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SCHOOL OF EDUCATION, COMMUNICATION AND LANGUAGE SCIENCES

FACTORS INFLUENCING TEACHING FOR CRITICAL THINKING IN VIETNAMESE LOWER SECONDARY SCHOOLS: A MIXED METHOD STUDY FOCUSSED ON HISTORY

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DECLARATION

I hereby certify that this thesis is based on my original work except for quotations and citations, which have been duly acknowledged. I also declare that it has not been or currently submitted for any other degree at the University of Newcastle or other institutions.

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ABSTRACT

Critical thinking (CT) has been introduced into the curriculum of numerous secondary schools worldwide. Whilst the literature on instructional and assessment approaches related to CT is abundant, few studies have been conducted to investigate factors that influence teachers' decision-making about the development of CT in learners. In Vietnam, although education reform emphasises the importance of developing learners' dispositions and skills for CT, traditional instructional methods continue to be prevalent. The aim of this thesis was, therefore, to identify factors affecting teaching for CT in Vietnamese lower secondary schools.

A mixed methods sequential explanatory design was adopted with questionnaires, semi-structured interviews and focus groups as key data collection instruments. Data collected from 145 lower secondary history teachers in the Northern Province of Thai Binh, Vietnam indicate that assessment practice and school culture exert considerable influence on teaching for CT. Teachers understand the benefits of teaching for CT but regard it as extraneous to the requirements of tests, the criteria of teacher evaluation and the general expectation of many parents. Limited school democracy, low teacher autonomy and collegiality inhibit the application of innovative teaching techniques to enhance learners' CT. The study suggests the influence of national culture and perceptions about teaching and learning on pedagogical practices. It challenges theories that support test-based accountability regimes by indicating that accountability pressures discourage teaching approaches that promote student interaction and critical engagement in learning. In contrast to recent research, it is found that many teachers teach against their beliefs and knowledge, because they encounter strong obstacles when attempting to change. Informed by rich empirical evidence, it is expected that this research will not only support the upcoming education reform in Vietnam but also provide useful lessons for policymakers and school leaders in countries with similar educational problems.

TABLES OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

Chapter 1:   Introduction

This thesis reports an empirical study investigating factors that affect teaching for CT in Vietnamese lower secondary schools. The current first chapter delineates a preliminary overview of the study, beginning with a brief introduction of the research context, the key concepts and the educational issues that prompted the study. It further specifies the research purpose, research questions and the methodology employed. The chapter provides some exemplars of assessment practices and school cultures in Vietnam. It concludes by presenting an overview of the structure of the thesis.

1.1   Background of the study

It could be useful at this early part of the research to describe briefly the professional context in which the study was conducted. This section provides general information about the Vietnamese education system with special attention given to lower secondary education and the educational strategies being implemented during the time of the study.

Regarding the educational system, education in Vietnam operates on four levels (Vietnam National Assembly, 2006). These are early childhood education with nursery (crèches) and kindergarten; general education with primary, lower secondary and upper secondary; professional education with professional secondary education and vocational training; and higher education with college, undergraduate, master and doctoral courses (see Figure 1-1). The total number of learners (excluding postgraduates) in school year 2010-2011 was over 21.5 million (MOET, 2011c), accounting for a quarter of the population.

Within general education, lower secondary education lies in the middle between primary and upper secondary, lasting four years (grades 6 to 9) for children aged 11 to 15 (for detail, see Table 1-1). Students are required to attend from 27 to 30 teaching periods a week subject to their grades (each period lasts 45 minutes). Compulsory subjects include Vietnamese language and Literature, History, Geography, Civics, Art, Music, Physical Education, Foreign language, Mathematics, Physics, Chemistry, Biology and Technology. There is also timetable for classroom and school activities as well as vocational and social activities. For further information about Vietnamese education in general and lower secondary education in particular, please see UNESCO (2011).
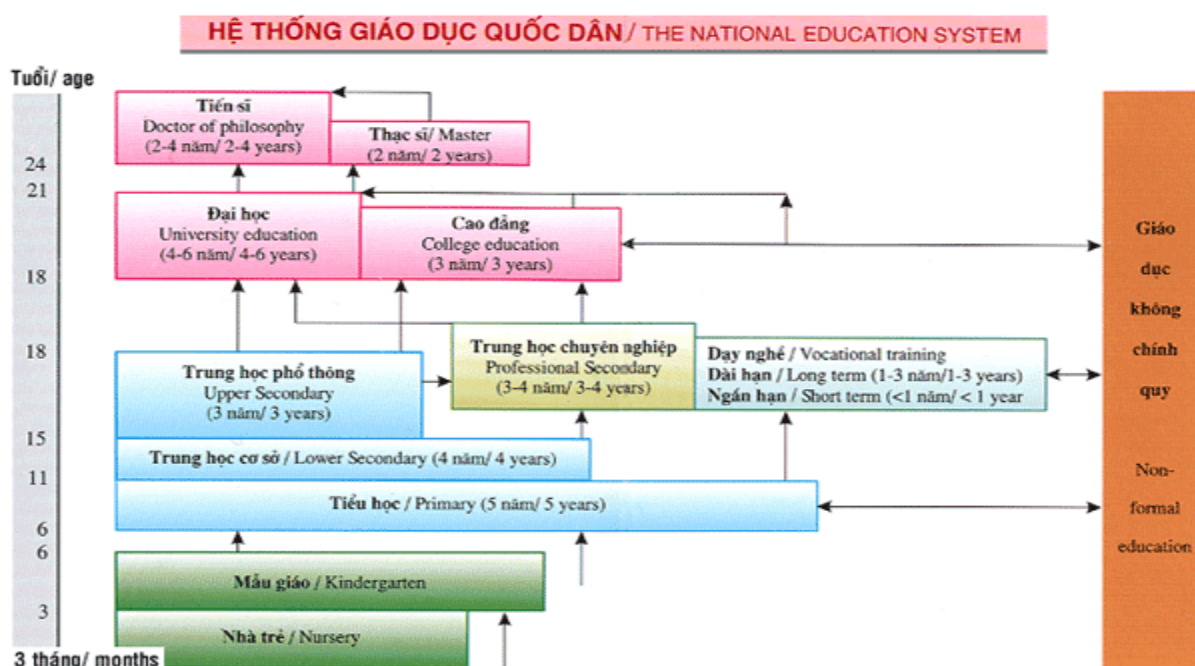
Figure 1-1: *Structure of the national education system of Vietnam, 2007*

Source: MOET, accessed at http://en.moet.gov.vn/?page=6.7&view=3401

Table 1-1: *Key data of Vietnamese lower secondary education*

School year Indicators	2000-2001	2005-2006	2010-2011
1. Schools	**7,773**	**9,386**	**10,143**
• Public schools (state-funded)	7,635 (98.22%)	9,334 (99.44%)	10,127 (99.84%)
2. Teachers	**224,840**	**306,067**	**312,710**
• Female	156,247 (69.49%)	206,815 (67.57%)	211,035 (67.48%)
• With standard qualification (%)	89.53	96.19	98.84
• Teacher/class ratio	1.55	1.83	2.07
3. Students	**5,918,153**	**6,458,518**	**4,968,302**
• Female	2,784,609 (47.05%)	3,100,259 (48%)	2,395,682 (48.21%)
• Ethnic minorities	667,240 (11.27%)	924,867 (14.32%)	776,741 (15.63%)
• In public schools	5731817 (96.85%)	6,344,041 (98.22%)	4,939,578 (99.42%)
4. Class/classroom ratio	**1.5**	**1.11**	**1.19**

Source: Synthesis from educational statistics, stage 1999-2011(MOET, 2011c)

In respect to the educational context, the study was conducted at a time when the 2002 curricula focused on promoting learner-centred teaching appeared to fall short of the nation's expectations (CCCPV, 2011)[1]. Although additional management strategies, such as 'Friendly schools, active students', 'Each teacher is a role model in morality, self-study and creativity', 'No cheating and manipulated reports in education' (Government, 2006; MOET, 2010a) and 'Teaching life skills to secondary students' (Nga, 2010; Lộc *et al.*, 2011) have been implemented, it seems that modest alteration has been made to teaching and learning methods (Hảo, 2008). To improve the quality of education, Vietnam is preparing for a radical and comprehensive education reform scheduled to begin in 2015 (CCCPV, 2013). Such determination to better education is essential; nonetheless, it appears that not much empirical research has been conducted to identify the causes of the 2002 reform's limited success to provide guidelines for the implementation of the upcoming reform.

1.2   Working definitions of key terms

As the review of the literature indicates, the key terms of this study, including assessment, school culture and critical thinking have been differently conceptualised. It is therefore important to present working definitions of these contentious terms in the introduction before they are fully explored and justified in the second chapter of the thesis.

   1. Assessment is any activity in which evidence of learning is collected to make judgements about learning and/or to facilitate learning.

   2. School culture is the taken-for-granted assumptions, beliefs and values of its members that manifest themselves at the surface level of school practice and artefacts.

   3. Critical thinking is reflective thinking in which learners consider diverse perspectives and multiple sources of information to make sound judgements, propose appropriate solutions and learn new concepts.

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[1] CCCPV stands for the Central Committee of Communist Party of Vietnam, an organisation responsible for national development strategies.

1.3   Statement of the research problems

Although CT has been introduced into the curriculum of numerous secondary schools worldwide, sharply conflicting viewpoints on it remain. One of such controversies relates to approaches to conceptualising the construct. Whilst some scholars regard CT as a set of cognitive skills (Facione, 1990), others see it as a mental process (Sternberg, 1986; Black, 2012) or as both skills and dispositions of an effective thinker (Ennis, 1987; McPeck, 1990; Siegel, 1998). In the same vein, approaches to teaching CT have provoked considerable debate. Some suggest infusing CT into the curriculum (McPeck, 1981; Johnson, 2010), whereas others hold that teaching it in a general course tends to produce higher outcomes (Facione, 2000; Siegel, 2010). Whilst CT is considered a universal goal of education (Baildon and Sim, 2009; Marin and Halpern, 2011), several educators maintain that it is impossible to teach it to Eastern learners (Atkinson, 1997; Moon, 2008). Particularly, whilst a large number of studies have been conducted to introduce instructional methods and evaluate the effectiveness of CT courses (e.g. Marin and Halpern, 2011; Black, 2012), the literature indicates few attempts to investigate factors that affect teaching for CT.

In the context of Vietnam, CT has been conceived of as part of the national educational philosophy (Helmke and Tuyet, 1999). To enhance students' communication and practical skills, learner-centred education focussed on 'critical thinking and self-evaluation' has been introduced into all secondary schools (UNESCO, 2011, p 11). In accordance with Article 5, Education Law 2005 of Vietnam, methods of general education should promote active, conscious, self-motivated and creative thinking in learners; teaching should foster self-regulated learning, practical skills and learning eagerness and bring joy and pleasure to students (Vietnam National Assembly, 2006). Based on this orientation, various attempts have been made to improve the ability to think and argue dialectically for students. Teachers are guided to create learning environments that nurture problem-solving, decision-making, self-study, self-evaluation and independent thinking skills; they are advised to inspire students to raise and address their own questions and to create opportunities for students to express their own viewpoints (see for example MOET, 2010a; MOET, 2011a; MOET, 2012). Together with many related higher-order cognitive skills such as decision-making and problem-solving, CT has been included in a thinking programme for secondary students, generally carried out by history or civics teachers, namely 'Teaching life skills to secondary

students' (Nga, 2010; Lộc *et al.*, 2011). It is recommended that students be taught to be sceptical by regularly asking why-questions and examining evidence. Other habits and skills that teachers are required to cultivate in students include defining problems clearly, detecting biased assumptions including their own, avoiding oversimplification or intuition-based decision, considering alternative explanations and tolerating uncertainty (Lộc *et al.*, 2011). To create a constructivist learning environment with the alignment between teaching and assessment methods, teachers have been guided to base their lesson plans and assessments on Bloom's taxonomy (Bloom *et al.*, 1956) with emphasis on higher-order-thinking skills, such as analysis, synthesis and evaluation (MOET, 2010b; MOET, 2011b), which are considered as significant component skills of CT (DeWitt *et al.*, 2013; Dwyer *et al.*, 2014). Thousands of skill-training workshops have been held at different levels throughout the country to assist teachers with the revision of their teaching methods (Hamano, 2008; Saito *et al.*, 2008; MOET, 2011a).

Despite such emphasis upon updating teaching methods, it appears that changing from teacher-centred to learner-centred teaching focused on the development of high-order thinking has not been successfully implemented. According to Hồng (2010), teachers demonstrate the revised teaching method in workshops and teacher contests, whereas in daily practice the majority of them attempt to cover textbooks, paying insufficient attention to the cultivation of learners' cognitive skills. As Phuong-Mai *et al.* (2012) observe, teachers talk most of the time while students listen and take notes. There is a lack of self-confidence, a sense of shyness and a fear of giving wrong answers in the majority of learners (Tú, 2011; Phuong-Mai *et al.*, 2012). In an important report presented at the 11th Party Congress, CCCPV (2011) notes that teaching and learning methods in Vietnamese schools are slow to change; standards of education have fallen steadily and large numbers of graduates lack skills needed in a developing economy. Instructional practices that encourage passive acceptance of knowledge and rote learning, literally translated as 'teacher dictates-students write down' can be seen in numerous educational institutions (MOET, 2010a; Tụy, 2012a). This consequently leads to the lack of CT in a large number of students as well as graduates (Le, 2005; Hảo, 2008; Wei, 2012). In order to overcome this weakness, it is important to understand why skills for CT are not systematically employed in classrooms given that they are regarded as core objectives of Vietnamese secondary education. A deep understanding of such a discrepancy is essential to effective intervention and practical support (Keeley *et al.*, 1995; Tsui, 2001).

1.4   Rationales for choosing history teaching as the field to investigate the issue

History teaching was chosen as the field to investigate factors that influence teaching for CT because of the complementarity of history teaching and CT as well as the need to address the didactic teaching methods used in Vietnamese history classrooms.

For a long time, sharply contrasting perspectives on the nature of historical knowledge have led to varying approaches to teaching and learning history. At one extreme, proponents of 'scientific views' concur that like other sciences, history can be written in an unbiased, precise and scientific manner to describe great men and significant events in the past (Elton, 2004). In school settings, History has been regarded as a 'received subject' that could be learnt by simple memorisation (Haydn *et al.*, 2001, p. 8).

At the other extreme, advocates of 'idealist views' argue that history cannot be approached scientifically because 'it is a continuous process of interaction between the historian and his facts, an unending dialogue between the present and the past' (Carr, 1986, p. 24). History is produced by means of imagination and interpretation; it contains values and attitudes reflecting the historian as well as his nation's perspectives on the past (Russell, 2009; Yilmaz, 2009). By engaging students in critical discussion, teachers not only bring them fun and excitement, assist them to achieve a deep understanding of the learning contents but also lead them to a historical thinking approach, which is beneficial to the development of autonomous citizens (Al-Edwan, 2011). Given that the chief purpose of history is to depict the past accurately, it is subjective, being an art rather than a science (Russell, 2009; Yilmaz, 2009). Thus, CT should be employed to obtain a comprehensive understanding when learning history (Yilmaz, 2009; Wang and Woo, 2010).

In contrast with the teaching approaches suggested above, in Vietnamese contexts, it is likely that one-way teaching methods that encourage passive acceptance of information and factual memorisation can be seen in countless classrooms (Tú, 2011). Instead of allowing time for interactive learning activities, such as critical debate or discussion, a great many teachers attempt to transmit knowledge through lecturing and note-taking, producing didactic lessons with limited participation from students (Hiền, 2008; Hà, 2011). To deal with exams, teachers ask students to learn prepared answers by rote (Quyên, 2013). Notably, some history experts, for example Liên *et al.* (2010) and Lâm (cited in Nhựt, 2011) believe that such a negative teaching approach is caused by teachers and MOET's

misconceptions of historical knowledge. This assumption appears sound but a problem with it is the fact that it is underpinned by little empirical evidence. To prevent a further decline in the standards of teaching and learning History, a subject that plays a significant role in learners' personal development (Al-Edwan, 2011; MOET, 2011b), causes of the claimed one-sided teaching approaches should be thoroughly examined.

1.5 Objectives of the study and research questions

The key purpose of this research was to identify factors that could affect teaching for CT in History in Vietnamese lower secondary schools. Guided by this purpose, a preliminary review of literature was conducted to determine the predictor variables for the research. Through this process, four major factors were identified possibly influencing the teaching and learning of thinking in Vietnamese schools, including textbooks, teachers' knowledge and commitment, assessment practice and school culture. Of these identified aspects, assessment appeared to be the strongest with remarkable support from both domestic and international scholars. Textbooks and teachers' knowledge and commitment were frequently regarded as contributing factors to one-sided teaching methods in history classrooms by domestic researchers. Meanwhile, school culture was considered closely associated with pedagogical change in general and teaching for CT in particular by a large number of scholars in the fields of school culture and educational change (see Table 1-2).

Table 1-2: *Factors that may affect teaching for CT in Vietnamese lower secondary schools*

Factors	Publications
Textbooks	Haas and Keeley (1998); Duggan (2001); Dũng (2008); MOET (2010b); Alazzi (2008); Đức (2011)
Teacher's knowledge and commitment	Eisner (1996); Quang (2008); Hồng (2010); MOET (2010b); Anh (2012); Rỹ (2012)
Assessment	Haas and Keeley (1998); Baildon and Sim (2009); Alazzi (2008); Jones (2010); Hồng (2010); Nhựt (2011); Koh *et al.* (2012); Wei (2012)
School culture	Haas and Keeley (1998); Stoll (1999); Tsui (2000); Tsui (2001); Koh (2002); Hinde (2004); Alazzi (2008); Tian and Low (2011)

In order to avoid misrepresenting the nature of causation, argues Mill (2006, cited in Morrison, 2009, p. 8), all antecedent factors, including the environments and conditions should be investigated. However, 'if we include too many variables, establishing causation becomes unmanageable' (Morrison, 2009, p. 8) and we may run the risk of producing superficial research findings. Being aware of such a paradox, informed by the results of the focused review, personal experience as a teacher and educational leader and the dearth of empirical data on assessment practice and school culture in Vietnam, the author decided to take these two factors as independent variables of the survey. The objectives of the study therefore are to portray cultures, assessment practices and teaching for CT in History in Vietnamese lower secondary schools; to identify if and how the two first variables exert impact on the last; and to provide theoretical and practical implications for educational improvement. Based on the research objectives and the implications of the literature review, one main research question and four sub-research questions were identified. Whilst the two first sub-questions investigate the relationships between teaching for CT and assessment, as well as school culture, the third explores the teachers' perceptions of such relations. The fourth question requires the integration of quantitative and qualitative results to achieve a more profound understanding of the examined topic.

Main research question

What factors influence teaching for CT in History in Vietnamese lower secondary schools?

Sub-questions

1. Is there a relationship between assessment practice and teaching for CT?

2. Is there a relationship between school culture and teaching for CT?

3. What are the perceptions of the teachers on such relationships?

4. To what extent do the teachers' perceptions help explain and elaborate such relationships in Vietnamese lower secondary settings?

To address these questions, a *mixed methods explanatory design* involving two consecutive sequential phases (Creswell and Clark, 2011) was employed. In the first phase, close-ended

questionnaires were utilised to obtain a general understanding of the research problem. In the second phase, in-depth interviews were conducted to explain key and unexpected quantitative results whilst focus groups were organised to deepen and broaden interview findings. Drawing on empirical evidence collected using both quantitative and qualitative research techniques the study argues that assessment practices and school cultures in Vietnam hinder teachers' efforts to teach for CT. The research also highlights the influence of Vietnamese cultural values on pedagogical practices.

1.6   Assessment practices and school cultures in Vietnam

This section synthesises findings relating to the practices of assessment and school cultures in Vietnam with a view to providing information about the context as well as highlighting the urgency of the study.

1.6.1   Assessment practices in Vietnamese secondary schools

Together with pedagogical change, the revision of assessment methods has been constantly emphasised at lower secondary level in Vietnam (see MOET, 2010a; MOET, 2012). Test designers and teachers are advised to refer to Bloom's taxonomy to develop test questions requiring students 'to apply as well as synthesising knowledge and skills to generate their own ideas…and develop their creative and independent thinking skills' (MOET, 2010a, p. 7). Accordingly, several positive changes in assessment practice have been observed (Anh, 2010). Students are assessed with different methods including self and peer-assessment and given feedback in both numeric and word forms. Evidence of successful learning has been collected from multiple sources including teamwork. A growing number of teachers perceive that there should be less emphasis on marks and grades and more formative feedback to assist students in improving their learning. Nevertheless, a number of shortcomings on assessment have been noted.

Some research indicates that though teachers have devoted increasing attention to giving feedback, most comments are subjective because they are not based upon explicit criteria (Anh, 2010). High expectations of local governments and other stakeholders in terms of test scores continue causing negative pressure to both teachers and students, thus inhibiting them from taking reasonable risks. In a large-scale study, Quang (2008) found

that nearly 80% of teachers were under pressure to fulfil their contracts with local governments. This contributes to unnecessary extra classes and teaching to the test.

Multiple-choice tests are in vogue, whereas those asking students to demonstrate high-order thinking skills are inadequately used (Tụy, 2012a; Wei, 2012). The majority of exam questions in Chemistry, Physics, Biology and English are multiple choices and this kind of questions is also encouraged in social studies to develop 'objective' tests (MOET, 2011a). Multiple-choice questions can cover large amounts of textbook contents; nevertheless, they are associated with knowledge transmission and surface learning approaches (Haas and Keeley, 1998; Palm, 2008). Such questions are also inauthentic because it is unlikely that students have available options to choose when dealing with daily life issues (Wiggins, 1990; Frey *et al.*, 2012). As UNESCO (2011) observes, learning outcomes have been seen as quantities of memorised knowledge rather than the growth of skills and learning strategies.

Owing to pressures caused by the consequences attached to examinations and intense competition among teachers as well as schools (Quang, 2006), cheating, for example students' illicit use of documents while sitting tests or test-takers copying answers from peers occurs rather regularly (Quang, 2008; Dien, 2012; Tụy, 2012b). Examinations are regarded as a burden to a large number of learners, exerting substantial negative influence on their learning interest (Tụy, 2012b; Vận and Trang, 2012).

Within history instruction, although a learner-centred approach to teaching has been nationwide suggested, 'assessment methods are backward, largely based on experiences and focussed on testing factual knowledge rather than skills and attitudes of learners' (MOET, 2011a, p. 24). Although this evaluation is widely accepted, it is not based on empirical evidence systematically gathered from academic studies, especially those taking account of teachers' perspectives. Such a large gap contributes to provoking this research.

1.6.2   *Cultures of Vietnamese secondary schools*

Despite the fact that school culture has recently been the subject of inquiry in Vietnam, most studies restrict their scopes to introducing the concept, its functions and proposing measures to better school images (see, for example Nghị, 2009; Phước, 2012). To

illustrate some features of lower secondary schools, publications concerning different topics have been considered.

It could be argued that one of the typical characteristics of Vietnamese secondary schools is the phenomenon of heavy workloads for students. As a result of competitive examinations and pressures from parents or/and teachers, apart from a formal cluttered curriculum, the vast majority of secondary students attend extra-curricular lessons (Tú, 2011; Tụy, 2012a). A report by the United Nations (2005, cited in London, 2006) showed that 70% of secondary students going to after-school classes. A lower figure of 51% was reported with lower secondary ones (Quang, 2008).

There seems to be a slight decrease in teachers' professional commitment. According to a study by Quang (2008), 13% of lower secondary school teachers felt regret for having chosen teaching as careers, meanwhile a considerably higher figure, 59% was found by Rỹ (2012). The key reasons for such low commitment were low salary, hard work and accountability pressure. In a survey with 76 lower secondary teachers in Thai Binh, the province where this study was conducted, Du (2013), however, found that teachers' average score in organisational commitment variable was quite positive, standing at 2.82 over 4.0.

There appears to be a lack of teacher autonomy in a host of schools. In an article, namely Teacher autonomy, Quang (2005) claims that teachers in Vietnam are granted rather low degrees of autonomy. They were required to follow guidelines to plan their lessons, to follow the syllabus as well as textbooks, which were regarded as 'legal documents', to teach. A key problem with this claim, however, is the fact that it was based upon assumptions rather than evidence. In a later study, Quang found that teachers were bound by many detailed regulations and a third of them wanted higher levels of autonomy (Quang, 2008).

Another typical school cultural aspect could be the reticence of students. Though 'Friendly schools-active students' movement has been implemented nationwide for several years, the majority of secondary students do not voluntarily contribute to lessons; they rarely raise hands to answer teachers' questions or question teachers or peers (Hùng, 2011) The issue is alarming, but its causes have not been determined (Tú, 2011).

Recently, two studies (Saito and Tsukui, 2008; Saito *et al.*, 2008)[2] by researchers from Japan International Cooperation Agency (JICA), which examined obstacles to teacher in-service training and the development of learning communities in Vietnamese primary schools, indicate that teachers showed limited collegial trust and low interest in giving feedback and exchanging experiences with their colleagues. As reported by Quang (2008), Saito and his associates found that teaching and other school activities were tightly controlled and regularly inspected by local authorities. Teachers paid little attention to individual students' needs, ignoring those who failed to catch up with the extremely fast-paced lessons. They indicated authoritative attitudes towards students, seeing child-centred teaching as a teaching technique rather than a teaching methodology that gives close attention to the nature of individual learners. As teaching for CT involves treating students with respect and encouraging questioning authority (Tsui, 2001; Wright, 2002), such a classroom environment appears to be a hindrance rather than a catalyst.

It is worth noting that since the main purpose of these publications was to suggest solutions to improve school environment and effectiveness, their authors just mentioned negative points of the culture. This gap together with the lack of empirical studies investigating school cultures in Vietnam implies that the identification of positive models and recommendations is an important area for exploration.

1.7   Structure of the study

This doctoral thesis is composed of six chapters. Chapter 1 'Introduction' provides an overview of the research project. Chapter 2 'Literature review' is a systematic review of literature in relation to the key terms of the study: assessment, culture school and CT. It provides definitions and understandings about the influence of assessment and school culture on teaching and particularly teaching for CT. In this way, it supports the development of questionnaire items and the formation of the theoretical framework, the research questions and research methodology of the study.

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[2] As there is no difference in terms of school size and management model between lower secondary and primary schools (both are under direct management of BOET and the district government) and the fact that both are carrying out the 2002 reform, these studies, providing international researchers' perspectives, are considered.

Chapter 3 'Research methodology' describes and justifies the methods and theories used to collect and interpret the data. It discusses the strengths and weaknesses of each research instrument and describes how the research was designed and executed. The chapter debates important aspects relevant to the ethics, validity and reliability of the study. Chapter 4 'Findings' presents both quantitative and qualitative results generated by using close-ended questionnaires, semi-structured interviews and focus groups.

Chapter 5 'Discussion' integrates results and critically considers the implications of the findings with reference to the literature and study context. It discusses practical and theoretical issues emerging from the project. Chapter 6 'Conclusions' presents a summary of findings and overall conclusions of the project. It states the significance as well as implications of the research. By acknowledging limitations of the study, this final section offers recommendations for future research.

