenburg, D. and Shen, J. (2002) An analysis of preservice teachers' dispositions toward critical thinking: A cross-cultural perspective, *Asia-Pacific Journal of Teacher Education*, 30 (2), 131-140.

McPeck, J.E. (1981) *Critical Thinking and Education*. Oxford: Martin Robertson & Company.

McIlroy, D. (2003) *Studying @ University: How to be a Successful Student*. London: SAGE

Publications Ltd.

莫顺斌, 孟丽华 (2004) 高校文科学生“写作状态”调查, *零陵学院学报*, 25 (5), 195-201.

Mo, S.B. and Meng, L.H. (2004) [A survey on the writing practices of Arts and Humanities students], *Journal of Lingling University*, 25 (5), 195-201.

Muchiri, M.N., Mulamba, N.G., Myers, G. and Ndoloi, D.B. (1995) Importing composition: teaching and researching academic writing beyond North America, *College composition and Communication*, 46 (2), 175-198.

Needham, J. (1959) *Science and Civilisation in China Vol. 3*. Cambridge: Cambridge University Press.

Needham, J. (1962) *Science and Civilisation in China Vol. 4.1*. Cambridge: Cambridge University Press.

Nesi, H., Sharpling, G. and Ganobcsik-Williams, L. (2004) Student papers across the curriculum: designing and developing a corpus of British student writing, *Computers and Composition*, 21 (4), 439-450.

Paltridge, B. (2004) Academic writing, *Language Teaching*, 37 (2), 87-105.

Paton, M. (2005) Is critical analysis foreign to Chinese students? In E. Manalo and G. Wong-Toi (eds.) *Communication Skills in University Education: the International Dimension* (pp. 1-11). Auckland: Pearson Education New Zealand.

Papastephanou, M. (2004) Educational critique, critical thinking and the critical philosophical traditions, *Journal of Philosophy of Education*, 38 (3), 369-378.

Paul, R.W. (1989) Critical thinking in North America: a new theory of knowledge, learning and literacy, *Argumentation*, 3, 197-235.

Paul, R.W. (1992) *Critical Thinking: What Every Person Needs to Survive in a Rapidly Changing World* (2nd revised ed.). Santa Rosa, CA: Foundation for Critical Thinking.

Paul, R.W. (1993) *Critical Thinking: What Every Person Needs to Survive in a Rapidly Changing World*. Rohnert Park, CA: The Center for Critical Thinking & Moral Critique, Sonoma State University.

Pennycook, A. (1996a) Borrowing others' words: text, ownership, memory, and plagiarism, *TESOL quarterly* 30 (2), 201-230.

彭永珍 (2002) 写作是什么 — 试论大学写作教育观, *咸宁师专学报*, 22 (5), 92-93.

Peng, Y.Z. (2002) What is writing, *Journal of Xianning Teachers College*, 22 (5), 92-93.

Perkins, C. & Murphy, E. (2006) Identifying and measuring individual engagement in critical thinking in online discussions: an exploratory case study. *Educational Technology & Society*, 9 (1), 298-307.

Peverly, S.T. (2005) Moving past cultural homogeneity: suggestions for comparisons of students' educational outcomes in the United States and China, *Psychology in the Schools*, 42 (3), 241-249.

Phillips, C.R., Chesnut, R.J. & Rospond, R.M. (2004) The California critical thinking instruments for benchmarking, program assessment, and directing curricular change, *American Journal of Pharmaceutical Education*, 68 (4), Article: 101.

Piper, H. and Simons, H. (2004) Ethical responsibility in social research. In C. Lewin (eds.) *Research Methods in the Social Sciences* (pp. 56-63). London: Sage Publications.

Punch, M. (1986) *The Politics and Ethics of Fieldwork*. Beverly Hills: Sage Publications.

Rastall, P. (2006) Introduction: The Chinese learner in higher education – transition and quality issues, *Language, Culture and Curriculum*, 19 (1), 1-4.

Reichenbach, B.R. (2001) *Introduction to Critical Thinking*. New York: McGraw-Hill Higher Education.