Chapter 2:   Literature review

This chapter presents the knowledge base upon which the study was built. It begins by discussing major controversial issues concerning CT and continues with assessment, focusing on its definitions and types, influence of each type on pedagogical practices including teaching for CT. The chapter considers several aspects of school culture, including its definitions, typologies and impact on instructional practices, especially on teaching that develops CT. Emerging from the review, in the light of change resistance knowledge and causation theory, the theoretical framework of the research was presented at the end of the chapter to guide the design and execution of the research.

2.1   Controversial issues regarding CT

This section attempts to address controversial issues relating to the definition of CT, the feasibility of teaching it to Eastern learners and approaches to introducing it into secondary schools. The lessons drawn from the discussion will guide the empirical section of the project determining factors influencing teaching for CT.

2.1.1   Definitions of CT

Despite attracting significant scholarly attention, CT remains an 'elusive concept' (Moon, 2008, p. 19) that has numerous definitions (Tian and Low, 2011). Whilst some definitions share certain similarities, others are markedly different from one another in terms of either meaning or approach. Accordingly, to achieve a better understanding of the term, the following section discusses both strengths and weaknesses of each approach before a definition relevant to teaching and learning processes is proposed.

CT was first described by John Dewey as a set of skills used to search for additional evidence before making judgement (Dewey, 1910). A more detailed characterisation of the concept was provided in the Delphi Report regarding CT as a set of cognitive skills and sub-skills, including interpretation, analysis, evaluation, inference, explanation and self-regulation (Facione, 1990). In the context of the USA, CT is regularly equated with the higher-order thinking skills identified in Bloom's taxonomy including analysis,

synthesis and evaluation (Moseley et al. 2004). Although it is widely accepted that these skills are core component skills of CT (DeWitt *et al.*, 2013; Dwyer *et al.*, 2014), this approach to conceptualising CT has been criticised for simplifying and equating CT with a series of skills (Wright, 2002; Baildon and Sim, 2009), regarding it as a 'pure-skills conception' (Siegel, 1998, p. 6). As such, it may lead to the belief that teaching CT is to provide students with a set of discrete skills to practise, overlooking the integral roles of CT dispositions, background knowledge and contexts in the development of CT (Bailin *et al.*, 1999a; Lipman, 2003; Willingham, 2009). Eales-Reynolds *et al.* (2010), however, conceive of CT as 'the ability to think about one's own thinking' by considering its strengths and weaknesses (p. 2). In this regard, CT is confined to metacognition while in fact it also relates to the evaluation of other people's ideas and assumptions. By participating in interactive learning activities such as teamwork or critical discussion, learner can develop their CT dispositions and abilities.

A number of CT theorists describe CT as a set of mental processes that assist individuals to analyse arguments, judge information, evaluate claims, solve problems, form judgements, make decisions and learn new concepts (Black, 2012; Sternberg, 1986). Yet, questions have been raised on the component processes of CT (O'Hare and McGuinness, 2009). To Black (2012), CT involves five processes including analysing arguments, judging information, evaluating claims, constructing arguments and forming judgements or decisions, whereas Brookfield (2012) simply describes it as a process of validating one's assumptions by looking at them from diverse perspectives.

Alternatively, CT is described as a procedure with a fixed set of stages or phases. For instance, Wright (1993, cited in Bailin *et al.*, 1999a, p. 276) suggests that CT consists of three procedures: inquiry, problem-solving and decision-making. This approach arranges CT components into a sequence, making it easier for readers to imagine what the term chronologically involves. Nonetheless, it appears that this way of conceptualisation contradicts the complex and flexible nature of CT (Baildon and Sim, 2009). Rather than following fixed steps, CT encourages 'the willingness and confidence to challenge rules' (Moon, 2008, p. 40).

From the philosophical approach, CT can be viewed as the characteristic of a successful thinker, as it involves an element of 'reflective and reasonable thinking that is focused on deciding what to believe or do' (Ennis, 1996, p. 166). Despite extensive support from

researchers who regard the reflective component of CT as the element that distinguishes it from other forms of thinking, this definition and those in the same approach are often criticised for lavishing their attention on what critical thinkers can perform under ideal circumstances whilst neglecting factors that contribute to their behaviour and actions (Lai, 2011).

Also highlighting the reflective element, McPeck describes CT as 'the propensity and skill to engage in an activity with reflective scepticism' (McPeck, 1981, p. 8). In this regard, CT is regarded as comprising both skills and dispositions. In the context of Vietnam, CT is introduced into lower secondary schools as 'the disposition and ability to make objective evaluations and reasonable judgements basing on reasoning and evidence' (Lộc *et al.*, 2011, p. 157). It is generally agreed that both dispositions and reasoning skills are essential to form a critical thinker (Siegel, 1998; Bailin *et al.*, 1999a); however, conflicting viewpoints remain on the role of the disposition (Facione, 1990) and several of its subordinates (Ennis, 1996). Recent studies have pointed out that if learners have no propensity to think critically, CT will not be applied beyond classroom situations, stressing the need to nurture CT dispositions in learners (Facione, 2000; Ku and Ho, 2010).

The literature review has considered five main approaches to conceptualising CT. Yet, no single overarching definition has been widely accepted (Moseley *et al.*, 2004; Lai, 2011; Black, 2012). Bailin *et al.* (1999b) suggest defining CT in a way that helps people realise its educational significance. For that reason, borrowing the word 'reflective' from McPeck and Ennis, CT is defined in this thesis as *reflective thinking in which learners consider diverse perspectives and multiple sources of information to make sound judgements, propose appropriate solutions and learn new concepts.* One of the virtues of this definition is that it indicates both what CT involves as *a means of learning* and what it aims for. Although the definition does not list the skills performed by the thinker, it indicates the utilisation of such skills to consider multiple perspectives and sources of information. In this way, it also signifies the demonstration of CT dispositions, such as open-mindedness and desire to be well informed which contribute to high quality reasoning.

2.1.2   Feasibility of teaching CT to Eastern learners

There has been substantial scholarly debate over the causes of the variation in capacity for CT between Western and Eastern learners and the feasibility of teaching it to the latter.

On the one hand, some researchers believe that it is impossible to achieve CT in classrooms with students from Eastern cultures, where harmony and conformity are valued more than argumentation and persuasion (see Stapleton, 2001). Atkinson (1997) and Moon (2008) have argued that CT is an essentially Western culturally situated way of processing ideas, formed and restricted by the structure and functioning of learners' brains. Culture epistemic beliefs and other factors relating to lifestyles, such as the respect for old and authoritative people can adversely influence learners' curiosity and questioning habits, thus leading to low CT performance (Ku and Ho, 2010).

On the other hand, a large number of scholars argue that CT is a *universal phenomenon* and the variance in the ability to think critically between people of different cultures is because of either the extent to which CT is tolerated in certain aspects of life or the ways it is measured (Stapleton, 2001). Whether students are passive or active tend to depend on learning environments and learning experiences rather than their inherent dispositions (Keeley *et al.*, 1995; Le, 2005; Tian and Low, 2011). Put another way, low levels of CT does not relate to individual *nature* but derives from a lack of intentional effort to *nurture* this skill in learners (Grosser and Lombard, 2008).

Lun *et al.* (2010) observe that most studies noting the difference in CT capacity between Eastern and Western learners are those conducted in English classes meanwhile language competence, argue Paton (2011) and Tian and Low (2011), inevitably affects reasoning ability. CT tests often present moral dilemmas arising within Anglophone societies, such as the death penalty, gun control and freedom of speech, which may be less familiar to students from other languages and cultures (Stapleton, 2001). For those reasons, test outcomes might not be reliable indicators of CT.

Recent research has indicated considerable positive outcomes of teaching CT to students in Eastern cultures. For example, Che (2002) and Yang and Chung (2009), two studies undertaken in Taiwan and Hong Kong respectively, reported that CT enhanced students' active listening and respect for diverse opinions. It pushed forward teamwork, stimulated

students' learning interest and enhanced their communication skills. Particularly, research suggests that the growth of students' CT can be influenced by test requirements and learning environments. Teachers are less likely to employ CT techniques if tests require low levels of high-order thinking or if there is restricted freedom of speech in schools or society (Alazzi, 2008; Baildon and Sim, 2009). This implies that instead of seeing cultural backgrounds as the key factor that exerts impact upon the development of CT in Eastern learners, elements directly or indirectly affect teaching and learning for CT, such as classroom environments, teacher commitment or the requirements of examinations should be carefully considered.

2.1.3 Approaches to and techniques for developing CT for learners

This section addresses issues concerning approaches and techniques used to teach CT. Regarding the first topic, there has been heated debate between protagonists of two contrasting schools of thought called the 'generalists' and the 'non-generalists' (Glevey, 2006, p. 292)

Following the generalists, CT should be taught in general courses or programmes, separately from the curriculum because various skills, for instance identifying cause(s), tracing the source of information or predicting outcomes can be transferred across disciplines (Ennis, 1987; Facione, 2000; Siegel, 2010). General courses using real-life problems, especially moral issues can draw more attention from learners than school disciplines (Tsui, 2000; Sternberg, 2001). As questions used in these courses often require solutions based on the synthesis of knowledge from different disciplines, this approach assists students in making logical connections across school subjects (Bailin *et al.*, 1999b), thereby improving their interdisciplinary thinking (Black, 2012). Suffering less impact from time constraints, stand-alone programmes are believed to encourage deep exploration and frequent practice of thinking activities (Sternberg, 2001).

In contrast, the non-generalists argue that there is no robust evidence of the existence of general thinking skills. CT should be taught in specific disciplines because thinking must focus on a specific subject matter (McPeck, 1990; Kelly, 2005). As they argue, no thinking skill can be applied across the curriculum because a task, for example 'comparing' is different from discipline to discipline in terms of knowledge requirement, awareness of criteria and frame of reference (Johnson, 2010). Another point against

general courses is the belief that if there are some generic thinking skills, they will be inevitably weak because of the generality-power trade-off (see Bailin *et al.*, 1999b; Smith, 2002). Nevertheless, these objections have been questioned. Higgins and Baumfield (1998) argue that learning is a process so what students learn in general thinking programmes, which are more about ways of learning than ways of knowing, will certainly influence their subsequent thinking. To claim that CT is subject-bound is to imply that daily problems are clearly categorised, whereas many issues require the combination of skills and knowledge across various disciplines (Koh, 2002). In the school setting, several subjects may also contain overlapping knowledge (Higgins and Baumfield, 1998). Following Smith (2002), opponents of the general approach appear to have failed to distinguish between 'generalising over tasks' and 'generalising over domains'. Whilst being generalisable over tasks can weaken a skill, the same skill applied in different domains loses no power.

The debate appears endless because large volumes of studies using either general or subject specific approaches have claimed to bring about worthwhile outcomes, while the evidence does not indicate the superiority of either approach (Lai, 2011). For this reason, this study supports the viewpoint of the neutral group (e.g. Bailin *et al.*, 1999b; Marin and Halpern, 2011), suggesting that there is no need to exclude either of these approaches because they are complementary. While skills taught in thinking programmes act as a catalyst to classroom discussion, subject contents in turn provides ingredients for separate courses (Coles, 1993). Recent research suggests that CT should be infused into the whole curriculum with explicit instruction of CT rules being taught to learners at the beginning of the course, to exploit natural thinking opportunities as well as building thinking classrooms (McGuinness, 1999; Alan Bensley and Spero, 2014). These insights imply that the often-claimed limited thinking abilities of Vietnamese students are unlikely to be caused by the approaches that CT skills have been introduced to schools (immerged in the curriculum, with some support from thinking programmes). Research, therefore, can focus on other elements, such as the ways teachers infuse CT into their lessons or the support given to them to foster CT in learners.

With reference to approaches to developing CT, most CT experts share the view that students need to be placed into situations that call for the use of high-order thinking skills to make reasoned judgements or decisions (Bailin *et al.*, 1999b; Buskist and Irons, 2008). They should feel secure when expressing their ideals or challenging teachers and peers

(McGuinness, 1999). Regarding teaching content, questions for discussion should have no obvious answers (Wang and Woo, 2010) and have more than one defendable solution (Lai, 2011). They should be neither too easy nor too difficult to motivate students (Willingham, 2009). Table 2-1 presents ubiquitous techniques and activities used to develop CT for learners in social studies generally and in History particularly.

Table 2-1: *Common techniques and activities that develop learners' CT*

Authors	Suggested techniques or activities
Bono (1982)	Odd one out, Listing good, bad and interesting points, Listing all factors that need to be considered when thinking about something, Predicting consequences, Finding alternatives
Swartz (1987)	Problem-solving, Brainstorming, Decision-making, Seeking explanation for recent events, Fact and opinion distinction, Predicting consequences, Listing reasons for and against something
Vaske (1998)	Brainstorming, Discussion, Role play, Odd one out, Diamond ranking, Case studies, Thinking aloud interviews, Critical debate
Fisher *et al.* (2002)	Odd one out, Concept maps, Lifelines, Mysteries, Reading photographs and pictures, Story-telling, Community of inquiry
Buskist and Irons (2008)	Distinguishing credible from non-credible sources of information, Fact and opinion distinction, Drawing inferences, Formulating and asking appropriate questions, Gathering data from multiple sources, Bringing to class great everyday examples of CT (or lack of CT)
(MOET, 2011a)	Discussion, Role-play, Decision-making, Problem-solving, Case studies, Projects, Brain-storming, Story-telling, Interpreting pictures and photographs, Self and peer assessment, Formulating and asking appropriate questions

As aforementioned, teaching for CT is not confined to teaching thinking techniques or asking students more questions. CT dispositions need to be cultivated if learners are expected to employ CT beyond school settings (Facione, 2000). As such, critical personalities, such as open-mindedness, curiosity and a questioning attitude should be nurtured in every lesson (Robson and Moseley, 2005; Mathews and Lowe, 2011). To ensure that CT serves its intended purpose, it is important to cultivate the habit of caring about the dignity and worth of every person, too (Ennis, 1996).

20

2.2 Definitions, types and influence of assessment on pedagogical practice

The current section defines and categorises assessment. It discusses the influence of assessment on teaching in general and in teaching for CT in particular.

2.2.1 Definitions of assessment

Assessment is an integral part of the teaching and learning process. Nevertheless, there remains a lack of consensus in conceptualising the term and its components, causing inappropriate assessment practices (Harlen and James, 1997). As Black and his colleagues notice, assessment is commonly defined as testing, aimed at evaluating student attainments, ranking schools and awarding certificates (Black *et al.*, 2003). Similarly, Madaus *et al.* (2009) observe that this concept is regularly mistakenly used as a synonym of test or examination. As such, it excludes formative assessment and neglects the role of learners in many assessment tasks.

Alternatively, Cizek (1997) describes assessment as 'a planned process designed to accomplish a specific educational purpose, with the primary beneficiary of the process being the student' (p. 10). Although this definition stresses the educative purpose of assessment, it falls short of distinguishing the concept from other relevant educational terms. If assessment is understood in this way, it shares most features with teaching or education because they are all planned educational processes aimed at achieving an educational goal for the benefits of learners.

According to several scholars (e.g. Crooks, 1988; Eisner, 1996), assessment can be considered synonymous with evaluation. In the USA, these terms are at times used interchangeably (Harlen, 2007). One of the limitations with this loose interpretation, however, is that it might lead to confusion. While evaluation refers to the judgement of a course, a programme or the functioning of a school (Harlen, 2007; OECD, 2008) assessment is more focused on measuring individual performance. In effect, superficial understanding of the purposes and features of assessment has resulted in improper use of the tool in various cases, adversely affecting teaching and learning (Harlen and James, 1997; Berliner, 2011). To avoid this threat, informed by the distinction between summative and formative assessment presented below, a*ssessment is defined in this study as any activity in which evidence of learning is collected to make judgements about*

learning and/or to facilitate learning. This concise definition not only distinguishes assessment from relevant terms such as testing and evaluation but also states its two main purposes, which are used as a main criterion to categorise assessment in the school setting in the following section.

2.2.2   Types of assessment

Research has indicated contrasting impacts of different types of assessment on the teaching and learning process (Clarke, 2005; Irons, 2008; OECD, 2008). Before proceeding to explore how each of these types affects teaching and learning, it is important to draw a clear distinction between them.

Assessment is generally divided into two main types: formative and summative. Formative assessment is defined as 'all those activities undertaken by teachers, and/or by their students, which provide information to be used as feedback to modify the teaching and learning activities in which they are engaged' (Black and Wiliam, 1998, p. 10). It can be broken down into three main forms: assessment carried out by teachers, self-assessment and peer-assessment.

Self-assessment, as its name clearly indicates, is a reflective learning activity in which students make judgements about their own learning. It has been conceived of as one of the most integral skills for lifelong learning (Brooks, 2002; OECD, 2008). By creating a sense of ownership and autonomy in students (Wragg, 2001), self-assessment contributes to their motivation and responsibility for learning (Clark, 2008).

Peer-assessment involves groups of individuals rating their peers (Brooks, 2002). It encourages students to work more carefully because their work is assessed by peers, who compared to teachers tend to be more meticulous (Black *et al.*, 2003). Through the roles of critical friends, students develop cognitive and communication skills as well as enriching their knowledge (Brooks, 2002; Clark, 2008). Peer-assessment is complementary, providing skills for effective self-assessment because numerous assessing skills can be transferred (Black *et al.*, 2003). Regardless of these benefits, educators should be aware that peer jealousy, rivalry and conflicts may arise if students do not really understand the purpose of the activity or the grading criteria (Wragg, 2001;

Brooks, 2002). Some may find it challenging to accept peer criticisms and may refuse to collaborate if they lack trust in their peers (Tsui, 2000; Robson *et al.*, 2013).

Summative assessment can be divided into two types: external conducted by the (local) government at the end of a course to sum up and report learner attainments for purposes of certification and accountability (Sadler, 1989; Torrance and Pryor, 1998) and internal conducted by teachers in classrooms (Harlen, 2005). Numerous attempts with the adoption of varying criteria have been made to distinguish summative from formative assessment. In terms of product, while the primary outcome of formative assessment is feedback, guiding students how to improve their learning, marks or grades are main products of summative assessment (Irons, 2008). Summative assessment generally seeks to assess student attainments, whereas formative assessment is aimed at promoting learning (Knight and Yorke, 2003; Clarke, 2005; Mansell *et al.*, 2009). Based on this difference, a growing number of researchers (e.g. Cowie, 2005; OECD, 2008) prefer to call the former *assessment of learning* and the latter *assessment for learning*. Nevertheless, this classification sounds inappropriate because purpose is only one of the criteria to distinguish these two types (Harlen, 2007; Bennett, 2011). Moreover, given that the chief purpose of summative assessment is to measure student learning, feedback can be given to support learning (Black *et al.*, 2003; Yeh, 2005; Irons, 2008). Similarly, though the key purpose of formative assessment is to promote learning, it can measure learning in a less systematic way. In fact, it is impossible for teachers and peers to give feedback without evaluating what their students or friends have mastered.

Another criterion to distinguish these two forms of assessment relates to the time and levels of frequency at which they take place. Whilst formative assessment is a daily activity conducted throughout a long process, summative assessment is by and large carried out at the end of a course or programme of study (Torrance and Pryor, 1998; Mansell *et al.*, 2009). In some countries, for example Vietnam, the latter includes written tests after topics or end-of-term examinations, since results of these papers not only contribute to the decision on grade transference but also work as a decisive factor in teacher evaluation and school ranking.

The role of students in the assessment process is also different. In summative assessment, students tend to take a passive role as those being assessed, regarding assessment as something done to them by adults (Sadler, 1989; Brooks, 2002), whereas in formative

assessment, they hold a more active role regarding it as a learning task (Black and Wiliam, 1998). There is on-going dialogue and interaction between teachers and students (Cowie, 2005; Mansell *et al.*, 2009). Particularly, in peer or self-assessment, students rather than teachers tend to take the lead, thereby encouraging the development of autonomous learners (Clark, 2008; Robson *et al.*, 2013), one of the ultimate goals of education (Lin and Mackay, 2004).

The nature of questions can be different, too. In summative assessment, questions are formally prepared before assessment takes place, whereas in formative assessment they are made spontaneously, embedded within teaching and learning activities following individual matters or interests (Mansell *et al.*, 2009). Other criteria employed to distinguish these terms include the degrees of reliability and validity of their products, the manner that student work is judged: criterion-referenced or pupil-referenced (Harlen and James, 1997). Table 2-2 summarises the major differences between the two concepts.

Table 2-2*: Differences between formative and summative assessment*

Assessment types / Criteria	Formative assessment	Summative assessment
1. Formality	Informal	Formal
2. Frequency	Occurring every day in a process	Occurring at the end of a topic, a term, or a course of study
3. Student's role	Active, cooperative and sometimes leading	Passive, as someone being assessed
4. Product	Feedback and feed forward	Marks or grades sometimes plus feedback
5. Primary/secondary purpose	Promoting/measuring student learning	Measuring/promoting student performance
6. Nature of question	Spontaneous and individualised	Pre-prepared and standardised

Some scholars such as Mansell *et al.* (2009), however, argue that any assessment activity can be utilised for both formative and summative purposes. Although this might be true in several cases, to underachievers low marks tend to be demotivating, thus diverting their attention away from feedback (Brooks, 2002; Irons, 2008). If marks or grades are given to students through peer-assessment, the impact could be detrimental due to the

unfairness of some students and the avoidance of risk taking. All things considered, it is essential to maintain the distinction between these two forms of assessment and seek the most appropriate utilisation of each (Harlen and Crick, 2002; Knight and Yorke, 2003).

An ideal type of assessment which is beneficial to the development of students' higher-order thinking and a future competent workforce (Gulikers *et al.*, 2008; Koh *et al.*, 2012), called 'authentic assessment' is considered within this study. This aims to inform the evaluation of assessment methods used in the surveyed schools.

Research indicates that although the term *authentic assessment* has been used for over two decades, its meaning is still equivocal (Palm, 2008; Frey *et al.*, 2012). According to Wiggins (1989), one of the pioneers in the field, assessment is authentic when it replicates the challenges and standards of performance that typically face learners in their daily lives. Authentic assessment is responsive to individual students, offering them the chance to query when they are unclear about the questions. Students are assigned practical tasks, for example writing essays and reports, conducting individual and group research or designing proposals to develop real-life skills. As Wiggins (1989) proposes, students should be assessed by multiple indicators and provided with more opportunities and time to demonstrate their abilities. Though the last suggestion addresses individual needs, it seems to conflict with the nature of the term 'authentic', since in daily jobs, various tasks have to be carried out under pressure and within deadlines. In a later study, Wiggins stresses the complexity of the task, suggesting that authentic assessment should involve students in complex tasks, such as professional problem-solving and decision-making (Wiggins, 1990). Students should be informed of the test contents in advance as well.

Gulikers *et al.* (2008) claim five dimensions of authentic assessment relating to *task, physical context, social context, assessment form,* and *results and criteria.* Compared to Wiggins (1989), three new elements emerged from this study. First, Gulikers and his associates suggest that students should be permitted to make use of available resources when doing tests, because employees are allowed to do so in real-life situations. Second, students should be involved in building assessing criteria or be informed about them before the test. Finally, authentic assessment should be meaningful and rewarding to students.

In a recent review, Frey *et al.* (2012) found that an assessment task is authentic when:

- It is a realistic activity;
- The task is formative, performance-based and cognitively complex;
- Students are required to defence the answer;
- Students collaborate with one another or with the teacher to solve the problem;
- Students are informed about scoring criteria or they contribute to developing them;
- Teacher use multiple indicators or portfolios to assess students;
- The performance expectation is mastery.

The finding of Frey and associates illustrates a shared perception of a cohort of scholars, but two points are questionable. First, given that authentic assessment tends to require students to employ higher-order thinking skills, not every task needs to be complex, as some real-life problems can be simple and could have a single answer (Gulikers *et al.*, 2008). Second, collaboration is not always required since various real tasks can be done individually. Within definitions of authentic assessment for school-aged children, it was found that a considerable number of publications emphasise the importance of realistic activity or context (60%), the use of multiple indicators (53%), the transparency of grading criteria (47%), the relevance to formative assessment and complex cognitive tasks (30%).

From these above analyses, it could be tentatively concluded that authentic assessments in secondary schools tend to:

- Require students to integrate knowledge, skills and attitudes to perform a task that has value beyond school settings;
- Be formative and cognitively complex;
- Promote the use of multiple indicators to assess student performance;
- Encourage student involvement in developing scoring criteria or inform them of such criteria.
- Be meaningful and rewarding activities to students.

In this regard, authentic assessment appears to stimulate teaching and learning for CT (Lai, 2011; Koh *et al.*, 2012). The following section will discuss such a relationship.

2.2.3 *Influence of assessment on pedagogical practice and teaching for CT*

A wide range of studies has been conducted to investigate the impact of different forms of assessment on teaching. With reference to summative assessment, the most common finding is high-stakes tests whose results are used to evaluate students, reward and sanction teachers and schools (Harlen, 2005; West, 2010) tend to drive teachers towards a teaching style that narrows the curriculum and encourages surface learning approaches (Berliner, 2011; Klenowski and Wyatt-Smith, 2012). Others (e.g. Grant, 2000; Wall, 2000; Yeh, 2005), nonetheless, argue that tests may influence the ways teachers select the contents of their lessons but they may not impact on the ways teachers teach because teaching methods are determined by personal beliefs and understandings. This perspective is questioned by recent studies which indicate the change of both teaching contents and teaching methods as a result of accountability pressures and the low requirements of test questions (West, 2010; Winstead, 2011). For the sake of high test scores, despite their awareness of the benefits that CT could bring their students, a number of teachers trained students to deal with CT questions by following formulae (Baildon and Sim, 2009; Koh *et al*. 2012).

High-stakes testing may well give rise to test coaching. To avoid shame and loss of esteem caused by the publication of test scores, some teachers coach students to pass tests without knowing the skills and concepts on which they are working (Kelly, 2005; West, 2010). This technique is more frequently applied to deal with tests containing multiple choice-questions. By coaching, teachers can raise test performance, but the validity of scores diminishes as grades do not reflect students' genuine ability (Smith and Fey, 2000; Madaus *et al.*, 2009; West, 2010).

High-stakes assessment might exert effect on teachers' utilisation of other forms of assessment. Research indicates decreased use of formative assessment when important consequences are attached to tests or exams (Harlen, 2005). Several teachers perceive external assessments as conflicting with or even detrimental to formative assessment (Frankland, 2007; OECD, 2008).

 High-stakes tests may lead to a shift in attention to different groups of students and school disciplines. Teachers tend to spend time helping students closest to the cut scores leaving underachieving ones as well as those likely to pass the test easily to manage on their own

(Booher-Jennings, 2005; West, 2010). Consequently, low performing students, who should rationally be given extra attention to catch up with their peers, become doubly disadvantaged, suffering from both low self-esteem and discrimination (Amrein and Berliner, 2002; Harlen and Crick, 2002). Likewise, high achievers are inadequately supported to reach their full potential (Booher-Jennings, 2005). Test pressures can reduce teachers' efforts to employ differentiation strategies and influence the reallocation of teaching time with increased focus on disciplines that are tested (McCarty, 2009; Winstead, 2011).