Rorty, R. (1989) Education without dogma, *Dissent*, 36 (2), 198-204.

Sanders, J.A., Wiseman, R.L. & Gass, R.H. (1994) Does teaching argumentation facilitate critical thinking? *Communication Reports*, 7 (1), 27-35.

Seale, C. (1999) *The Quality of Qualitative Research*. London: Sage Publications.

Shen, H. (2000) Academic freedom and academic duty in Chinese universities. Programme on Institutional Management in Higher Education (IMHE) (eds.) *Current Issues in Chinese Higher Education*. Paris: OECD (Organization for Economic Co-operation and Development).

沈敏 (2003) 大学生写作障碍及其原因探索, *零陵学院学报*, 24 (3), 55-57.

Shen, M. (2003) University students' barriers in writing and the analysis of causes, *Journal of Lingling University*, 24 (3), 55-57.

申文安 (2001) 论高校英语专业新大纲写作课程的设置, *辽宁工程技术大学学报(社会科学版)*, 3 (4), 91-92.

Shen, W.A. (2001) [A discussion of the writing course in the new curriculum for English majors], *Journal of Liaoning Technical University (Social Science Edition)*, 3 (4), 91-92.

申文安 (2005) 改进英语写作教学提高毕业论文质量, *辽宁工程技术大学学报(社会科学版)*,

7 (1), 91-93.

Shen, W.A. (2005) Improving teaching-methods in the teaching of English-writing and raising students' writing skills in their dissertations, *Journal of Liaoning Technical University (Social Science Edition)*, 7 (1), 91-93.

Shi, L. (2006) The successors to Confucianism or a new generation? A questionnaire study on Chinese students' culture of learning English, *Language, Culture and Curriculum*, 19 (1), 122-147.

Siegel, H. (1992) The generalizability of critical thinking skills, dispositions, and epistemology. In S.P. Norris (eds.) *The Generalizability of Critical Thinking: Multiple Perspectives on an Educational Ideal* (pp. 97-108). New York: Teachers College Press.

Siegel, H. (2001) Dangerous Dualisms or Murky Monism? A Reply to Jim Garrison, *Journal of Philosophy of Education*, 35, pp. 577-595.

Silva, T. (1997) Differences in ESL and native-English speaker writing: The research and its implications. In C. Severino, J.C., Guerra & S. E. Butler (eds.) *Writing in multicultural settings* (pp. 209-219). New York: Modern Language Association of America.

Stake, R.E. (1995) *The Art of Case Study Research*. London: Sage.

Stapleton, P. (2001) Assessing critical thinking in the writing of Japanese university students, *Written Communication*, 18 (4), 506-548.

Stark, S. and Torrance, H. (2004) Case study, In C. Lewin (eds.) *Research Methods in the Social Sciences* (pp. 33-40). London: Sage Publications, Inc.

孙梅 (2004) 对指导高校学生写好毕业论文的几点思考, *延边大学学报(社会科学版)*, 37 (2), 110-112.

Sun, M. (2004) A few thoughts on how to instruct college students to write good graduation theses, *Journal of Yanbian University (Social Science)*, 37 (2), 110-112.

Swales, J. (1990) *Genre Analysis*. Cambridge: Cambridge University Press.

Swartz, E. (2004) Casing the self: A study of pedagogy and critical thinking, *Teacher Development*, 8 (1), 45-65.

Taylor, G. and Chen, T.G. (1991) Linguistic, cultural, and subcultural issues in contrastive discourse analysis: Anglo-American and Chinese scientific texts, *Applied Linguistics*, 12 (3), 319-336.

Thayer-Bacon, B. (2000) *Transforming Critical Thinking: Thinking Constructively*. New York: Teachers College Press.

The California Academic Press (2006) *Insight Assessment: Tools to Evaluate Reasoning and Critical Thinking*. <http://www.insightassessment.com> (11 July 2006).

Thomson, A. (2002) *Critical Reasoning: A Practical Introduction*. London: Routledge.

中共中央国务院 (1999) 中共中央国务院关于深化教育改革全面推进素质教育的决定. <http://www.china.com.cn/chinese/zhuanti/tyzcfg/885952.htm> (May 2006).

The State Council of PRC (1999) [*The Decision about Further Education Reform and All-round Development of Quality Education*]. <http://www.china.com.cn/chinese/zhuanti/tyzcfg/885952.htm> (May 2006).

Tian, J. (2004) EAP Learning Needs of Chinese Graduate Students in the UK: A Case Study of a Group of Education Students. Unpublished MA dissertation, University of York.

Tiwari, A., Avery, A., & Lai, P. (2003) Critical thinking disposition of Hong Kong Chinese and Australian nursing students, *Journal of Advanced Nursing*, 44 (3), 298-307.

Torff, B. (2005) Developmental changes in teachers' beliefs about critical-thinking activities, *Journal of Educational Psychology*, 97 (1), 13-22.

Tsui, L. (2002) Fostering critical thinking through effective pedagogy: evidence from four institutional case studies, *The Journal of Higher Education*, 73 (6), 740-763.

Vanderburgh P.M. (2005) Open-book and student-authored exam questions as useful tools to increase critical thinking, *Advances in Physiology Education*, 29, 183-184.

Vermeersch, E. (1977) An analysis of the concept of culture. In B. Bernardi (eds.) *The Concept and Dynamics of Culture* (pp. 9-74). The Hague, Paris: Mouton Publishers.

Wan, G. (2001) The learning experience of Chinese students in American universities: a cross-cultural perspective, http://findarticles.com/p/articles/mi_m0FCR/is_1_35/ai_74221505 (August 2007).

王超 (2003) 母语对英语写作的影响, *牡丹江师范学院学报(哲学社会科学版)*, 1, 48-50.

Wang, C. (2003) [The influence of the first language on English writing], *Journal of Mudanjiang Teachers College (Philosophy and Social Sciences Edition)*, 1, 48-50.

王雯靖 (2005) 创新型写作教学模式初探, *佳木斯大学社会科学学报*, 23 (2), 71-72.

Wang, W.J. (2005) [A creative method of teaching writing in higher education], *Journal of Social Science of Jiamusi University*, 23 (2), 71-72.

王新建 (2001) 中文写作水平训练系统研究, *西安石油学院学报(社会科学版)*, 68-71.

Wang, X.J. (2001) In search of a training system for Chinese writing, *Journal of Xi'an Petroleum Institute (Social Science)*, 10 (3), 68-71.

Warburton, N. (2006) *The Basics of Essay Writing*. Abingdon: Routledge.

Woodward-Kron, R. (2002) Critical analysis versus description? Examining the relationship in successful student writing, *Journal of English for Academic Purposes*, 1 (2), 121-143.

武宏志 (2004) 论批判性思维, *广州大学学报(社会科学版)*, 3 (11), 10-16.

Wu, H.Z. (2004) On critical thinking, *Journal of Guangzhou University (Social Science Edition)*, 3 (11), 10-16.

严春原 (2006) 扬弃传统理念, 坚持守正出新——评新形态大学写作课系列教材之《基础写作教程》, *广播电视大学学报(哲学社会科学版)*, 137, 67-69.

Yan, C.Y. (2006) Sublating traditional ideas, maintaining the correct and evolving the new: comments on Basic Writing Course, one of the new type of university writing textbook series, *Journal of Radio and TV University (Philosophy & Social Sciences)*, 137, 67-69.

杨海文 (2004) 学术论文写作的“注意事项”, *燕山大学学报(哲学社会科学版)*, 42-46.

Yang, H.W. (2004) A note of academic writings, *Journal of Yanshan University (Philosophy and Social Science Edition)*, 42-46.

杨颖东 (2003) 提倡批判性思维, 建设新型教学文化, *高等师范教育研究*, 15 (2), 72-75.

Yang, Y.D. (2003) [Advocate critical thinking and build a new educational culture], *Teacher Education Research*, 15 (2), 72-75.

杨玉圣 (2005) 学术规范与论文写作, *社会科学论坛*, 15 (2), 72-75.