Accountability pressures from tests may drive teachers towards cheating and impede their collaboration for pedagogical improvements. Instead of investing efforts in teaching for understanding, teachers attempt to raise test results by providing favourable conditions for students to cheat or bribing test designers to know test questions in advance (see Phuong-Mai *et al.*, 2005; Amrein-Beardsley *et al.*, 2010; Howie, 2012). Some teachers avoid sharing expertise with their colleagues to maintain advantages in competition (Booher-Jennings, 2005). Although several countries, for example Vietnam, have implemented tough measures, such as sacking teachers or failing students to eliminate cheating (see Government, 2006; Dũng, 2012), it seems that the root cause of the phenomenon has not been pinpointed.

Notwithstanding the above claims, summative assessment, including standardised testing has been regarded as beneficial to teaching in a few ways. Scores of high-stakes tests can inform educators about students' strengths and weaknesses and assist them to evaluate their own teaching (Irons, 2008; Bennett, 2011). Classroom summative assessment can help teachers diagnose individual learning needs, which in turn assists them in adjusting their instructional methods and assessment strategies (McMillan, 2000; Bennett, 2011; Howie, 2012). In a piece of mixed methods research, Stecher and Barron (1999) found that test-based accountability can influence teachers to invest extra time and effort in professional development and upgrading their teaching and assessment skills. The study claims using both quantitative questionnaires and case studies to explore the issue; nevertheless, little attention was paid to reporting the teachers' perceptions. This to some extent undermines the strength of its findings. In a recent study, Burgess *et al.* (2013) found that in addition to enhancing learning performance, the accountability mechanism in England is particularly beneficial to students in disadvantaged schools. This finding is challenged as research suggests that high test scores may be attributable to teacher and students' familiarity with test formats rather than effective teaching and learning (Smith

and Fey, 2000; Harlen, 2005). Bennett (2011) notes that preparation for tests rich in domain representation can offer teachers valuable learning experiences. Notably, research by Yeh (2005) shows that important skills for students such as CT can be enhanced if state-mandated tests emphasise such skills.

Rather different from summative assessment, formative assessment has been regarded as highly beneficial to teaching. It provides teachers with most updated information about student learning, which helps them decide what activities or strategies to follow (McMillan, 2000). Formative assessment fosters teacher-learner interaction and the use of techniques or strategies beneficial for the growth of students' thinking skills (Fisher *et al.*, 2002). It requires teachers to tailor teaching to meet diverse individual needs (Black *et al.*, 2003; OECD, 2008); encourages them to revise and extend their domain-knowledge and skills to address challenging questions from students. In spite of this, Dunn and Mulvenon (2009) point out that little empirical evidence has been found on the direct influence of formative assessment on educational outcomes.

Several recent studies have mentioned the impact of assessment on teaching for CT. A multi-method project by Alazzi (2008) exploring teachers' perceptions of CT indicates that one of the causes that led to the disinterest in teaching for CT of a great number of Jordanian secondary teachers was the pressure from the state exams whose results determined students' future studies and employment. Another cause was the fact that these tests concentrated on checking factual and conceptual knowledge rather than thinking ability. Surprisingly, the influence of examination requirements on teaching for CT was also found in the context of higher education (Haas and Keeley, 1998). Alazzi employed three research methods: interview, classroom observation and document analysis to collect data and this assisted him in identifying the contradiction between what teachers reported and what they practised. Nevertheless, the author fails to explain why he used those methods in combination. He conducted interviews with 12 teachers by *read[ing]* (p. 245) the same questions to them and most questions are closed. Alazzi employed qualitative methods to analyse data; however, it appears that structured interviews are quantitative rather than qualitative in nature (Bryman, 2012). These above shortcomings could therefore influence the validity of the claims.

In the UK, a study examining the impact of National Curriculum tests on teaching thinking skills in the context of primary education by Jones (2010) found that teachers working with pupils taking the National Curriculum tests tend to narrow the curriculum

and focus more on test-like activities than teachers who do not suffer from high-stakes testing. Similarly, in the context of China, Tian (2008, cited in Tian and Low, 2011) found that despite being aware of the benefit of CT to students, many Chinese university teachers devoted little effort to teaching it because CT was regarded as extraneous to the requirements of exams. Jones (2010) forcefully concluded that test-based accountability is an obstacle to teaching thinking skills. The findings of the study were based upon the comparison of data from two questionnaires that included some open-ended items. Nevertheless, an inherent limitation with such data is their validity because the author could not check whether the respondents really understood the questions (Jones, 2010). The findings could have been more valid if qualitative data such as those obtained from in-depth interviews or classroom observations had been collected following the questionnaire results. Quantitative survey data assist with trend prediction but it appears that they are insufficient to determine causality (Morrison, 2009).

In the context of Singapore, in line with Koh *et al.* (2012), a case study exploring teachers' perspectives of CT in social studies by Baildon and Sim (2009) found that although CT has been emphasised as an important goal of education, a host of teachers did not devote constant effort to CT teaching. Instead, to deal with the high consequence of tests, most of them attempted to cover the syllabus and teach to the test. In a number of cases 'teaching critical thinking skills has been reduced to formulae' to help students achieve better test results (p. 414). The authors aimed to generalise findings to a larger population; nevertheless, a single source of online data collected from a group of postgraduate students whom they taught appears inadequate.

The final study discussed here was an article written in the context of Vietnam by Dr. Wei, lecturer at an international university in Vietnam who claims that it is misconceived to blame Vietnamese students' low levels of CT on high consequences of tests (Wei, 2012). In line with Yeh (2005), he believes that there is nothing wrong with teaching to the test if such a test requires students to demonstrate their high-order thinking. To him, it is the low requirements of CT in examinations that hinder students' CT abilities. It is true that by teaching to tests that demands CT, teachers can help students improve their thinking to a certain extent; nonetheless, students tend to avoid taking risks when test results carry too many consequences. Similarly, high consequences attached to tests can undermine teacher effort in teaching for broader subject knowledge and CT dispositions, the essential ingredients to form a critical thinker (Baildon and Sim, 2009). Wei's

argument suggests a cause of the low interest in teaching and learning for CT in Vietnam secondary schools. A weakness with this argument, however, is that it was entirely based on secondary data.

In summary, assessment can exercise profound influence upon what and how teachers teach. Formative assessment is associated with interactive education; it helps teachers adapt their teaching to meet students' diverse learning needs. By contrast, summative assessment particularly high-stakes testing, despite several advantages, tend to drive educators to teacher-centred teaching approaches misaligned with the intentions of curriculum developers. Recent literature has mentioned the impact of test requirements and external accountability on teaching for CT. However, findings were based on data obtained from a small number of participants, using either the qualitative or the quantitative approach; some lacked empirical evidence or conflicted with others.

2.3   Definitions, typologies and influence of school culture on pedagogical practice

This section defines school culture and presents different ways to explore the concept. It analyses the impact of school culture on pedagogical practice and teaching for CT.

2.3.1   Definitions of school culture

School culture is a complex and significant educational concept that has its roots in organisational culture. Its developmental history can be traced back to Willard Waller who claims that every school has its own cultural identity, with a set of rituals, folkways and a moral code guiding its members' behaviour (Waller, 1961). School culture is illustrated in both abstract and concrete forms (Prosser, 1999). In the former form, it is composed of an 'unobservable force' and a 'unifying theme' that direct school members' activities (p. 14). In the latter form, school culture is reflected in shared informal language, ways of communicating, celebrating success and important events.

From an anthropological standpoint, Hargreaves (1995) describes school culture as 'knowledge, beliefs, values, customs, morals, rituals, symbols and language of a group', which he calls 'way of life' (p. 25). This extends Bower's concise definition regarding culture as 'the way we do things around here' (Peterson and Deal, 2009, p.

9). Hinde (2004) notes that school culture is a 'self-repeating cycle'; it directs staff's activities and is shaped by such activities afterwards (p. 2). Importantly, Prosser (1999) and Hollins (2008) add that school cultures mirror values and norms of the society in which they have been developed.

Drawing on Schein's (1985) understanding of organisation culture, Maslowski (2006) explores school culture by dividing it into three levels, based on their visibility. The deepest and least visible level entails underlying assumptions - a system of taken-for-granted beliefs and perceptions the majority of teachers and other members of the school share. The second layer is values, referring to what most members consider important, what is worth doing in the school (Maslowski, 2006; Peterson and Deal, 2009). They are visions, strategies and philosophies of the organisation, which together contribute to the shaping of teachers' behaviour, decision-making and pedagogical practices. The most tangible level called artefacts comprises rituals, symbols, traditions, language, behaviour patterns, physical layouts, as well as technology and rule systems. It is the ground in which underlying assumptions, values and norms of behaviours of a school manifest themselves (Maslowski, 2006). Observers, however, need to be wary when deducing underlying assumptions from artefacts, since individuals' interpretations tend to be subjective and biased, based upon prior feelings and experiences (Schein, 1985; Hinde, 2004).

In their field book, Peterson and Deal (2009) suggest that school culture is made up of a shared sense of vision and purpose; norms, values, beliefs and assumptions; ritual and ceremony; history and stories; people and relationships; architecture, artefacts and symbols. While several scholars concur that culture is 'knowledge and framing for meaning rather than social behaviours or artefacts' (Erickson, 1987, p. 22), besides emphasising the importance of staff relationships, Peterson and Deal highlight the roles of key actors, such as heroes or saboteurs and different forms of artefacts in shaping the culture of a school. Given its large coverage, what the book does not offer is a concise definition that helps readers grab the meaning of the term school culture in a few lines.

So far, the study has considered several ways of conceptualising school culture. Whilst most authors agree that school culture is made up of both tangible and intangible elements, several undervalue the role of the former. There is a lack of a concise definition reflecting the relationship between these two layers. Based on the suggestion of Prosser

(1999), within this study, *school culture is defined as the taken-for-granted assumptions, beliefs and values of its members that manifest themselves at the surface level of school practice and artefacts.*

2.3.2 Typologies of school culture

School cultures exert substantial influence upon pedagogical practices (Stoll, 1999). In order to understand the mechanism of such a relationship, it is important to know how schools cultures can be categorised.

According to David Hargreaves (1995), school cultures can be divided into five types based on two dimensions: the ***Instrumental domain***, reflecting control and orientation to tasks and the ***Expressive domain***, representing social cohesion via sustaining positive relationships amongst members.

The first type (A), the **'Formal culture'** is high in social control but low in social cohesion. Schools with this type of culture are scheduled, disciplined with high expectations and low tolerance for both teachers and students (Hargreaves, 1995). There is a big gap between the head teacher and staff who are trained to be self-reliant (Day, 1999). Authority and hierarchy appear to be dominant school characteristics (Hargreaves, 1995). Rather than considering individual student needs teachers regard finishing teaching contents as a priority (Carrington and Elkins, 2002).

The second culture (B), the **'Welfarist'** is democratic with high social cohesion and low social control. It is characterised by a cosy, relaxed and caring working environment. One major drawback of this cultural model is a high likelihood of academic goals being neglected (Hargreaves, 1995). Perhaps the most energetic culture is model C where expectations are high for both task and personal development. This '**Hothouse'** culture thus drives creativity and innovation, engenders enthusiasm and organisational commitments. However, individuality, independence and autonomy of teachers may be infringed due to superfluous control and surveillance (ibid). This model may lack sustainability as well (Hay Group Education, 2004).

In contrast, culture D - the **'Survivalist'** culture is low in both social control and cohesion. It is characterised by poor leadership, undeveloped relationships between school members

and insufficient attention to academic goals. In this school model, it is assumed that most people feel hopeless and insecure about their futures (Hargreaves, 1995).

The fifth culture (E) sited in the middle of the model is **an ideal school** with high but realistic expectations of work and conduct. In this 'optimum' culture, teachers are supported to advance their careers and rewarded when achieving their academic standards (Hargreaves, 1995). Although their work is demanding, schools are rewarding and enjoyable places where their potential can be realised.

One of the striking contributions of this typology is its recommendation on taking account of both expressive and instrumental domains when evaluating a school to promote healthy professional development. This perspective questions the abuse of top-down leadership and management, which emphasises task performance but pays little attention to the emotion and well-being of teachers.

Based on Rosenholtz's (1989) 'moving and stuck' school model and Hargreaves' (1995) typology, Stoll (1999) devised a five-type typology of school cultures examining the concept in two dimensions concerning its effectiveness and developmental trend (see Figure 2-1).
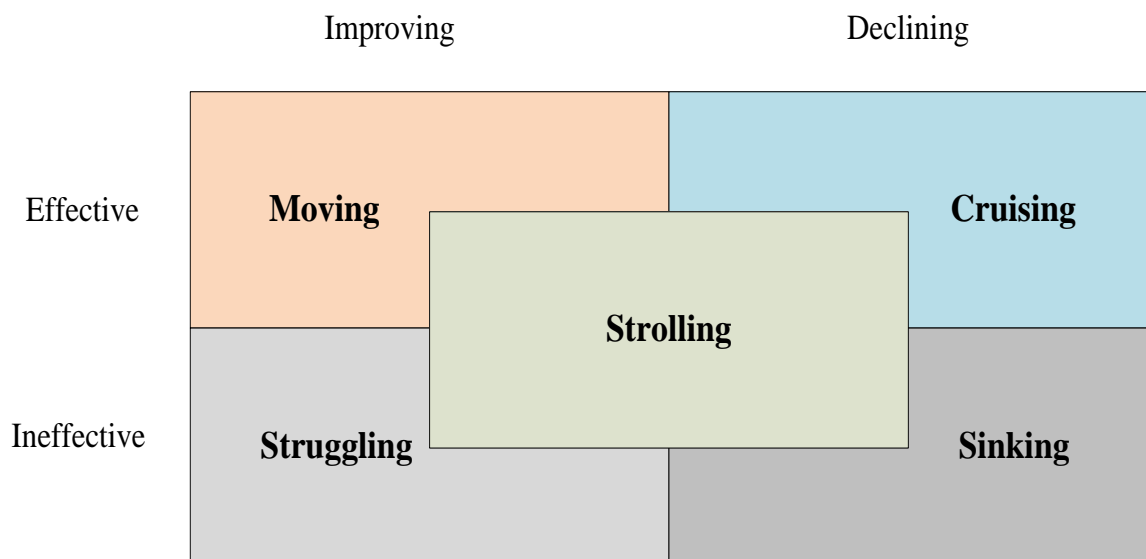
Figure 2-1 *: A typology of schools. Source: Stoll (1999, p. 39)*

The moving school: Moving schools obtain a high degree of overall attainments and higher rates of improvement than normal (Hay Group Education, 2004). In these schools, teachers are successful not only in meeting individual students' learning needs but also in responding to educational change. They seek opportunities to learn from each other and from external sources. In these organisations, staff shares the same vision and means of achieving their goals and school support is always available on request (Stoll, 1999).

The cruising school: Cruising schools are often located in affluent areas. These schools appear successful, as they possess a few characteristics of an effective school, including good positions in league tables. However, student attainments derive from their backgrounds and parental supports rather than teacher quality and commitment. In this model, teachers are resistant to change because of their powerful sense of contentment. Top-down leadership with low degrees of teacher autonomy generates a separation between leaders and other school members, thus impeding innovation and creativity (Stoll, 1999).

The sinking schools: Sinking schools have lower attainments and improvement rates than the standard (Hay Group Education, 2004). Teachers oppose change because of either apathy or a lack of information. They work individually in their own classrooms, showing little interest in ideas exchange or professional discussions. The culture is that of isolation, loss of faith and culpability.

The struggling schools: Struggling schools are currently ineffective, but they are striving to improve their images. Despite having a will, teachers are not provided with guidance on how to better their performance. This together with decreased support, low expectations from local authorities and parents tends to demotivate and make them feel powerless to change.

The strolling schools: Strolling schools occupy the middle position of the model. They are looking towards improvement, but an acceptable position in the ranking table and a powerful norm of contentment make many teachers reluctant to change at the expense of their students' educational futures (Stoll, 1999).

In line with Hargreaves (1995), Stoll (1999) suggests approaching a school from more than one angle. Instead of seeing school performance as something fixed, the investigator should consider its developmental trend to see whether it is improving or declining. This

perspective if put into practice may help save some currently effective schools from declining and provide timely support to currently less effective schools that are struggling for better performance. It questions the use of student performance as the decisive criterion to place schools in league tables or determine government investment in many countries (see West, 2010; Berliner, 2011).

'The culture of teaching' which comprises assumptions, beliefs, values and habits that influence individual teaching approaches (Hargreaves, 1994) is discussed since it is relevant to the theme of the thesis. Following Andy Hargreaves (1994), there are four teaching cultures: Individualism, Balkanization, Contrived collegiality and Collaboration.

'**Individualism'** refers to the school in which isolation and insulation are prevalent (Fullan and Hargreaves, 1992; Stoll, 1999). Teachers work by themselves in isolated classrooms, making few efforts to exchange ideas or share experiences (Flores, 2004). The main source of feedback for most teachers derives from students whilst such feedback is notoriously unreliable (Fullan and Hargreaves, 1992).

'Balkanization' is described as the teaching culture where teachers prefer working within smaller units, for instance an English department in a secondary school. The competition for resources and status amongst groups tends to result in limited communication and collaboration between teachers of different groups (Fullan and Hargreaves, 1992).

'Collaboration' occurs when teachers voluntarily work together without being influenced by external sources. Their collaboration is spontaneous, evolutionary, unpredictable and pervasive across time because they trust one another (Fullan and Hargreaves, 1992; Flores, 2004). By contrast, '**Contrived collegiality'** takes place when the relationships between teachers are imposed or based upon formal and bureaucratic procedures (Fullan and Hargreaves, 1992). Being largely predictable and inflexible, this kind of collaboration exerts little effect upon teacher professional development (Flores, 2004). If carried out inappropriately, compulsion can reduce teachers' motivation to further cooperate (Fullan and Hargreaves, 1992).

School culture is a multifaceted concept manifesting itself in many corners of school life. A school may be positive in several aspects but negative in others. To evaluate a school, it is essential to explore it from different angles, such as its effectiveness, developmental

trend and social cohesion. The review of school culture types indicates that working environments may contribute to shaping the ways teachers teach. This influence will be discussed below.

2.3.3 Influence of school culture on pedagogical practice and teaching for CT

Recent research indicates considerable impact of school culture on what and how teachers teach. A positive culture, a climate full of support, encouragement and autonomy (Hinde, 2004) can inspire teachers to make frequent change to their teaching for the long-term benefits of their students (Priestley *et al.*, 2011). It should be noted, however, that school culture is composed of numerous components and few schools fall into extreme positions of all indicators (Hargreaves, 1995). For example, a school may have committed teachers, but these teachers might follow teacher-centred pedagogy if their role is defined as transmitting knowledge to students (Eisner, 1996). Accordingly, the words 'positive' and 'toxic' cultures (Hinde, 2004; Peterson and Deal, 2009) used in this study do not convey extreme meanings. Instead, they imply that whilst most features of the former model are healthy, the converse is true with the latter. Returning to the association between school culture and teaching practice, it is believed that a school culture, characterised by a shared sense of vision and purpose tends to drive teachers to collaborate to achieve their targets (Edwards, 2012). With collegial support and the exchange of teaching experiences, teachers in these schools are more likely to succeed in meeting student needs as well as responding to educational change (Stoll, 1999). In terms of leadership, research indicates that distributed leadership fosters change because it brings teachers a sense of ownership and respect (Hinde, 2004). Schools characterised by high levels of trust and mutual challenges among staff encourage constructive criticism and professional discussion, thus facilitating pedagogical change (Katz and Earl, 2010).

Recent studies on factors contributing to the success of education reform have stressed the role of 'Professional learning community' (PLC) defined as a group of professionals collaborating and constantly seeking new knowledge with a shared purpose of promoting student learning (Edwards, 2012). It has been found that an effective community characterised by supportive leadership and shared responsibility for pupil learning can significantly promote pedagogical change (Priestley *et al.*, 2011; Edwards, 2012). Through collaboration and communal reflection in an atmosphere of trust and openness,

PLCs not only broaden individual understanding but also increase the knowledge base of the whole community (Edwards, 2012). Networked learning communities create opportunities for teachers to move outside 'the box' to engage with a broader scope of ideas and possibilities (Katz and Earl, 2010). Teachers learn by examining their existing beliefs and exchanging ideas with others; such genuine learning in turn result in change to classroom practices (Brodie, 2013).

In contrast, a toxic school culture where teacher autonomy is restricted and new ideas are undervalued can turn teachers into technicians who simply follow the directions of others without making any adjustment to meet individual students' learning needs (Saito *et al.*, 2008). Rather than teaching for in-depth understanding, teachers attempt to cover textbook contents to fulfil their perceived obligation. Likewise, the formal school culture characterised by authority, hierarchy, bureaucracy and individualism can demotivate teachers and undermine their creativity and innovation (Hargreaves, 1995; Hinde, 2004). This culture model is likely to reduce schooling to knowledge transmission with inadequate consideration for individual student needs (Day, 1999; Carrington and Elkins, 2002). In the same vein, schools with too much pressure or competition can hamper teacher collaboration and narrow classroom instruction, resulting in the negligence of major educational aims, such as the enhancement of students' practical and thinking skills (Booher-Jennings, 2005; Harlen, 2005). Teachers working in schools where staff shares a belief that learning performance is decided by family backgrounds rather than individual efforts tend to make few attempts to develop higher-order thinking skills for students (Stoll, 1999; Hinde, 2004). Teachers in a strolling school, where the feeling of contentment with prior achievements is abundant, may not attempt to upgrade their pedagogical practices or strengthen the relationships with students (Stoll, 1999).

In a study about teacher professional growth, Clarke and Hollingsworth (2002) found that notwithstanding their knowledge and skills, the participants were unable to apply new teaching methods because they lacked support and encouragement from their school leaders and colleagues. In the context of Vietnam, Saito *et al.* (2008) found that low collegiality and limited teacher autonomy could be significant barriers to pedagogical change. Notably, parent expectation in terms of learning outcomes was found to be associated with teacher impetus for change (Eisner, 1996; Priestley *et al.*, 2011; Froiland *et al.*, 2012)

Recent studies have discussed the influence of 'small cultures' (Holliday, 1999) such as school culture or classroom environment on teaching and learning for CT. For instance, Lipman (2003) maintains that a community of inquiry characterised by social solidarity, good questioning habits and mutual respect can enhance learners' CT abilities. Likewise, a classroom where multiple perspectives are invited, students are encouraged to challenge teachers and participate in decision-making can help develop learners' CT skills and dispositions (Keeley *et al.*, 1995; Townsend and Pace, 2005; Tian and Low, 2011). In contrast, a classroom where discourse centres on teachers' viewpoints, teachers negatively respond to students' answers and assessment emphasises factual knowledge hinder student effort to sharpen their thinking skills (Townsend and Pace, 2005; Mathews and Lowe, 2011). In a review study on inhibiting factors to teaching for CT, Wright (2002) found that teacher understandings and beliefs can exert substantial influence on their teaching. However, he also noted that teachers tend to show little interest in teaching for CT if schools emphasise content coverage and test results for the purpose of accountability or if there is stress on conformity and strict censorship of teaching contents.

Particularly, two case studies using multiple qualitative methods by Lisa Tsui exploring the effects of campus culture (Tsui, 2000) and faculty attitudes (Tsui, 2001) on US college students' CT abilities indicate the impact of various school cultural aspects on teaching for CT. For example, if lecturers highly appreciate the significance of CT and believe in students' academic potential they will attempt to teach CT. Likewise, lecturers working in colleges where the learning process is considered more important than test results, learner autonomy and school democracy are highlighted, the exchange of pedagogical experiences is frequently practiced and lecturers see themselves as co-learners are more likely to employ teaching techniques that foster CT. On the other hand, lecturers in colleges where content coverage is prioritised, the relationship between lecturers and students has not been firmly established have a strong tendency towards teacher-centred instruction. They tend to present students with questions that have a single answer. The lack of effort to teach CT can also be found in colleges without a shared teaching purpose and low expectations of student learning. The two studies indicate positive associations of lecturers' morale and enthusiasm with teaching for CT. Given that qualitative case studies employing multiple research methods in combination can provide an in-depth understanding of the studied phenomena, they are unable to identify broad trends.

More recently Alazzi (2008) and Baildon and Sim (2009) found that due to the restricted freedom of speech in schools and society, many teachers in their study excluded sensitive political issues from classroom activities given that such issues are essential ingredients for meaningful classroom activities. As teachers believed that they should serve the role of civil servants (Baildon and Sim, 2009) and parents (Alazzi, 2008) teaching students to follow the rules and respect the ideas of the elders to maintain social harmony, they tended to ignore critical discussion. Haas and Keeley (1998) and Koh *et al.* (2012) concur that attempts to foster thinking skills tend to bear no fruit if teachers lack a supportive environment. Given that the relationship between school culture and CT has been occasionally documented in recent literature, much research focuses on the influence of classroom cultures on students' CT or the impact of school culture on CT teaching and learning in the context of higher education. The deficiency of studies from secondary school settings, particularly in Eastern developing countries implies that this is an important area for further investigation.

2.4   Change resistance in organisations: sources and impact

Teaching for CT involves changing from a teacher-centred pedagogy, in which teachers dispense knowledge and students passively receive this knowledge, to a learner-centred approach, where individual learning needs are addressed, higher-order thinking and information skills vigorously encouraged (Keeley *et al.*, 1995; Phelps *et al.*, 2012). As the purpose of this study was to determine factors that affect such a fundamental change, change resistance knowledge, which not only helps leaders plan well for the transformation process but also provides them with guidelines to identify and overcome barriers to change (Harvey and Broyles, 2010) was examined to throw more light on the research process.

According to Plant (1987, p. 18), change resistance at work comes from 16 sources [3], grouped into systemic and behavioural categories. Systemic concerns refer to lack of knowledge, information and skills while behavioural issues relate to perceptions and assumptions of employees or the whole organisation about a change. Similar groupings

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[3] They include fear of the unknown, lack of information, misinformation, historical factors, threat to core skills and competence, threat to status, threat to power base, no perceived benefits, low trust organization climate, poor relationships among staff, fear of failure, fear of looking stupid, reluctance to experiment, custom bound, and strong peer group norms.

constructed barriers into two categories, namely organisational resistance (inappropriate structure, unclear cooperate objectives, poor communication) and human resistance (fear of the unknown, lack of perceived benefits, closed-minded self-interest, and disrupted routines) (Manchester Open Learning, 1993). Such similar approaches to categorising change resistance imply that to understand why an employee rejects a change, apart from information in relation to his or her personal domains, it is important to consider the culture of the organisation where he or she works.

The role of organisational culture, however, is not always taken into account. Kirkpatrick (2001) identified nine change hindrances, but few of them relate to cultural matters. In a similar vein, Dawson and Andriopoulos (2014) suggest five sources of change opposition: substantial alteration in job, reduction in economic security and job displacement, psychological threats, disruptions of social arrangements and lowering status, which are mainly about personal matters.

In a book aiming at minimising resistance to change in organisations, Judson (1991) grouped sources of change opposition into three groups: fears (social, economic, security, inconvenience, and job satisfaction), irritation (with manner of handling change) and beliefs. He stresses the role of beliefs arguing that people will object change if it contradicts their beliefs and will voluntarily accept it if it is in agreement with what they know. This signifies that changing the knowledge and beliefs of employees can result in change at work.

Within the context of the school, Dalin *et al.* (1993) argue that teachers are more likely to reject change if it challenges their values and norms systems (value barriers); diminishes their power (power barriers); challenges their security, confidence, emotional well-being (psychological barriers); and if staff training or resources are insufficient to support the transformation (practical barriers). Eisner (1996) also identifies four key obstacles, but compared to those of Dalin *et al.* (1993), they are more specific. The first obstacle is a mistaken assumption of teachers' roles. Large numbers of teachers still believe that their key role is to transmit knowledge to students. The second is an attachment to traditional working methods especially when those methods, in the teachers' viewpoint, still work well and can guarantee their survival. Impediments may well come from parents with traditional standpoints on educational objectives. Alternatively, they can be caused by

unhelpful top-down notions of change which undervalue intrinsic motivation, a prerequisite for sustainable change (Fullan, 2011).

Recently, Priestley *et al.* (2011) identified five key barriers to pedagogical change in schools. The first element is a school environment unconducive to innovation, where teachers who want to make differences have to swim against the tide. In line with Eisner (1996), Priestley *et al.* (2011) regard conservative expectations of stakeholders, such as parents and local education authorities (LEAs) as an impediment to change. This is because they perceive that like any employees, teachers tend to prioritise the demands of those who impact on their jobs. These authors also suggest that teachers tend to resist change if the revised teaching method does not match with the requirements of high-stakes assessment. The fourth source of resistance is teachers' low involvement in planning for change and low trust from school leaders or policymakers. Pedagogical change can be hindered by a lack of autonomy in teaching and assessing students as well.

Perhaps one of the most notable contributions towards knowledge of change resistance is the work of Harvey and Broyles (2010). In their book, titled **Resistance to Change: A Guide to Harnessing Its Positive Power**, apart from 10 principles of change (p. 23-33) and 19 sources of change resistance[4], they provide several worthwhile ideas about change resistance. Unlike scholars who view change opposition as completely negative, they regard it as essential because disapproval could be a source of learning; resisters may have something important to inform administrators or reformers. They propose that reducing opposition should be considered the heart of a transformation process, because it makes change more likely to happen than increasing driving force. Unlike scholars who may blame the lack of autonomy for change failure, consistent with Fullan (2007), they suggest that both high centralisation and high autonomy can hinder change. Expanding the implication of Keeley *et al.* (1995), Harvey and Broyles stress the need to consider the reactions of the changee. In their point of view, change is irrational; people may oppose it because of their dysfunctional thoughts or an unsupportive culture. Without appropriate consideration to the removal of barriers, profound change is unlikely to occur regardless of how strong the driving force is.

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[4] 19 sources of change resistance are: lack of ownership, lack of brass support, lack of benefits, lack of recognition, increased burdens, loneliness, insecurity, norm incongruence, boredom, chaos, superiority, differential knowledge, sudden wholesale change, fear of failure, extremes of organisational structure; suspicion, ambiguity, lack of leadership skills and inertia.

2.5   Theoretical framework of the study

The literature suggests causal relationships between teaching methods and assessment practice, as well as school culture. The first notion, that assessment exercises overwhelming impact upon teaching, suggests that formative assessment is positively associated with pedagogies that foster interactions and critical discussions between teachers and learners (Black *et al.*, 2003). By contrast, the influence of summative assessment is varied. Whilst high-stakes tests tend to drive teachers towards a one-sided teaching approach centred on boosting test results with little consideration to the cultivation of students cognitive skills (Alazzi, 2008; Berliner, 2011), high-stakes and classroom summative tests focussed on checking students' thinking and social skills may support teaching for CT (Yeh, 2005; Bennett, 2011; Wei, 2012).

The second notion, that school culture influences what and how teachers teach, implies that a positive culture encourages learner-centred teaching focussed on the development of CT for students (Tsui, 2000; Tsui, 2001; Koh, 2002). On the other hand, a toxic culture can restrict teacher innovation and reduce teaching to a process of knowledge diffusion and test drill (Hargreaves, 1995; Stoll, 1999; Wright, 2002; Alazzi, 2008; Baildon and Sim, 2009). It should, however, be noted that change in teaching does not necessarily occur as a result of modification to one or several relevant features of the school, as it may be inhibited by other factors (Harvey and Broyles, 2010). Thus, a culture with several positive aspects may provide support for a teacher-centred approach to teaching if it is a strong norm of the organisation or if it helps them meet the demands of parents or the local government.

School culture and assessment practice reflect social values and cultural beliefs about teaching and learning (Hollins, 2008; Supovitz, 2009; Carrington *et al.*, 2010). For that reason, the current study considers national culture in the process of identifying factors influencing teaching approaches. This resonates with causation theory (Morison, 2009) which suggests looking for root or distant causes of a problem. Based on these above theories and assumptions, the theoretical framework of the study was constructed, considering assessment and school culture as crucial factors and national culture as a less direct element that affect teaching approaches in general and teaching for CT in particular (see Figure 2-2).
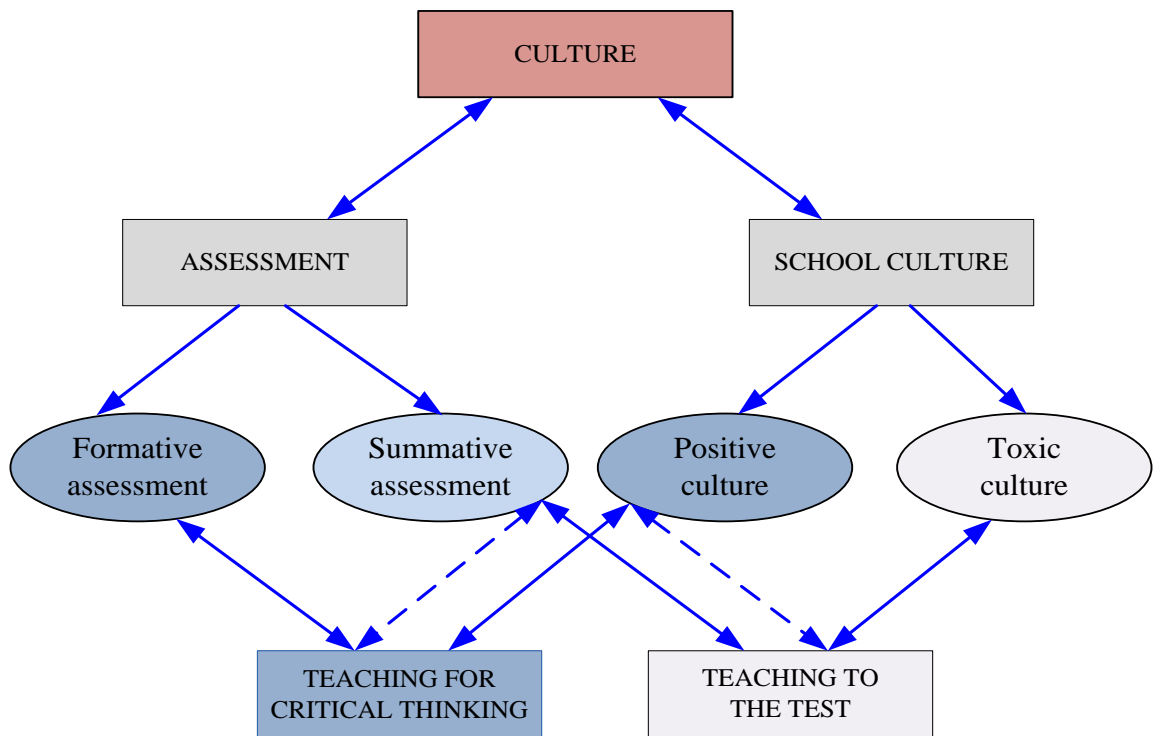
Figure 2-2: *Theoretical framework of the study*

2.6 Summary

The chapter has presented the researcher's understandings about CT, assessment and school culture, three key concepts of the study. As regards CT, by discussing the strengths as well as weaknesses of five main approaches to conceptualising the concept, the study suggests defining CT in the way that makes it more relevant to teachers and learners' experiences. It supports the utilisation of both general and non-general approaches to developing CT for students and suggests the prospect of teaching CT to Eastern learners whose CT abilities tend to be influenced by learning contexts rather than their inherent dispositions. Regarding assessment, formative and summative assessments were distinguished based upon six principal criteria: the level of formality, the frequency of the activity, the role of students, the product, the purpose of the activity, and the nature of the question. Whilst formative and authentic assessment appear to support a learner-centred pedagogy and teaching for CT, summative assessment seems to hinder these processes despite a few positive influences identified. School culture was scrutinised by definitions and typologies with the implication that schools should be explored and evaluated from multiple angles with attention to both expressive and developmental

domains to stimulate sustainable growth. While positive cultures are associated with critical pedagogies, toxic cultures are related to teaching that concentrates on knowledge transmission and test rehearsal. The review indicates several studies on the influence of assessment practice and school culture on teaching for CT, but few of them employed both quantitative and qualitative research techniques. Consequently, they are unlikely to provide comprehensive and deep understandings of the issues under investigation. Together with the theoretical framework emerging from the literature review, the dearth of empirical research on assessment, school culture and pedagogical practice in the context of Vietnam, the absence of studies using a mixed methods approach provides direction for the framing of research questions introduced in chapter 1 and the selection of research approach, discussed in the following chapter. The discussion of barriers to change not only contributes to the construction of the theoretical framework but also supports the interpretation of research findings presented in the later chapters.

Chapter 3:   Research methodology

This chapter is a detailed rationale and justification for the methods and theories used to gather, analyse and interpret the data. It considers the setting, participants and the ways the research is designed and executed; discusses the strengths as well as weaknesses of each data collection instrument with reference to a mixed methods design. Finally, the issues of ethics, validity and reliability of the study are considered.

3.1   Research approach

To address the research questions presented in chapter 1, mixed methods, a 'pragmatic approach' (Morgan, 2007, p. 48) that began to gain acceptance in the 1980s was adopted. Although mixed methods research has received growing attention from the research community (Biesta, 2012), there remain a few confusions over the term 'mixed methods'. While Greene *et al.* (1989) regard it as a research design, Creswell and Clark (2007) suggest that it can be understood as either a methodology or a method.

Within this study, mixed methods is understood as a *research approach* (Lee and Greene, 2007; Baumfield *et al.*, 2012) which involves the utilisation of both qualitative and quantitative instruments and the integration of data collected using these instruments to yield a better research result. 'Mixed methods methodology' as its name indicates, refers to the methodology of mixing qualitative and quantitative methods. As a methodology, it entails philosophical assumptions that guide the collection, analysis and mixture of data (Creswell and Clark, 2007). Accordingly, 'mixed methods research' refers to a type of research in which both qualitative and quantitative methods, as well as viewpoints and inference techniques are used to produce compelling research evidence (Johnson *et al.*, 2007; Biesta, 2012). Though at times it is called 'multi-strategy research' or 'multi-method research' (Denscombe, 2007), recent literature suggests that multi-method research tends to refer to research which employs research techniques belonging to only one research paradigm, either qualitative or quantitative (Johnson *et al.*, 2007).

3.1.1 Rationales for choosing mixed methods

Research has indicated numerous benefits of a mixed methods approach. In their review study, Greene *et al.* (1989) suggest that mixed methods can bring about triangulation; results from quantitative and qualitative methods provide understandings of a phenomenon from multiple perspectives. Mixed methods research can be used for the developmental purpose; results of the first method can be used to develop the second. Complementarity, initiation (discovery of contradiction) and expansion (extension of the breath and range of inquiry) are three other strengths of mixed methods. More recently, Bryman (2006) identified sixteen reasons underpinning this research approach [5]. It should be noted, however, that mixed methods is not a panacea that works in every situation (Creswell and Clark, 2011). It should not be based on a forced compromise between researchers of different paradigms working within a project, or done for dubious reasons (Bergman, 2011).

For the purpose of this study, a mixed methods approach was selected for two major reasons. First, the literature on the impact of assessment practices and school cultures on teaching for CT indicates a lack of research employing both qualitative and quantitative methods while the combination of these methods may help avoid bias which tends to occur in a solo-method study (Teddlie and Tashakkori, 2003; Gorard and Taylor, 2004; Bergman, 2011). Second, mixed methods approach is appropriate to this study, which seeks to understand causal relationships between variables. By using both quantitative and qualitative data and both deductive and inductive approaches, one may not only achieve a general picture of *what* happens but also provide detailed explanation of *why* it might have occurred (Morrison, 2009; Howe, 2012).

3.1.2 Obstacles to mixed methods

Although mixed methods research is in vogue, there are several caveats. First, some methodologists hold the view that it is invalid to combine qualitative and quantitative methods and strategies in a single study because they belong to different research paradigms, with contradictory assumptions about the world nature (see Newby, 2010;

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[5] They are triangulation, offset, completeness, process, different research questions, explanation, unexpected results, instrument development, sampling, credibility, context, illustration, utility, confirmation and discovery, diversity of views, and enhancement.

Bergman, 2011). Seen from this stance, either one believes the world exists independently of human knowledge or one does not; there is no middle way (Coe, 2012). Second, recent research evidence has indicated a high likelihood of contradictory findings derived from different research methods employed within a single study (Slonim-Nevo and Nevo, 2009; Baumfield *et al.*, 2012). In such circumstances, it is challenging to decide whose account should be privileged: that of the scientist or that of the research participant (Torrance, 2012). The third impediment concerns report writing-up. Whilst qualitative or quantitative researchers can obtain large numbers of directives from numerous associations and research books, there is little guidance for writing mixed methods research reports (Leech, 2012). Finally, research reviews have shown that just a minority of studies attained genuine integration (Greene *et al.*, 1989; Bryman, 2007) and this challenges novice users of the approach.

Despite these above hindrances, mixed methods continues drawing attention from the research community, especially those who support **pragmatism** such as the author of this study. To pragmatists, the focus of research is results rather than methods; there is no dichotomy between positivism and constructivism (Teddlie and Tashakkori, 2003; Denscombe, 2010). To them, both quantitative and qualitative methods are essential as they are what the majority of people employ when dealing with complex issues (Gorard and Taylor, 2004; Creswell and Clark, 2011). Another reason for the growing attraction of mixed methods research could be the fact that it offers more space for innovation and creativity, as so far few standard guidelines or written expectations concerning how to write a mixed methods report have been published (Leech, 2012).

3.2   Research design

The word 'design' here, as implied in the majority of mixed-methods studies, refers to the decisions about which type of data is given priority and when each type of data is collected and analysed.

3.2.1   Sequential explanatory design

As previously stated, the primary purpose of this mixed methods study was to identify factors contributing to teacher effort to apply teaching techniques that develop CT for

students. To achieve such a purpose, an explanatory design comprised of two consecutive equal phases was adopted (see Figure 3-1).
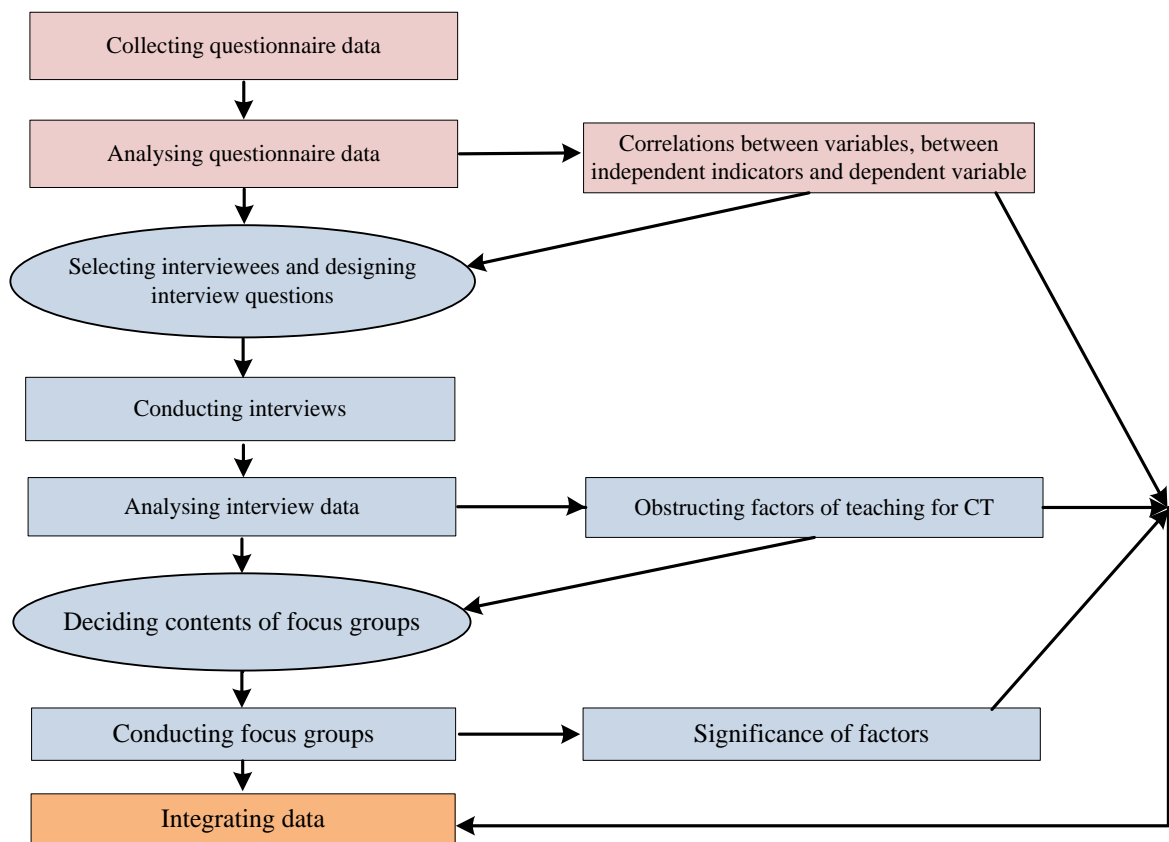
Figure 3-1: *Design of the study*

In the first quantitative phase, closed question data were collected using a questionnaire and analysed to test the relationships between teaching for CT and school culture, as well as assessment. Following the quantitative results, interview protocols were developed and participants recruited to link the two phases (Ivankova *et al.*, 2006; Creswell and Clark, 2011). In the second, qualitative phase, eight semi-structured interviews were undertaken; two focus groups were organised to follow up in greater depth some results from the interviews. Results from both phases were integrated to generate a more comprehensive and nuanced understanding of various dimensions of the research problem (Lee and Greene, 2007).

Although the design fits the order of the research questions and the procedure of causal studies such as the present project, it is time consuming. In addition, it is challenging to

select participants for the follow-up phase as well as selecting quantitative results that need to be further explained (Creswell and Clark, 2011).

3.2.2   Sampling subjects

In the first quantitative phase, questionnaires were distributed to 216 history teachers in 206 lower secondary schools in five districts and one provincially managed city within the Northern Province of Thai Binh, Vietnam. In the second phase, interviews and focus groups were conducted with 21 teachers who had taken part in the questionnaire survey to increase the validity of the findings (Onwuegbuzie and Johnson, 2008; Creswell, 2011). The study was undertaken in Thai Binh province for three main reasons.

As regards social economic status, Thai Binh's Human Development Index (HDI) in 2004 and 2008 both ranked 23 per 63 centrally managed cities and provinces of Vietnam (UNDP, 2011). Such healthy social economic status could have provided the surveyed schools with favourable conditions to carry out the 2002 education reform. In terms of education, Thai Binh has sustainable education development, with comparatively high secondary education outcomes[6]. Teachers have been acquainted with teaching high-order thinking skills and skills of inquiry through training for learner-centred teaching and thinking programmes, such as Mind Maps and Teaching life skills to secondary students (DOET, 2012)[7]. It was anticipated that by choosing to carry out research in such a province, more evidence on teaching for CT could be found. Finally, this sampling method met a personal objective that is to contribute to the development of education of the chosen province.

3.2.3   Sampling procedures

In the field of education, simple random sampling is not always feasible because the population, for example teachers or students tend to live in different geographical parts throughout a country. Therefore, as some methodologists (e.g. Lodico *et al.*, 2006; Neuman, 2006; Denscombe, 2007) suggest, cluster sampling was selected for the first quantitative phase. This type of sampling involves two steps (Cohen *et al.*, 2007; Teddlie

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[6] Thai Binh secondary education is always ranked top ten in the national ranking table based on student performance at the national university entrance exams. See http://www.moet.gov.vn/?page=1.29&view=2611

[7] DOET stands for Thai Binh Department of Education & Training

and Yu, 2007). First, five districts including Dong Hung, Hung Ha, Kien Xuong, Quynh Phu, Thai Thuy and Thai Binh city were selected by lot and then all history teachers in those areas were invited to take part in the survey. The core advantage of this sampling approach is low cost and convenience (Denscombe, 2007; Teddlie and Yu, 2007). However, one of its weakness is it fails to represent the whole population. Thus, to some extent, it may produce more sampling errors or bias compared to other random sampling techniques (Cohen *et al.*, 2007; Newby, 2010).

To collect information from teachers of different regions, appointments with Heads of Bureau of Education and Training (BOET) were made via phone. During face-to-face meetings with these gatekeepers, permission to conduct research was obtained and the distribution of the information sheet to the head teachers was facilitated. Research documents and materials comprising one consent form, one information sheet, one questionnaire and two stamped envelopes (see Appendices A, B and C) were sent to history teachers by post. To stimulate responses, teachers were provided with options to return the questionnaire either by post or directly to BOET. Those who did not receive the hardcopy were sent an electronic version.

Purposeful sampling was selected as the sampling technique for the interviews because this sampling method can help provide the most complete information about the studied phenomenon (Neuman, 2006; Teddlie and Yu, 2007). Participants who had previously taken part in the questionnaire survey, were selected from volunteers (indicated by the informed consent responses) to represent diverse backgrounds in terms of subjects trained and schools' geographical locations. The majority of the eight interviewees were competent teachers who had been trained in learner-centred teaching including techniques for developing learners' CT. Compared to the whole sample, these teachers appeared to have better pedagogical knowledge and skills as well as higher levels of professional commitment. This subsample therefore is not entirely representative of the original sample; nevertheless, the benefit is that such enthusiastic and knowledgeable participants tend to provide deeper insights into the issue under study. Detailed information about each interviewee is presented below. To protect them, pseudonyms were used with M representing male and F representing female.

FHu had been teaching History in a big rural school for 13 years. She was following an in-service course to pursue a university degree in Literature though she held a college

degree in history instruction. The second interviewee, MD worked in a small school in a less developed commune. He was quite young with 10 years of teaching experience, but he had obtained a university degree in history instruction.

FNh taught Literature and History in a school for academically capable students. Different from the first two participants, she was trained to teach Literature as the main subject. In spite of this, by the time of the interview she had been assigned to work with capable history students of her district for a number of years and had won several provincial awards. During her 21 years of working, she had also been honoured in a number of provincial teaching skills contests.

MG had a university degree in history teaching and 22 working years. Besides working as a teacher in an urban school, he had been employed as a judge in numerous teacher and student contests. MTh was the least experienced of all. After completing his college study in 2006, he was offered a job in a rural school where he studied some years before.

MT had been working in a small school since 1997. He held a college degree in history instruction. Before becoming a teacher, he had served in the army for five years. The seventh interviewee, MKh was a prominent teacher in the province. Besides working as a history teacher in a rural school, he had been assigned to train capable students for his district and had won several provincial rewards.

The final interviewee, FTh had a university degree in Literature. After working in a rural secondary school for 16 years, she moved to her current urban school to teach Literature and History three years before the interview took place. With a sample of qualified teachers showing interest in the project, it is anticipated that the interviews will provide profound insights into the discussed issues.

Purposeful sampling was again pursued to select participants for the focus groups. Following guidelines by Kitzinger and Barbour (1999) and Denscombe (2007) on criteria for selecting participants, 14 history teachers in Hung Ha district were recruited on the basis of diverse genders, work experience and locations of their schools. They all knew one another and volunteered to participate in the research. One female failed to turn up due to health problems. The participants were divided into two groups with members of different genders and professional backgrounds. The average work experience was 14.5

years; five were male, eight female; four worked in urban and nine in rural schools. Pseudonyms were also used throughout the report.

3.2.4   Instruments for data collection

Three instruments for data collection: the postal questionnaire, the semi-structured interview and the focus group were employed in the current study. This section discusses both strengths and weakness of each instrument and describes how they were developed to serve the purpose of the study.

a. Postal questionnaires

The close-ended questionnaire is one of the two most common tools for collecting data in mixed methods studies (Bryman, 2006). In the present research, it was selected because it is cheap and quick to administer (Neuman, 2006; Bhatacherjee, 2012; Sarantakos, 2013), enabling respondents to provide large amounts of objective quantitative data without being influenced by the researcher's presence (Wilson and Sapsford, 2006; Cohen *et al.*, 2007). Questionnaires encourage disclosure because they can assure anonymity (Johnson and Turner, 2003; Neuman, 2006).

Notwithstanding these above advantages, this type of questionnaire is subject to a few limitations. First, it fails to provide the researcher with a sophisticated understanding of the issue because it offers respondents few opportunities to contribute their own ideas (Denscombe, 2007; Sarantakos, 2013). Second, it cannot help the surveyor check whether respondents understand the questions and give truthful answers or not (Neuman, 2006; Denscombe, 2007). A final drawback concerns low response rates and missing data (Wilson and Sapsford, 2006; Bryman, 2012).

In this project, a postal questionnaire using a Likert-scale with five possible responses was developed based on multiple sources of documents, with due attention to the study context. It covers four sections (see Appendix C). The first section involved six indicators collecting demographic data; the second comprised 10 indicators about assessment; the third had 14 indicators concerning school culture and the fourth had 21 indicators about teaching techniques or learning activities that develop CT.

Regarding the assessment section, indicators were developed following types of assessment, the associations between different aspects of assessment, for instance its stakes and purpose, and teaching in general and teaching for CT in particular (e.g. Crooks, 1988; Clarke, 2005; Harlen, 2005; Alazzi, 2008; OECD, 2008; Baildon and Sim, 2009; Jones, 2010; Berliner, 2011) with close reference to assessment practices in Vietnamese schools. In terms of school culture, indicators were prepared based on the relationships between the components of school culture (leadership, innovation orientation, formal relationships, beliefs and values regarding effective teaching, teacher satisfaction and learning culture) and teaching particularly teaching for CT (e.g. Hargreaves, 1995; Eisner, 1996; Stoll, 1999; Tsui, 2000; Tsui, 2001; Peterson and Deal, 2009). Several indicators were adapted from the questionnaires by Hargreaves (1999) and Wagner (2006) with the format adapted from Cavanagh and Dellar (1996) (see Maslowski, 2006). CT section measured the frequency levels at which given positive teaching techniques or learning activities were exercised in history classrooms. The indicators were developed fundamentally adhering to the techniques proposed by key CT experts (e.g. Bono, 1982; Swartz, 1987; Fisher *et al.*, 2002; Buskist and Irons, 2008). A number of indicators and the way to organise them were adapted from the questionnaire Critical Thinking Skills invented by Vaske (1998). It is worth noting that most of the techniques had been introduced to history teachers in Vietnam (see, for example MOET, 2010b; Lộc *et al.*, 2011; MOET, 2011b).