Yang, Y.S. (2005) [Code of academic integrity and academic writing], *Tribune of Social Sciences*, 81-96.

叶红 (2003). 学术论文写作八忌, *江汉大学学报(人文科学版)*, 22 (6), 91-94.

Ye, H. (2003) [Avoiding eight things in academic writing], *Journal of Jiangnan University (Humanities Sciences)*, 22 (6), 91-94.

Yeh, M-L. (2002) Assessing the reliability and validity of the Chinese version of the California Critical Thinking Disposition Inventory, *International Journal of Nursing Studies*, 39 (2), 123-132.

Yeh, M-L. & Chen, H-H. (2005) Effects of an educational program with interactive videodisc systems in improving critical thinking dispositions for RN-BSN students in Taiwan, *International Journal of Nursing Studies*, 42 (3), 333-340.

Yin, R.K. (2003) *Case Study Research: Design and Methods*. Thousand Oaks, California; London: Sage Publications, Inc.

翟淑英 (2004) 对素质教育下应用写作教学改革思考, *前沿*, 10, 143-144.

Zhai, S.Y. (2004) [A discussion of a reform of a practical writing course under the educational

policy of all-round development], *Forward Position*, 10, 143-144.

张鸿平 (2005) 在写作教学中实施创新教育, *辽宁师专学报(社会科学版)*, 38, 93-94.

Zhang, H.P. (2005) [Promoting creativity by students in teaching writing], *Journal of Liaoning Teachers College (Social Sciences Edition)*, 38, 93-94.

张岳建 (2006) 中西思维差异对英语写作的影响, *吉首大学学报(社会科学版)*, 27 (2), 166-169.

Zhang, Y.J. (2006) The influences of different thinking modes of Chinese and Western people on English writing, *Journal of Jishou University (Social Sciences Edition)*, 27 (2), 166-169.

赵秀珍, 印莉娟 (2001) 科技论文的写作与发表, *北京理工大学学报(社会科学版)*, 3 (1), 90-92.

Zhao, X.Z. and Yin, L.J. (2001) [Writing and publishing scientific papers], *Journal of Beijing Institute of Technology (Social Sciences Edition)*, 3 (1), 90-92.

甄增荣, 李中秋, 王俊峰 (2004) 学位论文写作的学术规范, *社会科学论坛*, 3 (B), 18-20.

Zhen, Z.R., Li, Z.Q., and Wang, J.F. (2004) [Code of academic integrity in degree papers], *Tribune of Social Sciences*, 3 (B), 18-20.

周德昌 (2001) 高校写作教学的定位兼及写作学科的独立性问题, *西藏民族学院学报(哲学社会科学版)*, 22 (1), 85-89.

Zhou, D.C. (2001) [The position of writing courses in higher education and the independence of writing as a discipline], *Journal of Tibet Nationalities Institute (Philosophy and Social Sciences)*, 22 (1), 85-89.

Zhu, W. (2004) Faculty views on the importance of writing, the nature of academic writing, and teaching and responding to writing in the disciplines, *Journal of Second Language Writing*, 3 (1), 29-48.

朱新称 (2002) 论大学生批判性思维培养, *高教探索*, 2, 62-64.

Zhu, X. (2002) [A discussion of the development of critical thinking in college or university students], *Higher Education Exploration*, 2, 62-64.

朱秀丽, 冯卫红, 颜琬华 (2005) 护理本科生的批判性思维能力测试, *护理研究*, 20 (1), 84-86.

Zhu, X.L., Feng, W.H. and Yan, W.H. (2005) Test on ability of critical thinking ability among college nursing students, *Chinese Nursing Research*, 20 (1), 84-86.

左洪亮 (2004) 努力培养大学生的批判性思维能力, *江苏高教*, 6, 93-94.

Zuo, H. (2004) [Developing the critical thinking abilities of college and university students], *Jiangsu Higher Education*, 6, 93-94.

Notes

1. For all the Chinese references, English titles are also given. Those translated by me rather than by the original authors or editors are put in square brackets.