To avoid a leading effect, indicators in the second and third sections were prepared with both positive and negative statements without converting the values. The questionnaire was translated from English to Vietnamese. To improve the precision of the translation, both versions were sent to a Vietnamese PhD candidate for validation. To remove possible errors (Bryman, 2012), the pilot phase was carried out in a small Vietnamese secondary school with the participation of 21 teachers. Data obtained indicate the respondents' appropriate understanding of the questionnaire; there was no serious problem concerning its format or length. Several wordy questions were made more concise after the pilot.

b. Semi-structured interviews

The semi-structured interview, which entails the use of some pre-prepared open questions, was employed in the follow-up qualitative to achieve a deeper understanding

of the issues under investigation. Whilst questionnaires provide high amounts of statistics, interviews are effective instruments for collecting qualitative data to explain and elaborate quantitative results (Johnson and Turner, 2003). Through an interchange of views between two people with the support of in-depth probing, prompting and term clarification (Neuman, 2006; Bhatacherjee, 2012), semi-structured interviews can provide the insiders' perspectives of the phenomenon (Kvale, 2007; Bryman, 2012). Being able to produce highly valid data (Johnson and Turner, 2003; Denscombe, 2007) is another justification for this instrument. Direct contact at the point of the interview means that data can be checked for accuracy and relevance (Sarantakos, 2013). By building trust and rapport with informants, the researcher can discover things that can never be done by any other methods (Gall *et al.*, 2007; Hobson and Townsend, 2010).

On the other hand, face-to-face interviews are subject to a few disadvantages. The surveyor's characteristics, appearance and tone of voice may exercise impact on the answers of the interviewee, thus leading to interviewer bias (Neuman, 2006; Bryman, 2012). Interview results are generally of low reliability and generalisability, for they are obtained from a small number of informants within specific contexts (Denscombe, 2007; Hobson and Townsend, 2010). The final drawback concerns the matters of privacy and anonymity (Johnson and Turner, 2003; Denscombe, 2007). Interviews can be pleasurable; however, unskillful interview questions may infringe on the interviewee's private life. With low degrees of trust from informants 'socially desirable responses' may occur, threatening the trustworthiness of data (Blair, 2005, p. 55).

Within this project, interview questions were developed following the quantitative findings (Creswell and Clark, 2007; Ivankova and Stick, 2007) (see Appendix D). They focus on investigating the participants' perceptions of relevant issues concerning five major topics: (1) teaching and learning for CT; (2) assessment practices (3) school cultures; (4) the nature of historical knowledge and methods of teaching history; and (5) factors that influence teaching for CT. Before being piloted, interview questions were sent to two key history teachers for validation.

To eliminate ambiguous, confusing or threatening questions and to check the length of the interview (Opie, 2004; Gall *et al.*, 2007), the pilot study was conducted with two teachers. It was found that most questions and prompts were appropriate. However, sometimes the

interviewer became excited at the interviewees' answers. Through the pilot, some slight adjustments to question wording and the attitude of the researcher were made.

Following Opie (2004) and Gall *et al.* (2007) as well as considering the implication of demographic data missing, during calls to arrange time and place and at the beginning of each interview, the researcher reassured the participants of confidentiality. To show respect and avoid being accused of misconduct (Opie, 2004; Bhatacherjee, 2012), participants were not only informed of the contents and purposes of the interview but also offered opportunities to pose questions relating to the conversation. As a result of such an effort, all candidates agreed to participate in the activities. Five interviews took place at schools and three at the interviewees' private homes. With consent from them, all interviews were recorded. The average length of each conversation was 70 minutes.

c. Focus groups

The focus group, which takes the interaction within the group as a means of eliciting information (Hydén and Bülow, 2003; Kleiber, 2004), was selected as the second data collection technique in the qualitative phase because this technique helps obtain collective views to deal with complex assignments (Cohen *et al.*, 2007; Sarantakos, 2013). Focus groups can provide explanation to viewpoints previously collected (Kleiber, 2004; Denscombe, 2010). Nevertheless, its value relies heavily on the interaction between the group and the leader as well as that amongst group members (Hydén and Bülow, 2003; Sarantakos, 2013). Without trust in their colleagues and the facilitator, participants are less likely to speak their mind during discussions (Denscombe, 2007).

Within this study, guided by the purpose of the activity and the process proposed by Flick (2009), two groups of history teachers were invited to take part in four tasks: excluding factors that they thought exerting least effect on teaching for CT; ranking the chosen factors; proposing individual and collective recommendations for fostering teaching for CT in History. To increase their effectiveness, both focus groups were carried out in a familiar meeting room, with support from facilitators and secretaries (Kleiber, 2004; Sarantakos, 2013). Group members were carefully guided how to perform each activity, provided with grounded rules and encouraged to contribute to the discussion in a liberal climate (see Appendix E for the guidelines). They were treated with snacks, soft drinks and each was offered a pen as a gift from the researcher.

3.3 Data analysis procedures

Following Creswell and Clark (2011), data in this sequential study were collected in successive phases and analysed separately with the support of causation, school culture theories and knowledge of change resistance. As suggested by Amrein and Berliner (2002) and the implication of the literature review, Campbell's (1979) Laws on the corrupting effect of quantitative indicators [8] was also considered to support the interpretation of data.

3.3.1 Questionnaire data analysis

Data were coded before being imported into SPSS statistical package for analysis. The first task of coding was to *transform* or *recode* the values of negatively worded indicators to make them mathematically appropriate to analysis (Creswell and Clark, 2011; Bhatacherjee, 2012). For example, a 'strongly agree' answer to indicator 3 gains score 1 by subtracting 5 from 6.

Answers to demographic indicators were coded separately on the principle that positive answer, for example 'Yes' in question 5 or 'History' in question 3 were coded using number 1 while a negative answer such as 'No' in question 5 were coded using number 0. This way of coding gave the data appropriate mathematical properties for analysis (Hartas, 2010).

Missing values were treated carefully. 'Unknown' value was added to replace the missing values in indicator 5 and 6 in the demographic section (George and Mallery, 2011). Meanwhile, the missing value in indicator 4 (interval variable) was replaced by the mean score of the indicator within the whole sample. Since the mean value of Likert-scale indicators was a decimal number, which was not provided in the scale, missing data in item 3 and 36 were replaced by the medians of the indicators in the whole group.

Three key variables: Assessment, Culture (school culture) and Critical thinking (teaching for CT) were computed by summing and averaging scores of the indicators within each computed variable (Sosu *et al.*, 2008; Creswell and Clark, 2011). In that way, the mean score of each respondent in these fundamental aspects was obtained, providing information about the whole construct. More importantly, these widely ranging data appeared to share more characteristics

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[8] These two Laws state that 'The more any quantitative social indicator is used for social decision making, the more subject it will be to corruption pressures and the more apt it will be to distort and corrupt the social processes it is intended to monitor' (p. 85)

with interval data, making them amenable to Pearson correlation and regression analyses (Blaike, 2003). For detailed information about coding, please see Table 3-1.

Table 3-1: *Questionnaire data coding for entry into SPSS analysis*

Variable	Indicator	Response	Code
Demographic *(6 indicators, names coded as Gender, Qualification, Subject, Experience, Training and Support*	1 - Gender	Male	0
		Female	1
	2- Qualification	College	0
		University	1
	3 – Subject(s) trained	History	1
		Literature-History	0
	4 – Work experience	Working year	Numeral
		Missing value	Mean
	5 – Training to teach thinking skills	Yes	1
		No	0
		Missing value (1)	Unknown
	6 – Support teaching CT	Yes	1
		No	0
		Missing value (3)	Unknown
Assessment *(10 indicators, names coded as Assessment1 to assessment10)*	Indicators: 1, 7, 8, 9, 10	Strongly disagree	1
		Disagree	2
		Neutral	3
		Agree	4
		Strongly agree	5
	Indicators: 2, 3, 4, 5, 6 (Recoded)	Strongly disagree	5
		Disagree	4
		Neutral	3
		Agree	2
		Strongly agree	1
	Indicator 3	Missing value	Median
Culture *(14 indicators, names coded as Culture11 to Culture24)*	Indicators: 11, 12, 13, 18, 19, 20, 21	Strongly disagree	1
		Disagree	2
		Neutral	3
		Agree	4
		Strongly agree	5
	Indicators: 14, 15, 16, 17, 22, 23, 24 (Recoded)	Strongly disagree	5
		Disagree	4
		Neutral	3
		Agree	2
		Strongly agree	1
Critical thinking *(20 indicators, names coded as C.Thinking25 to C.Thinking44)*	Indicators: 25-44	Never	1
		Rarely	2
		Sometimes	3
		Usually	4
		Always	5
	Indicator 36	Missing values	Median

Data were analysed using three techniques: Univariate, Bivariate and Explanatory. *Univariate descriptive analysis* summarises the main characteristics of each variable under study in terms of frequency distribution, central tendency and dispersion (Bhatacherjee, 2012; Dixon and Woolner, 2012). It was done first as 'we need to describe in order to have something to explain' (Blaike, 2003, p. 51). *Bivariate descriptive analysis,* a sophisticated form of description (Blaike, 2003) was performed to measure and describe the strengths of associations between variables commonly referred to as correlations (Dixon and Woolner, 2012). This technique was also used to compare the characteristics of the same variable in different populations (Independent sample T-test) and measure the internal reliability of each computed variable.

The final method, *Explanatory analysis* was employed to calculate multiple regression, a statistical technique for identifying predictive power of more than one explanatory variable over an outcome variable (Field, 2009; George and Mallery, 2011). Given that this application concerns prediction rather than causation, it acts as useful guides in identifying causation (Morrison, 2009), one of the primary objectives of the study.

3.3.2   Interview data analysis

Each recording was listened to once to achieve its overall meaning. During this process, notes were taken on a memo whenever a critical point struck the researcher. The conversations were in Vietnamese, so record data were transcribed and analysed in Vietnamese to save time. Before being analysed, eight transcripts covering 119 A4 pages were sent to the interviewees separately to achieve respondent validation, an integral element to ensure data validity (Cohen *et al.*, 2007; Kvale, 2007; Torrance, 2012).

An approach to analysing interviews is decided by the purpose of the analysis or the research question(s) that the interviews aim to answer (Cohen *et al.*, 2007; Saldaña, 2013). As the primary purpose of the interview was to explain and elaborate the quantitative findings, as done in a mixed method study with the same research design by Jellesmark *et al.* (2012), **meaning condensation,** a coding technique that entails an abridgement of long statements into shorter formulations (Kvale, 2007) was selected.

Data were analysed at two stages: within each case and across the cases for comparison (Flores, 2004; Ivankova and Stick, 2007; Malterud, 2012) (see Figure 3-2). In the first

stage, the researcher read each transcript twice to obtain a deeper understanding of the database and to determine 'meaning units' (Kvale, 2007, p. 107; Malterud, 2012). 'A meaning unit is a discrete phrase, sentence or series of sentences which conveys one idea or one related set of perceptions' (Burnard, 1994, p. 113) related to a research question (Malterud, 2012). Then each meaning unit was meticulously examined to highlight codes, key concepts and to identify 'implied meaning' (Denscombe, 2007, p. 291). Words denoting causation, such as 'because' and 'since' were considered as well. Based on the key words, each meaning unit was summarised by a concise statement (see Appendix F). These statements were constantly compared to the meaning units they represented (Bryman, 2012; Jellesmark *et al.*, 2012). The whole process was rigorously checked to ensure that no meaningful contents were omitted.
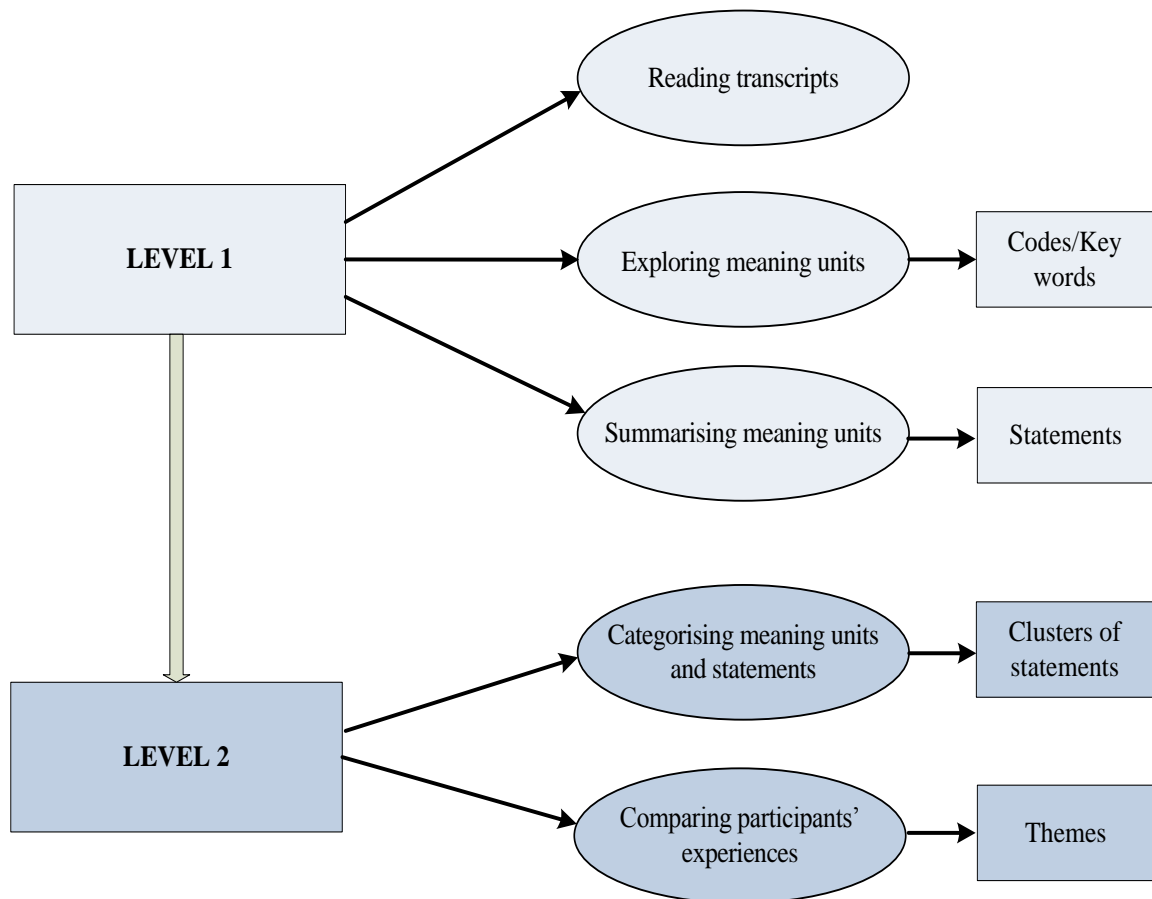
Figure 3-2: *Procedure of interview data analysis*

60

In the second stage (conducted in Excel, see Appendix G), meaning units and statements of all participants were grouped into categories (Burnard, 1994; Jellesmark *et al.*, 2012). They were then compared and contrasted to reveal broader themes that could describe the understandings and perceptions of the participants (Creswell and Clark, 2011; Malterud, 2012). Once a prominent theme was identified, meaning units were re-examined to identify quotations that best represented the participants' viewpoints. The coding process did not occur one way, in a single time but was 'cyclical' (Saldaña, 2013, p. 58) and 'iterative' (Denscombe, 2007, p. 288). The researcher frequently moved back and forth comparing data from an interviewee to those from others, meaning units to statements, individual statements to themes and vice versa. Furthermore, interview data were analysed and interpreted with reference to the theoretical framework, the theories supporting the study and the quantitative results. By employing multimodal analysis, it is expected that the conclusions drawn will be firmer.

3.3.3   *Focus group data analysis*

As the main purpose of the focus groups was to obtain both qualitative and quantitative data to explain and extend previous findings, **Content analysis**, a systematic and objective approach that combines scientific rigour with the richness of data (Moretti *et al.*, 2011) was adopted. The analysis was performed in three successive stages.

First, notes taken by group secretaries were explored to remind the researcher of the key features of the discussions. Second, the recordings were listened to twice to obtain a general understanding of the data and to take notes on significant points. The final stage dealt with the outcomes including factor exclusion, factor ranking and recommendations. Exclusion results of groups were compared to see if any element was excluded. Next, ranking of each factor by each group was given a value to measure its importance. Individual recommendations to foster teaching for CT were also analysed using a quantitative approach. Similar suggestions were placed in the same category and frequency of each suggestion was counted to measure its popularity (Denscombe, 2007). The results of the groups were then considered to determine the most common recommendations. During the analysis, results were compared to the findings from previous research activities, individual and group explanations for their choice were considered to achieve deeper understandings of the examined issues.

3.3.4   *Data integration*

Two of the most frequent questions concerning mixed methods research are when, and how the researcher mixes the data (Ivankova *et al.*, 2006). According to some scholars, it is desirable to combine qualitative and quantitative elements at all stages to achieve convergence from independent sets of data. Others, however, maintain that data integration should be done after both phases of research have been completed to offer a more comprehensive view of the whole study. Within this thesis, as Ivankova *et al.* (2006) and Greene (2007) recommend, despite a number of cross references during the process of qualitative data analysis and the use of the first phase data to build interview questions in the second phase, full integration only occurred when both phases had been finished. To make the integration more vivid, as illustrated in Sosu *et al.* (2008), its outcomes are presented in a whole chapter, namely Discussion. It is hoped that this integration approach will not only provide a more comprehensive understanding of the issue's multiple facets but also help readers capture the entire picture in a more systematic way.

3.4   Validity, reliability and ethical issues of the study

The issues of validity, reliability and ethics are highly significant with any studies, especially those conducted in the field of education (Du, 2012). This section discusses how the terms should be understood and describes the measures employed to deal with the issues.

3.4.1   *Validity and reliability*

Validity and reliability are critical qualities that most research projects should strive for (Cohen *et al.*, 2007; Bryman, 2012; Du, 2012). *Reliability* refers to the consistency of scores, that is the ability of a research instrument to produce consistent research results at different times of measurement (Lodico *et al.*, 2006; Baumfield *et al.*, 2012). It is an indicator of quality in research. *Validity*, the most important criterion to judge a piece of research, is concerned with whether an indicator or a set of indicators devised to measure a concept really measures it (Lodico *et al.*, 2006; Bryman, 2012). In qualitative research, however, it can be referred to as *credibility*, measuring the correspondence between the ways participants actually perceive the social issues and the ways the researcher

interprets their perspectives (Mertens, 1998). In other words, it answers the question: How believable are the findings (Bryman, 2012)?

To enhance the validity of mixed methods research, Creswell *et al.* (2008) suggest four approaches, including data-triangulation, multiple-analyst-triangulation, consideration of rival conclusions and expert audit. Acknowledging that bias may occur in a single-author project, within this project various measures have been implemented to generate reliable and valid findings.

First, participants of the second phase were purposefully selected from the quantitative sample to make the data comparable. The questionnaire was devised based on multiple sources of publications; the interview questions were prepared with close reference to the quantitative results. Similarly, the focus groups closely followed the interview findings and the contradictions between the questionnaire and interview data. Both questionnaire and interview questions were strictly piloted to ensure that they measured what they intended. The data were rigorously analysed in multiple layers, compared and properly integrated at the end of the project. By achieving consent and trust from the informants, especially those took part in the interviews and focus groups, the author could encourage them to speak their thoughts (Denscombe, 2007; Gall *et al.*, 2007). Another technique was to send the transcripts to the interviewees for respondent validation (Du, 2012; Torrance, 2012). By doing so, the data were rigorously cross-checked (Mertens, 1998) and democracy in research was fostered (Torrance, 2012). It is estimated that these measures will make the findings more reliable and valid.

3.4.2 Ethics

The issues of ethics need to be treated seriously in educational research since studies in education tend to involve a large cohort of participants and its findings when applied may also impact upon a large number of users (Strike, 2006; Cohen *et al.*, 2007).

In common sense, ethics mean the research and researcher cause no harm, mental or physical to participants and the environments where they live or work (Flick, 2009; Du, 2012). To others (e.g. Lodico *et al.*, 2006; Bhatacherjee, 2012), ethical research must ensure that its participants are wholly and truthfully informed of the research design; privacy and confidentiality are strictly protected; data accuracy and responsibilities to

both individuals and organisations are adequately maintained (Bryman, 2012). Research should be carried out with respect for people, knowledge, democratic values, the quality of educational research, as well as academic freedom and full responsibilities to its participants and stakeholders (BERA, 2011).

In the light of the above critical recommendations, ethical issues were seriously considered within this research. The study was carried out with permission from the gatekeepers as well as consent of all participants. The respondents' privacy and confidentiality of information were successfully maintained by storing data in password-protected devices and using pseudonyms in the report. Acknowledging that 'ethical issues go through the process of an interview' (Kvale, 2007, p. 24) numerous tasks, for instance informing the interviewees of the purposes and contents of the interview or setting friendly interview contexts were carried out. Democratic participation was encouraged through opportunities for the participants to give feedback on the transcripts and raise questions concerning the study (Baumfield *et al.*, 2012). Especially, to make the research beneficial to not only its users but also its participants (Strike, 2006; Du, 2012), prior to the focus groups, the researcher spent an hour introducing some teaching and research techniques, as well as the English landscapes and culture to the participants. It is intended that some findings of this study will be disseminated to Vietnamese users through several papers in domestic newspapers and journals (for example see Du, 2014).

3.5 Summary

The chapter has justified the research methods and theories used to investigate and interpret the influence of assessment practice and school culture on teaching for CT. It indicates a perfect match between mixed methods and causal studies. However, it also points out caveats concerning research paradigms and the likelihood of contradictory research results. The analysis supports the employment of the sequential explanatory design while acknowledging potential challenges relating to writing-up and data integration issues. By critically evaluating the benefits and drawbacks of each research instrument, the study sought to make best use of them to serve the research purpose. Together with change resistance knowledge and the theoretical framework identified in chapter 2, the data analysis approaches identified in this chapter will provide direction for the presentation, evaluation and discussion of the findings. It is expected that by using

both quantitative and qualitative methods and paying due attention to the issues of ethics as well as reliability and validity, the study will produce an in-depth understanding of the research problem, which is presented in the upcoming Findings and Discussion chapters.

Chapter 4:   Findings

This chapter critically analyses data collected from both phases of the study. It begins with quantitative questionnaire data to identify the features of assessment practice, school culture and teaching for CT in the schools where the respondents worked. The chapter proceeds to explore the predictive power of the two first variables on the last one. It continues with interview data to identify key factors that can influence teaching for CT and concludes with the analysis of focus group data to provide a more comprehensive understanding of the examined issue.

4.1.   Questionnaire results

This section presents information about the subjects of the study, the scale and distribution of scores, the correlations between variables as well as those between independent variable indicators and the dependent variable. It examines the predicting power of the independent variables as well.

4.1.1   Univariate descriptive analysis

In the first phase, the questionnaires were distributed to 216 history teachers. The survey received 148 responses, of which 145 were usable, indicating a 68% response rate. Three unusable comprised two in which the respondents refused to provide demographic information and one in which the respondent ticked score 5 for the vast majority of indicators, showing his or her little interest in the research. Demographic data indicated that 29% of the participants were male and 71% were female; 75% were trained to teach History while 25% were trained to teach Literature as the main subject. On average, each teacher had around 14 years of work experience; 52% had a college degree while 48% had a university degree; 93 participants (64%) had been trained to teach thinking skills while 51 (36%) had not received training. Whilst 138 teachers were supportive of the notion that CT should be taught, four opposed this notion.

Table 4-1 presents the scores of ten indicators within variable assessment. As can be seen from the table, peer and self-assessment have been used quite frequently in History lessons.

Almost half of the surveyed teachers spent time providing feedback and discussing answers with their students. However, nearly 40% of the respondents did not think that high-stakes tests encouraged students to employ higher-order thinking skills to solve problems. As reported by Quang (2006), the majority of teachers agreed that student performance in end-of-term tests played an important role in teacher evaluation and school ranking. Fifty-seven per cent of the teachers spent large amounts of time helping students prepare for tests; 11% reported coaching students to answer questions without teaching for understanding. As the data indicate, contentious contents and controversial issues, which invite personal reflection and solutions, were not regularly included in classroom assessment. Particularly, 83% of the teachers agreed that they had rather limited autonomy in marking test papers. Although over two-fifths of the respondents revealed that the prime purpose of assessment in their schools was to foster learning, the assessment environment was not ideal to promote the teaching of high-order thinking skills.

Table 4-1: *Descriptive data of variable assessment (percentage of the participants in each category)*

No	Statements	SD	D	U	A	SA
1.	In my district/city, end-of-term history tests require students to demonstrate high-order thinking skills.	1.3	37.2	32.5	29.0	0
2.	Teachers have to follow detailed instructions to assess test papers.	0	4.8	11.7	61.3	22.2
3.	Students' end-of-term/year test results are a decisive factor to evaluate teachers in my school.	0	16.5	20	51.7	11.8
4.	Test results are an important factor to rank schools.	0	13.1	28.3	43.5	15.1
5.	My students repeatedly revise what is expected to come up in tests or exams.	0	15.2	27.6	50.3	6.9
6.	Students are coached to answer some questions without teaching for understanding.	14.5	53.8	20.7	11.0	0
7.	Apart from assessment by teachers, I employ self and peer assessment to assess student learning.	0.7	11.7	30.3	55.3	2.0
8.	In my classroom, knowledge being tested includes contentious knowledge and controversial issues.	3.4	55.9	29.7	11.0	0
9.	I spend considerable time giving feedback, discussing answers with students.	1.4	26.9	25.5	44.8	1.4
10.	The priority in assessment of my school is to foster learning rather than to raise test scores.	0.7	26.9	29.6	40.8	2.0

Regarding distribution of the indicators' scores, skewness and kurtosis of all indicators lay within their normal range. At the variable level, the distribution of the scores, which were computed by summing and averaging scores for all 10 questionnaire items per teacher, was also normal (see Figure 4-1). However, there existed a marked difference between the lowest (2.0) and the highest individual score (3.7), indicating a notable gap in assessment regimes as perceived by some surveyed teachers. It is worth noting that there was no variable score of four or five, suggesting that there was no perceived excellent model for assessment practice in the surveyed districts and city.
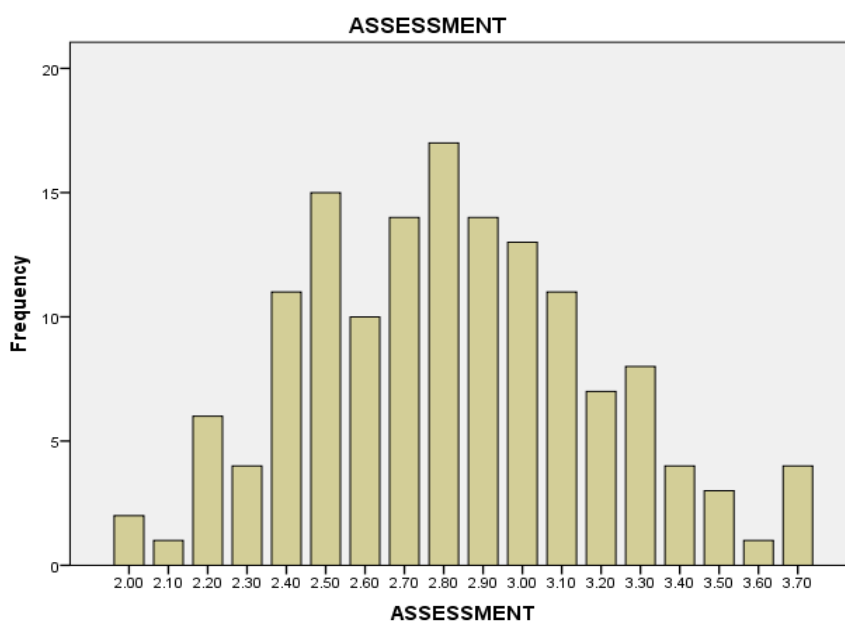
Figure 4-1: *Frequency distribution of variable assessment*

The picture of school culture seemed slightly more positive than that of assessment (see Table 4.2). As the data indicate, over 55% of the participants had high levels of organisational commitment. More than two-fifths of participants were not satisfied with their student achievement, indicating a likelihood that they would pursue change in their teaching. Nearly half of the respondents perceived that parents regarded their children's academic advancement as more important than scores in high-stake exams. Scores from the remaining indicators, however, indicate low levels of leadership distribution, a lack of belief in students' academic ability and some misunderstanding about the characteristics of an effective lesson. While the first drawback confirms the findings of Du (2013), the third could be related to MOET's guidelines on how to evaluate a teaching period at the

secondary school level. The guidelines stress the need to cover all teaching contents (MOET, 2001). As indicated in earlier Vietnam-based studies (see Saito and Tsukui, 2008; Saito *et al.*, 2008), about two-fifths of the teachers agreed that their colleagues had low interest in the exchange of experiences. Data on student culture suggest that over a third of the teachers saw their students as passive learners who preferred working alone. As research by Tsui (2001) suggests, innovative curricula such as those focussing on learners' CT development are likely to encounter numerous obstacles in such environments.

Table 4-2: *Descriptive data of variable school culture (percentage of the participants in each category)*

No	Statements	SD	D	U	A	SA
11.	In my school, teachers are encouraged to take part in decision-making and school plan building.	11.0	40.0	24.1	24.9	0
12.	My school encourages teachers to make change to their teaching.	4.8	34.5	31.0	29.7	0
13.	Teachers here frequently exchange ideas and experiences with one another.	2.0	36.5	26.9	31.7	2.8
14.	Teachers tend to avoid doing things differently from others.	2.0	37.9	23.4	36.0	0.7
15.	Teachers think that their major academic duty is to transmit book contents.	0.7	27.6	23.4	42.7	5.6
16.	Teachers assume that an effective lesson must convey all contents set in the syllabus.	0	15.9	25.5	57.2	1.4
17.	Teachers share the view that teaching effectiveness is measured by students' scores.	0.7	28.3	31.7	37.3	2.0
18.	Teachers believe that all students can be successful in their studies.	6.2	27.6	24.1	41.4	0.7
19.	Teachers show little contentment with their students' achievement.	2.0	26.2	29	41.4	1.4
20.	Teachers show high commitment to the school.	0.7	14.5	28.3	49.6	6.9
21.	Parents show more interest in their children's growth of knowledge and skills than test scores.	2.0	29.7	20.7	46.9	0.7
22.	Students in this school do not have good habits of thinking.	4.1	35.9	26.9	28.3	4.8
23.	Students tend to hesitate to express their opinions in the classroom.	2.0	26.2	24.1	44.2	3.5
24.	Students prefer working individually to working in groups.	0	32.5	37.2	26.9	3.4

In terms of distribution and derivation of the indicators, school culture enjoyed quite a similar model with assessment. Scores of most indicators were normally distributed. At the variable level, the distribution of scores (computed by summing and averaging scores for 14 questionnaire items per teacher) of the whole sample was regarded as normal (see Figure 4-2). As found in variable assessment, there was no high score of four or five at the variable level. A significant difference was found between the lowest and highest individual scores, denoting considerable variations in the cultures of the respondents' schools. The relatively high percentage of teachers choosing 'Uncertain' scale in item 24 appears to reflect the lack of deep understanding about students' learning styles in a third of the respondents.
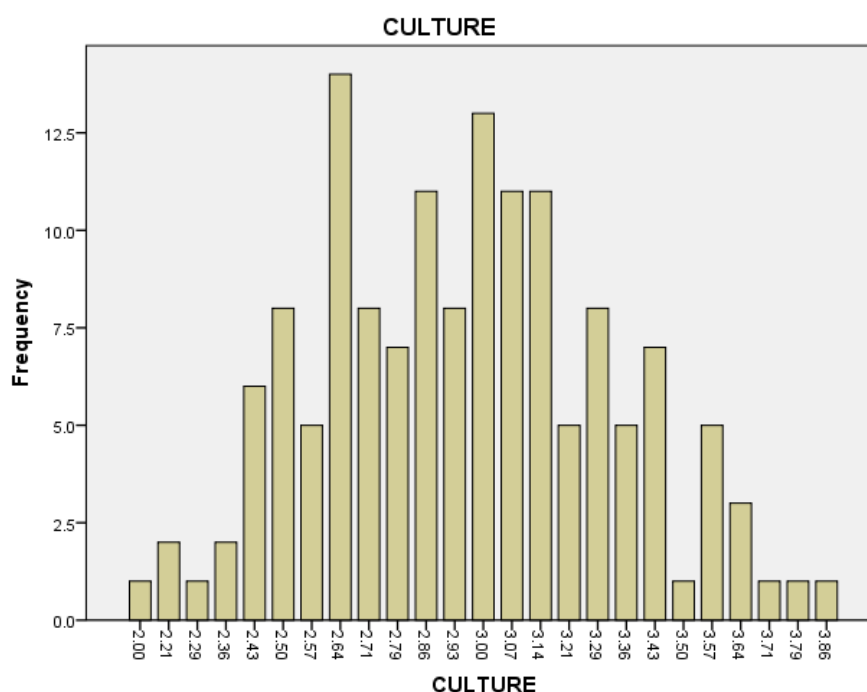
Figure 4-2: *Frequency distribution of variable school culture*

Table 4-3 presents the descriptive data of 20 CT indicators, which have been designed based on the combination of selected items examined in recent studies and the guidelines for teaching History in Vietnamese lower secondary schools. Of 20 techniques measured in the survey, the most frequently used were 'Group discussion', 'Interpreting photographs and pictures', 'Brainstorming' and 'Formulating and asking appropriate questions'. Meanwhile, the least often used included 'Odd one out', 'Making decision

between two things', 'Critical debate', 'Seeking explanation for recent events', and 'Role play'. There were substantial variances in the degree to which some techniques were used by the respondents. On average, the score of variable teaching for CT of the whole sample was 3.01, indicating low frequency of using CT techniques by the respondents.

Table 4-3: *Descriptive data of variable teaching for CT (percentage of the participants in each category)*

No	Teaching techniques	Never	Rarely	Some-times	Usually	Always
25.	Brainstorming	1.4	12.4	44.1	35.2	6.9
26.	Role play	6.9	24.8	58.6	9.7	0
27.	Group discussion	1.4	4.8	18.6	66.2	9.0
28.	Odd one out	11.0	35.1	37.4	15.1	1.4
29.	Interpreting photographs and pictures	4.1	1.4	26.9	53.1	14.5
30.	Lifelines	2.0	7.6	35.9	44.8	9.7
31.	Case studies	3.4	35.2	36.6	24.8	0
32.	Critical debate	9.0	35.2	35.8	20,0	0
33.	Problem solving	3.4	27.6	44.2	22.8	2.0
34.	Making decision between two things	9.6	26.9	37.2	26.3	0
35.	Seeking explanation for some recent events	8.3	33.1	40.7	17.9	0
36.	Fact and opinion distinction	4.1	27.6	32.4	34.5	1.4
37.	Predicting consequences	4.1	27.6	48.3	18.6	1.4
38.	Listing reasons for and against something	4.8	33.8	40.7	20.7	0
39.	Listing good, bad and interesting points of a suggestion or proposal	4.1	35.9	33.1	26.9	0
40.	Dealing with ethical dilemmas	5.5	26.9	35.9	31.7	0
41.	Formulating and asking appropriate questions	2.8	15.9	27.6	45.4	8.3
42.	Giving alternative explanations for a consequence	2.0	23.5	57.2	17.3	0
43.	Distinguishing credible from non-credible sources of information	6.2	24.8	47.6	21.4	0
44.	Gathering data relevant to a problem from multiple sources	2.8	28.2	29.0	33.1	6.9

Regarding distribution of the variable scores (computed by summing and averaging scores for all 20 questionnaire items per teacher), in spite of several outliers at both ends, teaching

for CT obtained a symmetric distribution (see Figure 4-3). The substantial difference between the highest and lowest scores might result from the low interest in sharing experiences and exchanging ideas among teachers within a school as the score of indicator 13 indicates. Some may have attempted to infuse thinking skills into their lessons while others could be loyal followers of the conventional teacher-centred approach.
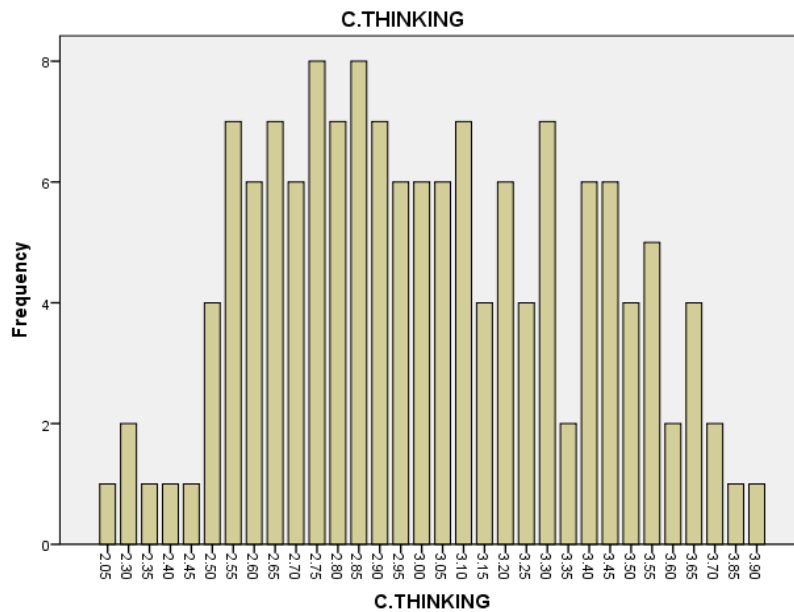
Figure 4-3: *Frequency distribution of variable teaching for CT*

4.1.2 Bivariate descriptive analysis

In this section, correlations between variables and those between indicators of the predictors and the dependent variable, teaching for CT were reported.

First, internal consistency reliability analysis was conducted to examine whether there were associations between the respondents' scores in the indicators each variable contained (Scott and Morrison, 2006; Bryman, 2012). Outcomes of this analysis showed that all variables achieved high internal reliability with the highest level Cronbach alpha of (.84) belonging to CT, followed by school culture (.72) then assessment (.67).

As regards correlations between variables, data analysis indicates that CT was significantly positively correlated with assessment and school culture with Pearson correlation coefficients of .44 and .42 (p<.01), respectively. This implies that teachers

working in positive school cultures where most school activities and assessment are conducted to support active learning have a tendency towards teaching for the development of students' CT. In contrast, those working in schools of toxic cultures where assessment carries too many consequences are less likely to employ CT strategies. Interestingly, there was a low correlation of .17 (p<.05) between two independent variables: assessment and school culture. This suggests that the assessment regime may exert influence on the formation of the school culture and the culture of a school may affect teacher practice of assessment. To achieve more understanding of this correlation, further research is needed.

Correlational analysis was also performed to measure the association between teachers' work experience and their teaching for CT. Contrary to expectations, data outputs revealed that there appeared to be no correlation between teachers' job experience and teaching practice (r=-.04, p=.57).

Independent sample T-tests were conducted to see if there were differences between different groups of the sampled teachers, for example females and males or those with college and those with bachelor degrees. The outcomes showed that differences in gender, qualification, subject training and attitude towards CT were hardly associated with the participants' efforts to develop CT for students. However, there was a significant difference between the mean scores of the respondents who had been trained to teach thinking skills (N= 93, M=3.10) and those without (N=51, M=2.85) at t=4.6 and p< .01.

In respect to correlations between teaching for CT and assessment indicators, six out of 10 associations were statistically significant (see Table 4-4). The highest coefficient with indicator 6 (r=.39, p<.01) implies that teachers who employ test coaching are less likely to invest their time in using techniques that develop high-order thinking for students. The second highest correlation (r=.37, p<.01) found between the independent variable and indicator 10 suggests that teachers who work in schools where the main purpose of assessment is to foster learning tend to use CT techniques more regularly. The same coefficient with indicator 1 indicates that teachers are more likely to devote their time to teaching students how to deal with learning tasks critically if high-stakes tests require their students to demonstrate high-order cognitive skills. This could also mean that they tend to teach for factual knowledge if tests require uncritical recitation of what have been learnt. As this result is highly relevant to the problems concerning teaching, learning and

assessment methods in Vietnamese secondary education outlined in the introduction, it will be further examined.

Table 4-4: *Correlations between assessment indicators and teaching for CT*

Assessment indicators	Critical thinking
1. End-of-term tests require students to demonstrate high-order thinking skills.	.37[**]
2. Teachers have to follow detailed instructions to assess test papers.	-.07
3. Test results are a decisive factor to evaluate teachers in my school.	.19[*]
4. Test results are an important factor to rank schools.	-.07
5. My students repeatedly revise what is expected to come up in tests or exams.	.34[**]
6. Students are coached to answer some questions without teaching for understanding	.39[**]
7. I employ many methods including self and peer assessment to assess student learning.	.15
8. In my classroom, knowledge being tested includes contentious contents and controversial issues.	.13
9. I spend considerable time giving feedback, discussing answers with students.	.36[**]
10. The priority in assessment here is to facilitate learning rather than to raise test scores	.37[**]

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).
Note: Scores of indicators 2, 3, 4, 5, 6 have been recoded

A marginally lower coefficient (r=.36) with indicator 9 denotes that teachers who emphasise formative assessment and feedback tend to be interested in employing techniques that develop CT. Finally, data analysis showed a correlation coefficient of .34 between the dependent variable and indicator 5, indicating that teachers who spend time on test-like activities are less likely to devote their effort to the development of cognitive skills for students. Most strikingly, different from findings by Baildon and Sim (2009) and Jones (2010), there was just a low correlation of .19 between the use of student outcomes in teacher evaluation and teaching for CT. Thus, this result will be further considered.

Regarding the relationships between teaching for CT and the indicators of variable school culture, nine significant correlations were found (see Table 4-5). However, compared to those with assessment indicators, the coefficients were substantially lower. Of those associations, the highest with indicator 21 (r=.31) implies that teachers working in schools where parents are interested in what children can learn rather than marks or grades are more likely to invest time in cognitive activities. Although this outcome somewhat supports the assumption on the influence of parents on teaching shared by

several authors (e.g. Eisner, 1996; Priestley *et al.*, 2011; Froiland *et al.*, 2012), such a significant correlation implies a need for explanation.

Table 4-5: *Correlation between school culture indicators and teaching for CT*

School culture indicators	Critical thinking
11. Teachers are encouraged to take part in decision-making and school plan building	.13
12. My school encourages teachers to make change to their teaching.	.24[**]
13. Teachers here frequently exchange experiences with one another	.11
14. Teachers tend to avoid doing things differently from others.	.17[*]
15. Teachers think that their major academic duty is to transmit book contents.	.12
16. Teachers assume that an effective lesson must convey all contents set in the syllabus.	.03
17. Teachers share the view that teaching effectiveness is measured by students' scores.	.21[**]
18. Teachers believe that all students can be successful in their studies.	.23[**]
19. Teachers show no contentment with their students' achievement.	.27[**]
20. Teachers show high commitment to the school.	.15
21. Parents show more interest in their children's growth of knowledge and skills than test scores.	.31[**]
22. Students in this school do not have good habits of thinking.	.29[**]
23. Students tend to hesitate to express their opinions in the classroom.	.23[**]
24. Students prefer working individually to working in groups.	.17[*]

**. Correlation is significant at the 0.01 level (2-tailed).
 *. Correlation is significant at the 0.05 level (2-tailed).

Note: Scores of indicators 14, 15, 16, 17, 22, 23, 24 have been recoded

Significant correlation coefficients with indicator 22 (r=.29) and indicator 23 (r=.23) indicate that teachers teaching in classrooms where students do not have positive thinking habits or confidence to express their ideas are less likely to invest time in high-order thinking development. These findings accord with those by Tsui (2000) which suggest that student learning culture can exert considerable impact on teaching strategies.

Significant correlations between the dependent variable and indicators 18 (r=.23) and 19 (r=.27) imply that teachers who believe in students' academic ability and show low satisfaction with learners' achievement tend to assist their students to develop thinking skills. These results compare well with those found by Tsui (2001).

Correlation coefficient of .24 with indicator 12 indicates that support for change and innovation from schools is associated with CT teaching. This strengthens the relationship

between school environment and the revision of teaching methods reported by Clarke & Hollingsworth (2002) and Saito *et al.* (2008). A low correlation of .21 with indicator 17 implies that teachers' perceptions of effective teaching may affect their teaching strategies.

Surprisingly, data indicate no relationship between teaching for CT and leadership distribution, collegiality, organisational commitment, as well as teachers' perceptions of their academic duty. Such low correlations could stem from the fact that teaching for CT was not a priority in the schools where the respondents worked, as the interview data later indicate. Thus, organisational commitment, for example may relate to the teaching methods that met the demands of the schools rather than teaching for CT.

4.1.3 *Explanatory data analysis*

With a view to determining the predicting power of the explanatory variables over the outcome variable CT, 'stepwise' the most frequently used regression method (George and Mallery, 2011) was adopted. The three variables indicating close correlations with teaching for CT: assessment, school culture and training were put into analysis. Figure 4-4 shows that R-values (adjusted) in all models were statistically significant. This validates the identified high multiple correlation coefficients between the predictors and the dependent variable. Of the three variables, assessment had the highest capability to predict. Adjusted R^2 (A.R^2) value of .19 in Model 1 implies that 19% of variation in teaching for CT in the whole population could be explained and predicted by this variable alone. With the inclusion of school culture variable, the value increases to 31% in Model 2. Significantly, Model 3 could predict up to 37% of the variance.
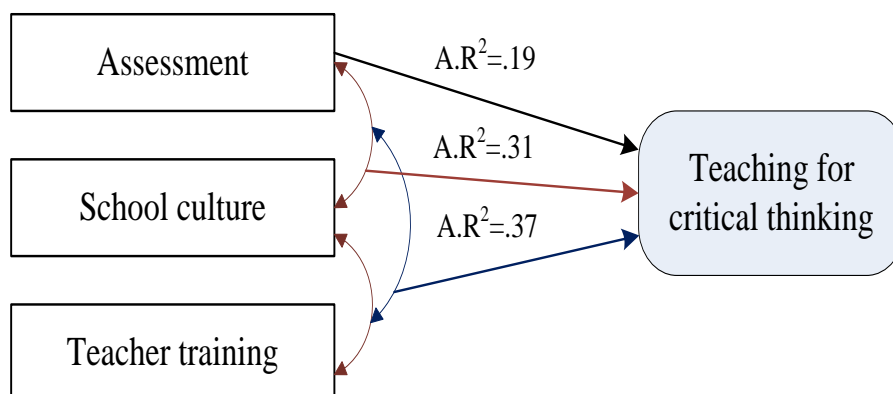
Figure 4-4: *Multiple regression models for teaching for CT*

ANOVA, a summary of an analysis of variance results, shows that F values in all models were considerably larger than the minimum requirement of 1.0 (Field, 2009), standing at 34.9, 33.1 and 28.9 ($p< .01$). This implies that results of regression analysis were unlikely to happen by chance. In other words, by using data achieved from school culture, assessment practice and teachers' training in teaching thinking skills, we can estimate the levels of frequency CT techniques are employed by the surveyed teachers.

4.1.4   Summary of the quantitative findings

So far, the overall results of the first quantitative phase have been analysed and presented. In terms of description, data analysis shows that mean scores for three main variables were around the middle value of 3.00. This reflects a slow pace of change in assessment practice as well as teaching methods and a school environment unconducive to change. Data indicate that assessment carried high accountability and suggest that teachers employed negative techniques to boost student test performance. A number of schools were described as workplaces where change was resistant. There was limited experiences exchange among teachers. Some lacked beliefs in students' academic success. In the same vein, as reflected in recent domestic publications, positive techniques that foster students' thinking were not frequently utilised in classrooms. Nevertheless, statistics show that a significant number of participants indicate quite high levels of organisational commitment and low satisfaction with their academic success.

In respect to bivariate analysis, statistical data show positive correlations between teaching for CT and three independent variables (assessment, school culture and teacher training in teaching thinking skills) and many indicators of assessment and school culture. Regression analysis revealed that 37% of the variance in teaching for CT could be predicted by the three independent variables. This result, therefore, provides guidelines for the implementation of the following stages.

4.2.   Findings from the interviews

Guided by the quantitative results, considering the debate concerning the feasibility of teaching CT to Eastern students and the causes of teacher-centred teaching methods in

Vietnamese history classrooms, eight interviews were conducted (see section 3.2.3 for demographic information of the interviewees), focusing on five main topics (see section 3.2.4 for detail). Data analysis within each case and across the cases (see figure 3-2) indicate that regarding factors that affect teacher effort to teach for CT, 16 themes emerged from the interviews. They were: the requirements of exam questions; the use of exam outcomes to evaluate teachers; teacher autonomy; school democracy; collegial support; parent expectation regarding learning outcomes; the status of History in the curriculum; teacher awareness of the importance of CT; teacher competence of teaching for CT; teacher understanding of historical knowledge; the teaching goal of the school; students' preferred learning methods; teacher beliefs in students' academic ability; teachers' shared assumption of a good teaching period; textbook content, and guidelines for marking test papers. Nevertheless, on careful consideration only the first six themes appeared to be supported by strong evidence as they were not only frequently mentioned but also thoroughly discussed by many teachers. For example, the influence of exams questions was reported by all eight teachers and the impact of limited school democracy by five of them. Other themes were either insufficiently evidenced or irrelevant to the issues under study-the influence of assessment practice and school culture on teaching for CT. Guidelines for marking test papers, despite being reported as an obstacle to CT teaching by several teachers was not regarded as a significant factor because marking criteria tend to be dependent on test questions. Therefore, this theme was integrated into the theme 'the influence of test requirements' (see quotations 2 and 3 section 4.2.3). Concerning the nature of historical knowledge and effective methods for teaching history, the interviewees' perceptions were remarkably consistent and well explained. For example, all teachers agreed that history is subjective and biased. The following sections present eight significant findings emerging from the interviews. One relates to the nature of historical knowledge; one refers to the way that CT was taught to students and six are about the obstacles to teaching for CT.

4.2.1   *Nature of historical knowledge*

As aforementioned, teachers' perceptions of historical knowledge were explored because several Vietnamese scholars (see Liên *et al.*, 2010; Nhựt, 2011) maintain that the claimed teacher-centred teaching approach in history classrooms in Vietnam is caused by inappropriate understandings of the discipline's nature. When asked about this topic, FHu, a teacher with 13 years of work experience said:

History refers to what happened in the past, but it is written based on historians' ideologies and available data. You know, sometimes they described a battle as if they had been there while in fact they just collected data from several sources and wrote…. In my opinion, history is both a science and an art.

Similarly, FNh expressed her views, highlighting the biased attitudes often found in human beings both at personal and national levels. This accords with the biased nature of history pointed out by Russell (2009) and Yilmaz (2009).

In terms of requirements, history should be objective, completely objective; however, I feel that it is not so anymore. Its writing is influenced not only by the historian's perspective but also by the way that his country wants its citizens to view the past. As human beings, I think, we tend to inflate our strengths but avoid mentioning or deflate our weaknesses.

In the same way, other participants shared the view that they stood in the middle of the continuum, seeing history as both a science and an art. While MG noted the influence of politicians, who tend to control the media, on history writing, in line with FNh, FTh assumed that history is biased because it is written following the principle "we win, our enemy loses". As MD observed, "One historical event can be interpreted by different ways depending on the writers' ideologies."

When asked about approaches to teaching history, in accord with recent research (e.g. Yilmaz, 2009; Wang and Woo, 2010), most interviewees agreed that it should be taught in a constructivist classroom with the employment of thinking activities to help students achieve a sound understanding of the learning content. To make history more interesting and relevant to learners' needs, several teachers, such as FNh suggested a balance between political and cultural elements in history textbooks.

Interview data indicate the participants' in-depth understanding about historical knowledge. They not only showed their standpoints but also gave clear explanations and examples to illustrate. This together with the teachers' consensus in approaches to history teaching challenges the assumption on the cause of teacher-centred teaching methods that Liên (2010) and Professor Lâm (Nhựt, 2011) proposed. They suggest a need for consideration of other relevant factors.

4.2.2   How CT was taught and outcomes of such teaching

Research illustrates conflicting standpoints on the appropriateness of CT teaching in Eastern classrooms and the causes of reticence in Eastern students. To achieve further understanding about these issues, the participants were asked about the techniques or activities they often used to develop CT for students and the benefits of using such techniques.

Regarding CT techniques, findings are quite varied. While MTh frequently asked students to use mind mapping to summarise the lesson and put them into challenging situations to foster problem-solving and decision-making skills, others such as MD, FHu and MG sparked curiosity and cultivated a questioning disposition in students by requiring them to predict consequences of a story and formulate relevant questions. For instance, MD said:

> Normally, I require students to explore a short story or an extract and frame relevant questions. Each student should bring up at least one question. I think that questioning is a simple technique, but it requires students to think hard.

To stimulate divergent thinking in discussion, MG and FHu neither confirmed nor denied individual students' answers. Instead, they encouraged and supported students to peer assess, evaluating and modifying their peers' answers. FTh revealed that besides techniques such as drawing diagrams, group discussion and critical debate, she guided students to collect data and asked them to make decisions using deduction as well as imagination:

> My students are sometimes put into critical situations. For example, I asked them: what would you have done if you had been the leader of our side? If you had been in charge of making the plan, would you have done the same or made it differently?

Despite a variance in teaching techniques, most teachers concurred on the benefits of teaching students how to think critically. According to MD, FHu and MKh, CT helped their students remember learning contents longer, as they contributed to the construction of such knowledge. To MTh, this teaching approach made his students more active and confident in study. Instead of sitting still and passively receiving knowledge from their teacher, a considerable number of students actively took part in the process of building knowledge. MG found that his students became more curious, self-confident and open-

minded. A number of them confidently discussed the learning contents with their teachers. As found by Baumfield (2006), there is a positive shift in the roles of teachers and learners; education occurs in the form of conversation (Dewey, 1997).

> Apart from arousing learning curiosity, I found that teaching for CT could bridge the gap between teachers and students. Unlike the traditional hierarchical relationship between teachers and students in which the former impart knowledge and the latter absorb, I feel that in CT-oriented lessons we communicate as friends, together exploring knowledge and openly exchanging viewpoints. (MG)

The benefits of teaching for CT also mirror in the change of classroom atmosphere. As FNh noted, her students tend to become excited if they are challenged with thought-provoking questions. FHu described a number of longer-term benefits that CT can bring about:

> Teaching for CT provides my students with opportunities to think and express their own ideas, thereby helping them obtain knowledge in a meaningful way… CT makes my students more confident, better at communication and provides effective learning strategies for them.

MKh added that although the majority of students who attended his extra classes showed modest levels of CT, after one school year of appropriate support, many of them could produce relatively sharp arguments. Regarding the benefit of CT to teachers, as reported in research by Baumfield (2006), the majority of interviewees revealed that teaching thinking stimulates their professional inquiry and helps them sharpen their thinking skills to deal with unexpected and challenging questions from students. For example, FTh said:

> Using a CT approach requires us to broaden our knowledge beyond the textbooks. It provides us with multiple viewpoints to look at a problem. Such a revolution in our thinking then affects student thinking.

It is noted that to teachers such as MD and MT, CT does not always bring about benefits, for it may encourage students to challenge their teachers and criticise school and local policies, which they considered damaging rather than revolutionary. Overall, consistent with earlier Eastern-based studies (e.g. Che, 2002; Yang and Chung, 2009; Tian and Low, 2011), interview data indicate that teaching for CT can benefit both students and teachers, and that learner activeness tends to depend on the ways that classroom activities are organised.

4.2.3 Influence of test requirements on teaching for CT

The quantitative findings specify a close relationship between test requirements and teaching for CT (r=.37, p<.01); yet, an explanation of how the former element influences the latter has not been revealed in Vietnamese contexts. The interview data presented below provide some explanation.

As found in the literature review, MD indicated that his and his colleagues' limited effort in teaching for CT stemmed from the fact that the conventional teaching method that they used is more effective than a thinking approach in dealing with tests that require straightforward recall of facts. In the same vein, FHu, MG and MKh provided rationales for their modest attention to teaching thinking by pointing out a mismatch between CT and the assessment methods being used in their districts. MKh went on to describe how he minimised the adverse effects of such a misalignment:

> Normally, only students who think deeply could attain high grades. The paradox is that with the current assessment methods, students can achieve high marks without employing thinking skills.…Though sometimes we encourage discussion to develop students' cognitive skills, we often advise them to follow book content when doing their tests to meet the marking criteria.

A similar phenomenon occurred in the district where FTh worked. As she observed, instead of teaching for deep understanding and the development of cognitive skills, most of her colleagues based their teaching on tests that require simple memorisation. Acknowledging the influence of assessment, both FNh and MKh suggested changing ways of assessing students to drive teachers towards teaching for CT. For example, the former said:

> It is highly important to change the ways tests are designed. The ways test papers are assessed, I think, need to be changed, too.

Especially, when asked how they and their students prepared for end-of-term exams, the majority of interviewees revealed that they produced complete answers to predicted test questions and asked students to learn them by rote. As marking guidelines were detailed, with unique answers, FNh and MD reduced time for discussion. More worryingly, MKh advised students to prepare for tests in a rather undesirable way.

> You know, guidelines for test marking are always prepared closely based on textbook contents. Therefore, the wisest and safest way is to tell students to refer

to only textbooks when sitting tests… If they have answers different from the keys, regardless of standards, they will gain no marks. Answers must contain all ideas mentioned in textbooks even though sometimes they are stupid.

MKh's comments are relatively negative but they appear valid, as an investigation of seven history tests for normal and capable students (four in his district and three in another district) showed that multiple-choice questions checking facts accounted for about 30 percent of the total marks. Of 24 open questions, only two asked students to employ explaining and comparing skills while the others simply asked them to recall textbook contents. A quick examination of the marking guidelines also indicates that similar to the questionnaire results (see score of item 2) each question was provided with a fixed and rather detailed answer. It appears that historical knowledge has been regarded as independent from learners' perspectives. Returning to the ways the teachers prepared students for tests, MD acknowledged, "They make students increasingly dependent on teachers, thus inhibiting their CT." There was also a decrease in the use of formative assessment, which most participants perceived as beneficial to the development of learners' CT and social skills. Instead of providing opportunities for students to express their ideas, as MKh admitted, he had to jump to conclusions and change the focus to ensure that the lesson covered most content. It is evident that the mismatch between educational objectives and external assessment is a cause of conventional teaching practices.

4.2.4   Influence of using test results to evaluate teachers on teaching for CT

Correlational analysis indicates that rather inconsistent with the literature review, there was just a low correlation of .19 (p<.05) between the use of test results in teacher evaluation and teaching for CT. Accordingly, one of the tasks of the second phase was to explore teachers' perceptions of this association.

FHu and MD concurred that using test outcomes as a decisive criterion to evaluate teachers was linked to teaching as test drill. Teachers narrowed the curriculum, focusing on what tests required rather than what students needed to progress. For example, the latter said:

> I think that by using results of end-of-term exams as an important criterion to
> evaluate teachers, BOET and school leaders unintentionally encourage teachers

to teach to tests. As the objective of teaching is to help students achieve safe scores, we base our teaching on previous years' test papers.

FNh, in spite of working in a school for capable students and having achieved several provincial awards, had no alternative but to employ an identical strategy to ensure high scores. Particularly, as she and MG reported, to meet the demands of schools and BOETs, they helped students prepare detailed answers for test questions that checked higher–order thinking. In this way, argue Baildon and Sim (2009), high-stake examinations distort the skills and processes they seek to develop in students. The impact of using test results to evaluate teachers on teaching also occurred when a subject was not tested. All interviewees admitted reducing efforts to teach. Some, for example MT and MD reported allowing teachers of other subjects to use class time allocated to History to help students practise with tests. By doing so, test results of several subjects may be higher, but education becomes incomplete.

MG, a judge in provincial and district teacher contests, went further, discussing one of the most damaging effects of test-based accountability on teaching, namely teacher cheating and its negative effect on teachers and students:

> Intense competition has driven teachers towards the use of negative techniques, including some tricks to boost students' scores. Besides providing students with papers containing prepared answers that can be illegally used in test venues, many teachers cooperate or ask their colleagues to allow their students to cheat. Some even tell good students to 'take care' of low performing ones. I think that these activities not only hinder committed teachers' change efforts but also adversely affect learners' personal development and learning strategies.

The influence of test-based accountability appeared more serious when MD revealed that a small number of teachers in his district bribed test designers to have test information in advance. This, according to him, exerted negative impact upon teacher relationships, as some competent and dedicated teachers achieved lower performance than those who did not work hard but knew the questions in advance. High-stakes testing, therefore, can hinder teacher collaboration, which is highly essential for pedagogical change at school level.

Due to unrealistically predetermined learning results that each school set to meet the demands of LEA and MOET (see for example MOET, 2009), teachers, for example FHu and MTh, mostly used straightforward questions in classroom tests to boost students' scores. It is worth noting, however, that using test outcomes as a criterion in teacher

evaluation may bring about certain benefits. According to MD, end-of-term exams can motivate committed teachers to strive harder. Nevertheless, as most interviewees reported, the primary purpose of teachers' efforts was high grades rather than the growth of learners' knowledge and skills. To foster teaching for CT, FTh's suggestion was that teachers should be evaluated based on their effort and competence during a long process such as a term or a school year rather than test results. Despite its ability to generate a certain level of motivation for teachers and learners, consistent with earlier studies (e.g. Baildon and Sim, 2009; Jones, 2010; Koh *et al.*, 2012), these findings indicate that using test outcomes as a criterion to evaluate teachers further influenced them to adopt passive teaching methods, which focus on content coverage but neglect the development of CT for learners.

4.2.5 Influence of parent expectation on teaching for CT

Within variable school culture, 'Parent expectation' obtained the highest correlation with the dependent variable (r=.31, p<.01). As this relationship was rarely discussed systematically in the literature, all interviewees were consulted.

According to most participants, parent expectation exerted impact on the way they taught their students. This is because for most of them the relationships with students' parents, their trust and respect are highly important. Nevertheless, compared to questionnaire data, it appeared that a higher percentage of parents were perceived as showing interests in test results rather than the development of their children's cognitive skills. For example, FNh, a teacher in a school for capable students said:

> The majority of parents regard test results as learning outcomes while showing
> little attention to how the kids learn, whether they can develop thinking or not.

As a result, instead of teaching for deep understanding, teachers attempted to cover textbooks and help students practise with model tests to raise test performance. As FHu reported, she taught to tests because if her students failed the exam, their parents would think that she was a bad teacher. Indeed, not only parents but also teachers may evaluate their colleagues' expertise and efforts by looking at students' test scores (Booher-Jennings, 2005). Despite not denying the impact of parental expectations on her teaching approach, FNh revealed that her teaching was more influenced by the requirements of high-stakes tests than pressures from parents. This is because by teaching to tests she

could boost students' test outcomes, which in turn helped her gain trust and respect from their parents. To meet the expectations of his students' parents in terms of learning outcomes, as several American teachers do (Sosu *et al.*, 2008), MT revealed that he influenced his students to focus on subjects that their parents perceived as more important than History:

> What most parents care is the success of their children in exams and job application; therefore, we have to influence students to meet such demands. You know, instead of encouraging students to study my subject, I advise them to focus on other subjects, such as Maths, Literature and English because knowledge of these subjects is what the contemporary society requires.

More worryingly, to meet parents' expectation, MKh disclosed that he and his colleagues used different ways including allowing students to do 'copy and paste' tests to raise scores. He attributed dishonest school reports to parents' unrealistic expectations. In contrast, MD reported little pressure from his students' parents, as according to him the majority of them knew that test results tend to fail to reflect true abilities of their children. This indicates a more damaging impact of test-based accountability regimes: a decreased social trust in education outcomes, which is discussed later in the Discussion chapter.

4.2.6   *Influence of limited school democracy on teaching for CT*

One of the notable themes emerging through the interviews was the influence of limited school democracy on teaching for CT. Low internal democracy was illustrated by the ways teachers could have their voice heard in running the schools, the ways school leaders censored teaching contents and teachers interacted with students. For example, when asked how teachers in his school took part in building school plans, MKh said:

> Most Vietnamese people are not open to criticism. Thus, if we want our school leader to consider our opinions, we should meet him individually before the plan is presented to the staff … When plans have been revealed, they cannot be changed, as the leader is always right.

Although no direct relation between the way the teachers were treated in school meetings and their interest in teaching for CT was reported, there is a strong possibility that the latter is influenced by the former because research has indicated that to cultivate CT for students, teachers must be empowered to think critically (Grosser and Lombard, 2008). It

is impossible to create productive learning environments to learners when they do not exist for teachers (Flores, 2004).

Low levels of school democracy were observed in the ways school leaders controlled the teaching contents. Schools were regarded as an isolated world with relatively few opportunities to engage students in political and social issues, a fertile field for CT development (Tsui, 2000). For instance, FTh said:

> In several lessons, I allowed my students to discuss social and political issues. My students enjoyed the activities very much, but you know, I was then warned by my school leaders that, "You are not strict, your classrooms are always noisy, you indulge your students."

She proceeded to criticise the authoritative manner that some of her colleagues treated their students, regarding it as a hindrance to the teaching and learning of CT:

> Many teachers always assert that what they say are all right and do not allow students to challenge…. Sometimes students who challenge teachers are regarded as naughty, slowing down the pace of the lesson.

Similarly, MKh noticed that classroom environments did not encourage students to challenge or argue with teachers. Some teachers even oppressed students. When asked about the difficulty they met while attempting to teach for CT, in line with the perceptions of Singaporean and Jordanian colleagues (Alazzi, 2008; Baildon and Sim, 2009), FHu and MT revealed that restriction in terms of free speech at school was an obstruction to CT pedagogies. The former said:

> History curriculum involves a large number of political issues, but many of them are untouchable. In fact, we cannot talk about two sides of a regime. We only dare to discuss what appear clear to most people.

FNh looked into the relationship between democracy and teaching for CT in a broader angle with the involvement of students' parents. It appears that like her Singaporean colleagues (Baildon and Sim, 2009), this teacher was torn between her role as a civil servant and a critical and innovative teaching pedagogy that challenges conventional beliefs and values. Rather than feeling happy when classroom contents continued to be discussed beyond school settings, an evidence of successful education, she felt worried. She said:

One of the obstacles to teaching for CT is the fact that we dare not discuss frankly or provide students with alternative perspectives on various controversial issues. For, if they continue discussing the issues outside schools or take the issues home, and if my opinion is contrary to common understandings, their parents will criticise me for going against the mechanism. And you know, that is, of course, not good for my career.

Overall, this finding compares well with Wright's (2002) conclusion that 'If parents or other groups challenge the use of particular learning materials and books in classrooms… because they present unacceptable views, there is little inclination for teachers to present any controversial material in class' (p. 149).

4.2.7 *Influence of low collegiality on teaching for CT*

Findings from the questionnaire indicated a weak correlation between the exchange of experiences among teachers within a school (indicators 13) and teaching for CT (r=. 11). Nevertheless, collegial support was frequently discussed and given a strong value by numerous interviewees.

In terms of description, as reported by Saito and Tsukui (2008), the professional relationships among staff within the schools were perceived as rather negative. Six out of eight participants reported low interests in exchanging ideas and experiences among their colleagues. Teachers as well as leaders conducted classroom observations with the primary purpose of fulfilling their academic or managerial duties. For example, MD said:

Idea exchange rarely occurs, and in general, classroom observations are conducted as obligatory activities. Nobody wants to comment or to be given comments on their teaching.

The lack of communication skills in teachers together with the Eastern culture appeared to create more obstacles to the exchange of experiences. As MKh revealed, comments and feedback were given to teachers whose lessons had been observed; however, they were not highly constructive and critical.

Teachers here do not give frank comments on others' work to save their colleagues' face as well as avoiding potential conflict. If the teachers whose lessons are observed are their close friends, they may speak honestly. Otherwise, they just praise to please their colleagues.

Regarding the influence of the professional relationships on teaching, most teachers except for MD concurred that one of the reasons that made them reluctant to apply new teaching techniques was the low amount of support from their change-resistance colleagues. For example, FNh, a teacher in a school for capable students said:

> Most of my colleagues enjoy the status quo; thus, those who suggest change will be laughed at and considered as abnormal. To maintain the relationships with them, I have to step back. You know, I am just a minor link in the chain and being different from the others can push me out.

In the same way, besides describing her isolation in fighting against student cheating, FTh provided justifications for her limited application of positive teaching methods and her modest teaching effort.

> If I suggest change, my colleagues will see me as a stubborn, un-teachable and abnormal person. Others who sympathise with me may just say, "What a trouble maker! Why choose to be a pioneer?"... I feel worried about the current situation of education and really want to upgrade my teaching, but I cannot, because nobody supports me. Even worse, my effort can be seen as destructive, carrying a negative intention by students, parents as well as school leaders.

To avoid mentioning her school, rather than giving a direct explanation, FHu provided an overall remark concerning the relationship between working climates and teachers' drive for change:

> Most teachers do not support change while such support is highly influential. A working environment where professional development is encouraged will motivate teachers to unlock their potential. By contrast, a negative school climate will hold teachers back. They will not voluntarily participate in school activities although they have at hand expertise, talent and creativity.

Differently, MG and MTh reported active collaboration and mutual learning among teachers in their schools. There was exchange of experiences between teachers of social and natural sciences as well as support for young teachers who pioneered in applying information technology to their lessons. However, it appeared that the majority of teachers worked in a culture of isolation; there was a weak sense of shared responsibility and purposes among them. Some were reported as having low morale and showing negative attitudes towards others' desires of advancing careers. Because of such unconducive relationships, teacher capability was not fully activated. This hindered the revision of teaching methods focussed on the development of high-order thinking skills.

4.2.8 Influence of limited teacher autonomy on teaching for CT

Teacher autonomy was identified as an obstacle to teachers' efforts to apply teaching techniques that develop CT for students. As found by prior Vietnam-based studies (e.g.Quang, 2005; Saito *et al.*, 2008), instead of teaching for deep understanding, teachers tried to fulfil their duty by covering the contents set by MOET or DOET. To justify his modest employment of thinking activities, MT said:

> As you know, in our country, textbooks are considered legal documents, so are their contents. A lesson has to cover three elements: knowledge, skills and attitudes. If we focus on teaching skills, we will not have enough time to cover the other two.

FHu, sharing the same viewpoint, added the consequence of falling to deliver lessons to students as the timetable indicates. She explained:

> A history lesson usually contains a great deal of content, but we have only 45 minutes. Thus, if I spend time on discussions, I cannot finish contents set in the syllabus. This leads to the fact that the later lessons will not be delivered to students following the timetable. If school leaders or BOET notice this, I will be criticised or sanctioned. Therefore, it is safe to follow the authorities.

MG and MKh both mentioned the restriction of teacher autonomy in deciding what to focus in their lessons. This limitation together with inappropriate criteria for evaluating a teaching period hindered teachers' efforts to teach for CT. For instance, MKh said:

> Teaching for CT is essential but it is also very challenging… We have to cover all contents of the lesson set in the syllabus because it is an important criterion to evaluate the standard of a teaching period.

The issues of limited teaching autonomy and overloaded textbooks appeared worst in the case of FTh who taught students what she felt confusing. As observed by Baildon and Sim (2009, p. 418), it appears that top-down system of educational governance has weakened professionalism, teacher agency as well as teacher decision-making.

> Some contents I myself cannot understand but I still have to *teach* them to my students by reporting what are written in the textbooks.... Textbooks for grade 9 are so voluminous that if we do not hurry, if we do not run like a machine, we will not be able to finish our lessons. In that way, how can we have time for thinking or discussion?

This quotation appears to lend support to the criticisms of history textbooks outlined in the Introduction (see Dũng, 2008; Đức, 2011).

4.2.9   Summary of findings from the interviews

With a view to explaining and elaborating key and unexpected findings from the first phase, eight semi-structured interviews were conducted. Data analysis indicates that despite their good understanding of CT techniques as well as their benefits as presented in section 4.2.2, most interviewees invested modest time and effort in teaching these techniques to students. This questions the reliability of some individual high scores in the CT section of the questionnaire. The interviews have determined major factors that negatively influence teaching for CT including two unexpected ones: school democracy and teacher autonomy. As frequently happens in mixed method studies, compared to the questionnaire results, conflicting results were found in the relationships between teaching for CT and the use of student outcomes to evaluate teachers, as well as collegial support. Consequently, both interview unexpected findings and conflicting results will be continuously explored through another research technique, the focus group.

4.3.   Findings from the focus groups

This section presents findings from the two focus groups to add understandings to the questionnaire and interview findings. Together with results produced by the groups as a whole, individual perceptions are considered to provide more insights into the examined issues.

4.3.1   Factor exclusion and ranking

Factor exclusion was the first task that the focus group members were asked to complete collectively. Although the task appeared relatively uncomplicated: excluding four least significant out of 16 factors contributing to teaching for CT identified through the interviews (see section 4.2, page 77 and 78), it took both groups approximately an hour to complete. Members of Group 2 even divided themselves into two subgroups, namely G2a and G2b (each has 3 members) because of failing to reach a shared solution.

Data analysis shows low agreement in the perspectives of three groups. Seven factors that the group members suggested for exclusion were Guidelines for test marking (G1+G2a); School democracy (G2b); Collegial support (G2a+G2b); Assumption of a good teaching period (G1); Teaching goal of the school (G2a+G2b); Students' preferred learning methods (G1); and Parent expectation (G1+G2a+G2b). Regarding the exclusion of Parent expectation, according to FLa, a member of Group 1, one of the reasons for this decision was the fact that by teaching to the test to meet the demands of BOET they could also meet the expectation of the majority of parents. This is in accord with the explanation of FNh previously mentioned in section 4.2.5, suggesting that despite being excluded from the list as a result of the participants' being asked to choose between given factors, parental expectation could affect teacher effort to teach for CT. The fact that two-thirds of the members regarded 'Guidelines for marking test papers' as an insignificant factor is consistent with the low correlation between the ways papers were marked and the independent variable identified in the first phase. This indicates that the decision to integrate the influence of guidelines for test marking into the influence of test requirements on teaching for CT investigated in section 4.2.3 was appropriate. Specially, while most interviewees stressed the influence of school democracy and collegial support, many focus group members undervalued these cultural factors, as for them if end-of term tests require students to demonstrate CT skills, teachers will attempt to teach such skills and school leaders will certainly reduce their control of teaching contents. Given the information collected, the first objective of the focus groups was not completely achieved, as only one factor called 'Parent expectation' was excluded from the list.

Owing to the separation of group 2, the ranking task achieved three different outcomes. By assigning values to positions within the diamond (6 for 1st row, 5 for 2nd row … and 1 for 6th row) and multiplying the score of group 1 by 2 (because this group was double the size of the others), the levels of importance of the factors were calculated and presented in Table 4-6.

Table 4-6: *Importance of individual factors*

Factors	Scores	Ranking
The status of History in the curriculum	23	1
Teacher awareness of the importance of CT	22	2
Requirements of exam questions	18	3
Teaching autonomy	16	4
Collegial support	16	5
Teacher competence of teaching for CT	15	6
Use of test outcomes to evaluate teachers	12	7
Teacher understanding of historical knowledge	12	8
School democracy	9	9
Teaching goal of the school	8	10
Students' preferred learning methods	5	11
Teacher beliefs in students' academic ability	4	12
Shared assumption of a good teaching period	4	13
Textbook content	4	14
Guidelines for marking history papers	1	15

From the table, it can be seen that most teachers perceived that the way they carry out their jobs is fundamentally dependent on the status of the discipline in the curriculum. MV and FLa went further, attributing the limited outcomes of history instruction to the low frequency of history tests and exams. This justification, however, appeared unconvincing because when asked whether teachers of key subjects such as English teach students to develop valued skills such as speaking and listening or they just focus on what are likely to be tested, no group member chose the first option.

The influence of test requirements was once again stressed in the study when this factor was ranked third in the table and many teachers agreed with FHuo, an experienced teacher, who stated that, "BOET tests play a very important role. If they check students' thinking ability, we will teach thinking. Otherwise, we will not." Despite achieving a modest position in the ranking table, the influence of using test outcomes to evaluate teachers on teaching for CT was frequently stressed. For example, MCo said that, "We teach to the test because students' test results are used to evaluate us." This confirms similar findings from the interviews.

In line with the interview findings, teacher autonomy was attributed high importance by large numbers of participants. For example, MCo said, "How can I teach thinking if the head teacher criticises me for failing to follow the contents set for each lesson?" There was a change in the perceptions of the focus group members on the influence of collegiality, from being excluded by groups G2a and G2b to being granted a good position in the ranking table. Relatively consistent with the results of the factor exclusion activity, school democracy had a modest ranking position. This may be due to the introduction of some significant elements concerning teacher competence and the importance of the discipline into the table. Other ranking outcomes seem to compare well with the questionnaire and interview results. If 12 factors are taken as intended, six will be about school culture (indicators ranking 4, 5, 9, 10, 11 and 12), two about assessment (indicators ranking 3 and 7), three about teacher competence (indicators ranking 2, 6, and 8) and one about the value of History in the curriculum (indicators ranking 1). This implies that apart from assessment and school culture, teaching for CT could be affected by other elements, such as teacher competence and the importance of the subject. Nevertheless, the levels of impact of the two last factors demand further clarification.

4.3.2   Recommendations for fostering teaching for CT

In the second half of the focus groups, each teacher was asked to propose three recommendations that they thought would motivate their colleagues to teach students how to think critically. Analysis of the data, however, revealed that three teachers in Group 2 had proposed four suggestions. Thus, the number of individual recommendations obtained was 42.

Figure 4-5 shows that the majority of teachers suggested developing tests requiring increased application of high-order thinking skills. The result again supports the findings from the questionnaire and the interviews on the influence of test requirements on teaching approaches.

Data show that 'Raising teacher awareness of the importance of CT' and 'Enhancing the status of History in the curriculum' both gained five votes from group members. Notably, 'Promoting school democracy' was recommended by four people despite the fact that this factor was not considered highly important earlier. This lends support to the

unexpected finding on the impact of school democracy on teaching for CT found within the interviews. Similarly, 'Granting teachers extra autonomy' was also recommended but with slightly less strength. Notably, two teachers suggested organising more tests on history, as they believed that testing would motivate teachers to work harder. With the same votes, the issue of teacher evaluation was recommended to change, from using test outcomes as a decisive factor into relying more on daily practice.
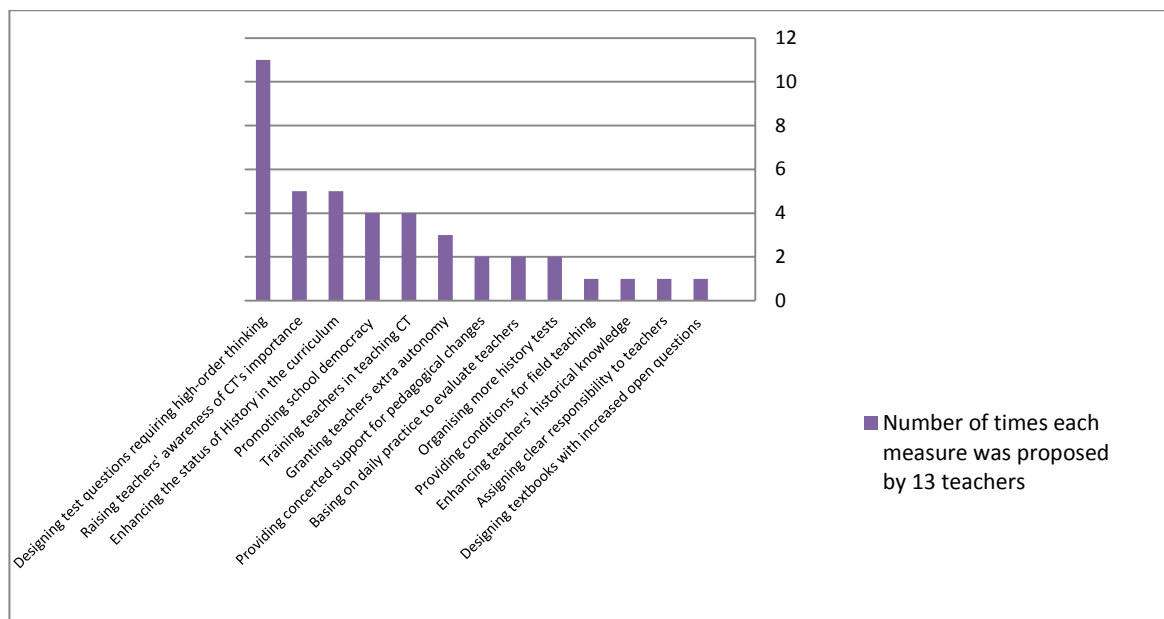
Figure 4-5: *Individual recommendations for fostering teaching for CT*

Regarding collective recommendations for motivating teachers to develop CT for students, both groups could arrive at their decisions without difficulty. Especially, when integrating the results of the two groups, it appeared that they shared 4 out of 5 suggestions, including: 'Designing test questions requiring high-order thinking', 'Raising teacher awareness of the importance of CT', 'Enhancing the status of History in the curriculum', and 'Promoting school democracy'. The only difference between the outcomes of the two groups was whilst the first suggested providing teachers with extra teaching autonomy, the second preferred training teachers for CT teaching. Such results are in accord with those suggested individually in the previous activity. Together they confirmed the significant influences of test requirements, school democracy and teacher autonomy on teaching for CT identified in the interviews.

4.4. Summary

The chapter has presented findings from both phases of the study. Regarding the quantitative phase, data illustrate a rather gloomy picture of cultures, assessment practices and teaching for CT in the schools where the participants worked. Statistical analysis showed that teaching for CT was positively associated with assessment practices, school cultures and teacher training in teaching thinking skills. As far as the qualitative phase is concerned, interview data indicate good understandings of historical knowledge and CT techniques of the participants and several positive results of teaching for CT in their classrooms. Findings suggest considerable negative influence of test requirements, test accountability, parental expectation, school democracy, as well as teaching autonomy and collegiality on teachers' effort to develop CT for students. Most teachers employed a teacher-centred approach, characterised by knowledge transmission and test drill to ensure safe test scores at the expense of learners' social and thinking skills. As anticipated by Judson (1991) and Dalin *et al.* (1993), fears of job security and professional status appear to have contributed to deterring many teachers from acting upon knowledge. The focus groups extended interview findings, but not all results are explainable. For example, they suggested raising the importance of the discipline to encourage the use of CT techniques; however, they failed to explain why teachers of core subjects such as English made weak attempt to teach practical and high-order thinking skills. It appears that people tend to attribute their own failures to environmental factors rather than personal factors, for example motivation and effort (Hogg and Vaughan, 2011). Findings of the study indicate some misconceptions of learning outcomes and the role of learners in the teaching and learning process. They also reflect contradictory views on the influence of parent expectation on teaching. To cast light on these issues, the quantitative and qualitative data will be integrated and social values concerning teaching and learning considered in the Discussion chapter below.

Chapter 5:   Discussion

This chapter discusses the findings that emerged from the data analysis presented in the previous chapter. It begins with the integration of quantitative and qualitative findings to describe school cultures and assessment practices in Vietnamese lower secondary schools and to explain the influence of these factors on teaching for CT. The chapter will further debate some practical and theoretical issues emerging from the project, including the relationship between educational accountability and responsibility and the influence of teachers' pedagogical knowledge and beliefs on their teaching practices. Finally, the national values and contexts are considered in order to aid understanding of the reasons why the teachers made such a low effort to teach for CT.

5.1   Assessment practices in Vietnamese lower secondary schools and their influence on teaching for CT

One of the major objectives of the study was to inform Vietnamese educational stakeholders about assessment practices in lower secondary schools from the viewpoint of the insiders. Data collected from both phases of the research indicate that the primary purpose of assessment in the surveyed schools is to measure rather than to promote student learning. In contrast to MOET instructions (MOET, 2010a), most questions in end-of-term exams required students to reproduce textbook contents rather than to demonstrate their understanding. To pass the tests, students learnt by rote a great deal of discrete content. In this way, some benefit might accrue but it would be small because knowledge achieved through shallow learning approaches tends to be forgotten after examinations. Instead, such drilling would cause considerable harm by making students miserable and by encouraging the belief that school is a place of hard and boring work, not excitement and discovery (Willingham, 2009). In line with prior studies (e.g. Nhựt, 2011; Wei, 2012), this finding provides support for MOET's criticism of history assessment approaches in Vietnamese lower secondary schools: 'Assessment methods are backward, largely based upon experiences, focussing on checking book contents rather than skills and attitudes of learners' (MOET, 2011a, p. 24).

Consistent with those observed in earlier studies (e.g. Phuong-Mai *et al.*, 2005; Quang, 2005; Saito and Tsukui, 2008), both quantitative and qualitative data collected suggest that testing in Vietnamese lower secondary schools carries rather high accountability (see the scores for items 3 and 4 in section 4.1.1, and section 4.2.4). Test results were used not only to decide learners' progression into a higher year group but also to evaluate teachers and position schools in local league tables. Although test-based accountability in Vietnam exerts less financial influence on schools than in the UK or USA (see West, 2010; Berliner, 2011), its social impact appears more serious (see section 5.4). To help students to obtain higher scores, teachers allocated a plethora of classroom time for students to practise with the contents predicted to appear in end-of-term exams. As reflected in the literature (e.g. West, 2010; Klenowski and Wyatt-Smith, 2012), over 10% of teachers reported coaching students to answer test questions without teaching for understanding. In this way, students may provide correct answers to some questions but do not know what the answers mean (Halpern, 1998). Both questionnaire and interview data show that teachers tended to avoid testing students on complex curriculum contents or controversial issues to enable the latter to attain higher scores. Several interviewees and focus group members reported the use of classroom time allocated to History to help students practise with model tests of other disciplines. Compared to the way American schools adjust their curriculum to boost test scores (McCarty, 2009; Berliner, 2011), this strategy seems more risky, as it was done in the absence of a school plan. Adopting this strategy, argues Simister (2007) yields short-term success for the school at the expense of students' longer-term potential. Nevertheless, this phenomenon appears to be underreported in Vietnam-based studies.

Another feature of assessment practices in Vietnamese lower secondary schools is the phenomenon of cheating. To help their students gain advantages over others, numerous teachers who worked as invigilators 'cooperated' with their colleagues in allowing students to cheat. Several teachers asked high performing students to 'help' weak ones complete their paper tests. More worryingly, as one interviewee reported, in an attempt to avoid losing face, his colleagues bribed test designers at BOET level to have information about test contents in advance of the examinations. Although this corrupt practice is seldom reported in the literature, it occasionally occurs in Vietnam and South Africa (see Phuong-Mai *et al.*, 2005; Howie, 2012). Consistent with those reported in recent studies (e.g.Quang, 2008; Trúc *et al.*, 2008; Dien, 2012), these accounts contribute to explaining

why a large number of Vietnamese people [9] including some parents of MD's students doubt the validity of examination results. Instead of fostering public trust in education as intended (Supovitz, 2009), in this case, high-stakes testing undermined it.

It can be noted that assessment practices within the surveyed schools indicate several good points. For example, students were assessed by both multiple choice and open questions; occasionally they were required to demonstrate their higher-order thinking skills in both written tests and classroom activities. Approximately half of the teachers employed self and peer-assessment, spent time giving feedback and discussing answers with learners. Most of them were aware of the need to design test questions that check high-order cognitive skills. In harmony with recent studies (e.g.Anh, 2010; Hồng, 2010), these findings signify a gradual change in assessment knowledge and practices within Vietnamese secondary schools.

In summary, descriptive data on assessment largely match the assumptions of earlier studies, indicating inappropriate practices at both school and district levels. Instead of using more questions that require the demonstration of complex skills as suggested (see MOET, 2010b; MOET, 2011a), both BOET test designers and school teachers preferred to use low-order thinking questions. In accord with DeWitt *et al.* (2013), a piece of research conducted in four states of America, the study indicates a misalignment between guidelines on assessment in state standards documents and the cognitive demands of high-stakes tests. It could be claimed that the contradiction between what educators want to build in children and what they want them to demonstrate in tests noted by Lipman (2003, p. 80) still occurs in a large number of Vietnamese schools.

It is understandable that teachers tend to incorporate external assessment objectives into their daily teaching and assessment practices to meet the district's expectations (Anderson and Krathwohl, 2001). Yet, it is challenging to understand why some test designers in BOETs kept following the conventional assessment approach that encourages surface learning. Is this because they wanted to make tests 'objective' by reducing what matters in the curriculum to what can easily be marked (Harlen, 2005; Mansell *et al.*, 2009) or because they wished to help schools within their districts obtain

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[9] According to the results of an online survey on the integrity of the secondary leaving examination, conducted in early June 2012 by Vnexpress.net – the most popular online newspaper in Vietnam, 54.5% of informants (7,168/13,143 people) believed that it was full of cheating. (*Source*: Vnexpress.net, accessed on June 14th, 2012)

high test results to meet the demands of other stakeholders? Perhaps test designers wished to keep themselves safe by avoiding developing tests that contain controversial knowledge. The below quotation reflecting the advice that FNh, an interviewee was given when she was assigned to develop a history test supports this assumption.

> Our highest priority is the safety for test designers. What does it mean? It means that you should design questions whose answers can be found in either student or teacher books, to avoid debate on marking criteria.

There could be other causes, too. Irrespective of the main cause, there is a danger that this way of testing excludes assessment of various worthwhile elements of learning, such as problem-solving and CT (Harlen, 2005). It hinders the development of autonomous learners, a long-term vital goal of emancipatory education (McGuinness, 2005; Kelly, 2009).

As regards the association of assessment practices and the dependent variable, findings from both phases of the study indicate that test requirements and the use of test results in teacher evaluation are two contributing factors to the participants' low interests in teaching for CT. In terms of the relationship between test requirements and the dependent variable, questionnaire data showed a close association between the two variables ($r=.37$; $p<.01$). Likewise, as found by Alazzi (2008), the interviewees and focus group members revealed that their limited efforts in teaching for CT were largely caused by high-stakes tests' insufficient attention to checking high-order thinking skills. All interviewees reported preparing detailed answers to expected exam questions and asking students to learn by rote. This finding validates Priestley *et al.* (2011) who found that teachers tend to oppose pedagogical change if the revised teaching method is not in accord with assessment. As tests and guidelines for marking discouraged the employment of new approaches and the use of different sources to tackle a problem, teachers such as MKh acted against knowledge by advising students to rely on only textbooks to prepare for exams. This implies that the problem that Vietnam had faced before the 2002 reform remain unresolved:

> Teachers are locked into the practice where the textbook provides the subject content and this cannot be varied owing to the tight test and examination regime put in place for each grade (Duggan, 2001, p. 208).

Given that teaching to the test is a global issue which reflects teachers' 'rational reaction' to high-stakes testing regimes (DeWitt *et al.*, 2013, p. 410), the ways that some

participants of this study helped students prepare for exams previously described have rarely been documented. They conflict with the child-centred methodology that Rousseau proposed over two centuries ago:

> The issue is not to teach him [the child] the sciences but to give him the taste for loving them and methods for learning them when this taste is better developed. This is very certainly a fundamental principle of every good education (Rousseau, 1979, p. 172).

The finding deepens the concern about the impact of inappropriate assessment methods. It contributes to an explanation of why a large number of Vietnamese students 'turned their backs' to history study (Quyên, 2013), feeling relieved and excited when MOET decided not to make History an exam subject (Minh, 2013). Instead of motivating, high-stakes tests demotivated students, adversely affecting their preparation for lifelong learning, which has been established in Vietnam for many years (Vietnam National Assembly, 2006). Indeed, not only the interviewees but members of the focus groups such as MCo and FHuo also reported devoting limited effort to activities that develop CT for students due to the regular absence of high-order thinking questions in external summative tests. Such a teaching strategy challenges the advantages of high-stakes testing which is a 'foe' rather than a 'friend' of teachers and students (Howie, 2012). Education has dual major purposes: to build individual capability and to bring learners a sense of happiness (Đại, 2003). By asking students to learn by rote, some surveyed teachers not only hindered their students' cognitive and affective development but also encouraged an obedient learning approach that separates learning from interests and understanding (Scales, 2008; Harpaz, 2014). Undoubtedly, such a passive learning approach could help preserve the past but it makes a minor contribution to the future (Đại, 2003; Russell, 2009).

The quantitative data showed a modest correlation (r=.19; p<.05) between the use of test results in teacher evaluation and teaching for CT. Nevertheless, the majority of interviewees and focus group members strongly agreed that using test outcomes as a decisive criterion in teacher evaluation militated against their efforts to teach thinking skills, since this teaching approach failed to ensure test results that met BOET expectations. At first glance, it seems that the findings are inconsistent. However, this is understandable, as weak associations are not necessarily less causal than strong ones (Morrison, 2009). Due to accountability pressures from local stakeholders, teachers

including those working in schools for capable students prepared answers to questions intending to check thinking skills. This lends support to Baildon and Sim (2009) and Koh *et al.* (2012) who found that CT skills could be reduced to formulae, and validates Gordon and Reese (1997, cited in Harlen, 2005, p. 209) who claim that teachers can coach students to pass any kind of test including those assess higher-order thinking. This finding, therefore, challenges the assumption that changing test questions leads to alterations in teachers' practices, proposed by a number of researchers (Grant, 2000) and two interviewees of this study. It implies that to foster teaching for CT, change needs to be made to how student learning is assessed as well as how such results are interpreted and used for accountability purposes.

5.2 Cultures of Vietnamese lower secondary schools and their influence on teaching for CT

The literature review illustrates a dearth of research into the cultures of Vietnamese lower secondary schools. The following discussion describes some prominent features of the surveyed schools' cultures and suggests how these elements impact on teaching for CT.

Data collected from both phases of the study indicate several positive cultural aspects. Over 50% of the teachers felt committed to their jobs. Many of them continuously participated in teacher contests at both provincial and district levels, attempted to apply modern software and teaching aids to their teaching. However, it should be noted that the research was conducted in Thai Binh, a province where teaching and learning performances, which are closely related to professional commitment (Du, 2013), have always been ranked highly. Another notable feature is that two-fifths of the teachers were not satisfied with their student achievement, suggesting that further advancement of students could be considered by many of them (Stoll, 1999; Rỹ, 2012). The majority of teachers (138/142) taking part in the study supported teaching CT to students, indicating their openness to new ideas. Most interviewees and focus group members demonstrated quite good understanding of the subject knowledge as well as the benefits of teaching for CT. Two of them reported frequent exchange of experiences amongst teachers including those from different disciplines within their schools. In contrast with the reserved attitudes of teachers in Bac Giang province (Saito *et al.*, 2008), interviewees and focus

group members within this project enthusiastically participated in the research and expressed their viewpoints outspokenly.

Apart from these above positive features, it appears that the 'formal culture' characterised by high social control but low social cohesion (Hargreaves, 1995; Carrington and Elkins, 2002) exists in numerous schools. Consistent with Du (2013), both quantitative and qualitative data signify teachers' low engagement in running the schools. There appears to be a gap between school leaders and teachers as well as between teachers and students. According to Phuong-Mai *et al.* (2005), this phenomenon could be a result of Confucian heritage culture, which regards unequal relationships between people as an essential ingredient of social stability.

The second cultural aspect that needs improvement is a working environment with limited professional support from school leaders. Inconsistent with the finding from a questionnaire survey by Hương and Thủy (2013), both quantitative and qualitative data of this study showed that only a small number of the surveyed teachers were happy with school support for change. In Vietnam, a main route to teacher professional development is to exchange ideas with school leaders after classroom observations. However, as most interviewees reported, the purpose of these observations was to fulfil the leaders' managerial duties rather than to exchange experiences for professional growth. Consequently, constructive feedback or advice was not frequently provided to teachers with classrooms being observed. Worryingly, two interviewees: MT and FTh revealed that teachers in their schools managed to be 'self-reliant' (Day, 1999, p. 224) in pedagogical revisions, denoting limited coaching and mentoring in the schools. Consistent with earlier studies (e.g. Saito and Tsukui, 2008; Du, 2013), this finding indicates that school leaders in Vietnam tend to pay more attention to their supervisory function than supportive one. This may stem from the fact that Vietnamese schools are tightly controlled and regularly inspected by the local authorities (Quang, 2005; Saito and Tsukui, 2008).

Another typical feature of Vietnamese secondary schools identified as influencing teacher effort to teach for CT is the lack of collegiality in a large number of schools. Although collectivism is identified as one of the most dominant elements of Confucian culture (Phuong-Mai *et al.*, 2005; Goldman, 2009), in accord with findings from previous studies (e.g. Saito and Tsukui, 2008; Saito *et al.*, 2008) and the questionnaire data, six of

the interviewees reported their colleagues' low interest in exchanging ideas and experiences. In Vietnam, lower secondary teachers are required to observe their colleagues' lessons at least once a week with the purpose of fostering mutual understanding and developing collective expertise. Nonetheless, as described by half of the participants, when taking part in reflections, observers were likely to give merely superficial or inflated comments to please others. In doing so, they could attain *uncritical consensus* but fail to engage in frank and fruitful conversations to enhance mutual trust and professional capability (Hargreaves, 2001; Saito *et al.*, 2008). In so doing, they indicated a lack of the disposition to 'represent a position honestly and clearly' (Ennis, 1996, p. 171) and missed the opportunities to sharpen their own CT, a prerequisite for the development of CT for learners (Wright, 2002; Grosser and Lombard, 2008).

Such an attitude towards professional discussions could probably derive from a strong preference for group harmony embedded in many Vietnamese people (Tuong, 2002; Phuong-Mai *et al.*, 2005; Goldman, 2009). More likely, it could spring from the lack of skills in exchanging ideas in a democratic and dialogical manner as Saito *et al.* (2008) have pointed out. The fact that a number of teachers only offered true and constructive feedback to their close friends somewhat reflects the teaching culture of 'balkanisation' (Hargreaves, 1994), a possible consequence of internal competition (Booher-Jennings, 2005; Fullan, 2007) and a lack of trust among teachers (Saito *et al.*, 2008; Katz and Earl, 2010).

As found in Clarke and Hollingsworth (2002) and Flores (2004), novel ideas and efforts were not regularly welcomed or supported in the surveyed schools. Teachers who proposed change tended to receive unfavourable comments or discouragement. It seemed that numerous teachers worked in schools with the teaching culture of 'individualism'. Such an uncooperative peer relationship inhibited them from making change to their teaching. The role of collegiality was also stressed by the focus group members through their recommendations for facilitating CT teaching. This finding extends those found in previous studies (e.g. Clarke and Hollingsworth, 2002; Saito *et al.*, 2008; Priestley *et al.*, 2011) which indicate adverse effects of poor collegiality on pedagogical revision. Particularly, it supports a study investigating lecture resistance to CT teaching by Haas and Keeley (1998) which argues that change tends to occur 'if there is a supportive and encouraging environment within the department … than if individuals attempt changes on their own' (p. 64). Based on this finding and the role of 'peer power' in whole system reform (Fullan, 2011, p. 12), the study suggests that one of the most significant measures

to ensure the success of the coming education reform in Vietnam would be to build and strengthen collegiality within each school.

One cultural characteristic of Vietnamese schools that may negatively affect teaching for CT is the modest level of teacher autonomy in teaching practice. As most interviewees and several focus group members reported, following the instructions of MOET and LEAs they attempted to cover all textbook contents by lecturing despite the fact that it was superficial coverage. With this teaching approach, as their colleagues in Bac Giang province do, the teachers 'function as the deliverers of a curriculum defined by the government rather than as developers of an autonomous one' (Saito *et al.*, 2008, p. 98). By conveying all contents, they could have avoided criticisms or sanctions from school leaders and local authorities; nevertheless, this didactic teaching approach suppressed learning desires and failed to establish good thinking habits in students. As reported in Quang (2005), within this study the impact of limited autonomy was exacerbated by the matter of overloaded textbooks. It appears that the matter that Duggan (2001) noted over a decade ago has not been successfully tackled.

> The textbooks bind teachers to a rigid pattern of delivering each lesson, this in itself reducing flexibility in teaching and restricting student exposure to such activities as problem-solving and integrated learning (p. 208).

To avoid this constraint, a clear distinction should be made between curriculum and textbooks. Whilst the national curriculum provides an outline of essential knowledge and skills for students in a subject or a programme of study (Department of Education, 2013), textbooks are regarded as a means of achieving the curriculum's objectives and can be used flexibly and contextually. Rather than being seen as 'mere practitioners of curriculum' (Yilmaz, 2009, p. 41), teachers should be encouraged to work beyond textbooks, design their own teaching materials and base their teaching on interests, learning needs and learning speeds of their students (Anderson and Krathwohl, 2001; Kelly, 2009). Although this approach is demanding, requiring teachers' frequent reflection, it is highly desirable because it relates learning to individual experiences (Ross, 2000), the key feature of the teaching methodology being recommended in Vietnam. As the focus group members suggest, higher degrees of autonomy should be given to teachers to enable them to concentrate on meaningful classroom activities. Nonetheless, this does not mean that teachers can bring to classrooms whatever they wish without the intervention or direction of their school leaders or colleagues as MT reported.

Teachers with no colleague in the same discipline like me work in our own 'restricted zone', paying little attention to how other teachers may think of us. We do whatever we wish because nobody can find foul with us.

Instead, professional autonomy should be accompanied by constructive feedback and widespread support from colleagues and external sources (Harvey and Broyles, 2010; Priestley *et al.*, 2011). Given that intellectual independence levels should correspond with professional competence and commitment (Sahlberg, 2011), it is worth reminding Vietnamese educational policymakers that:

The teacher, like the artist, the philosopher, and the man of letters, can only perform his work adequately if he feels himself to be an individual directed by an inner creative impulse, not dominated and fettered by an outside authority (Russell, 2009, p. 420).

Another feature of school cultures regarded as a key barrier to teaching for CT by the majority of interviewees is the modest levels of internal school democracy. As several interviewees reported, they were criticised for permitting discussion of controversial issues because it caused 'noise' in the classroom and encouraged over-democracy in students. Some reported their colleagues' authoritative attitudes and providing students with few opportunities to question or challenge them. This lends support to Saito *et al.* (2008) and Hảo's (2008) criticism of the undemocratic relationships between teachers and learners in Vietnamese schools. In conjunction with the rigid perspectives on political matters of a considerable number of parents, limited school democracy inhibited teachers from organising classroom activities beneficial to the development of learners' CT dispositions and abilities. This finding confirms findings of Alazzi (2008) and Tsui (2000) who respectively argue that educators tend to devote low effort to teaching for CT if they perceive untouchable political issues and if they are not open to arguments and challenges from students. Consistent with the suggestion on promoting school democracy by the focus groups, the finding implies that without an increased level of school democracy and an open relationship between teachers and learners, teaching for CT in Vietnamese secondary schools is unlikely to succeed.

Findings indicate whilst parent expectation was not regarded as an important predictor of teaching for CT by the focus group members, many interviewees reported that to meet the expectations of parents who evaluated and paid their respect to teachers based on test results, they taught to the test and encouraged rote learning at the expense of

learners' thinking skills. One of the causes of this contradiction could be the fact that by teaching to meet the requirements of BOET, teachers could also meet the expectations of parents, as Fla, one of the group focus members explained. Thus, parent expectation was not a priority for the focus group participants, who had to make a choice between the given factors. Given such a conflict, taking into account its significant association with the dependent variable found in the questionnaire survey, parent expectation could be considered a predictor of teaching for CT in this context. Though the generalisability of this finding is limited, it may be compatible with the proposals of Wright (2002) and Priestley *et al.* (2011): pedagogical change can be hampered by parents' obsolete perceptions of education.

5.3 Teaching against pedagogical knowledge and beliefs

One of the most surprising findings of the study was the phenomenon of teaching against pedagogical knowledge and beliefs. Change theory (Judson, 1991) suggests that employees are likely to accept change if it is consistent with their beliefs. Similarly, a number of recent studies (e.g. Timperley *et al.*, 2009; Carrington *et al.*, 2010) have recommended that by changing teachers' knowledge and beliefs, policymakers can influence them to adjust what and how they teach. In Vietnamese contexts, several scholars believe that the one-sided teaching method in history classrooms is caused by teachers' inappropriate understanding of the subject's nature. This is in accord with Yeh (2005) who holds that teaching is governed by teachers' personal beliefs. Nevertheless, despite a significant correlation between teachers' training in teaching thinking and their report of using CT techniques identified in the questionnaire survey, interview data indicated modest influence of pedagogical knowledge and beliefs on their teaching practice. In order to understand the causes of this phenomenon, it is important to reiterate the teachers' personal domains.

Regarding the nature of historical knowledge, interview data indicate a similarity between the understandings of all interviewees and the views of recent studies (e.g. Russell, 2009; Yilmaz, 2009). They perceived that history tends to be subjective and biased, reflecting the historian's personal outlook and that it could be effectively taught by engaging students in critical discussion. Most interviewees showed quite good knowledge of CT techniques and the benefits of teaching for CT.

In spite of this, findings from all research activities indicate that rather than teaching students how to approach a historical event from multiple perspectives, teachers lectured their lessons in an attempt to cover textbook contents. Notwithstanding their awareness of the need to update teaching methods, they clung to the conventional method that hinders student deep engagement in learning. They tried to meet the expectations of parents given that they were aware that this restricted education to students. In brief, teachers taught students using the methods contradicting their beliefs and understandings. It appears that pedagogical revision did not occur in a straightforward manner as the anticipations of several professional programmes and theories (see Figure 5-1).
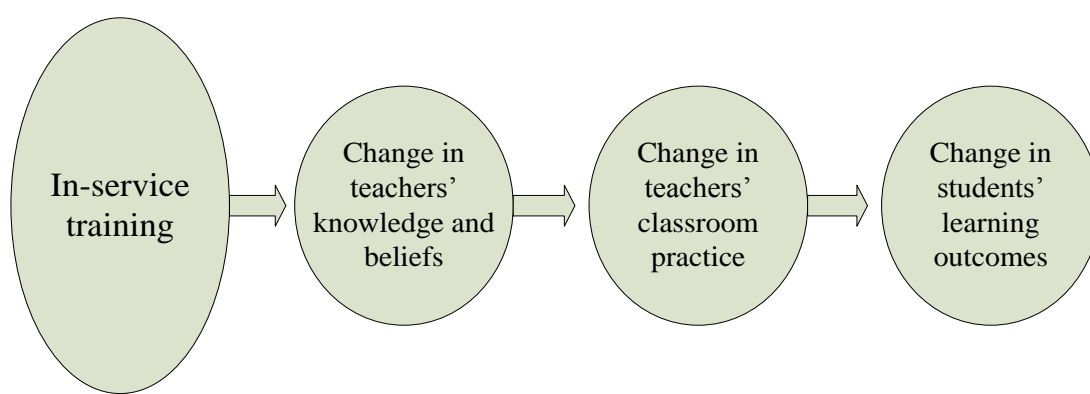
Figure 5-1: *Naïve model of the influence of teacher in-service training*
Adapted from Clarke and Hollingsworth (2002)

Why did such a change in practice not occur? One of the key reasons is that besides facilitating causes, there exist inhibiting forces. Causation theory (Morrison, 2009) suggests that if most factors affect the dependent variable in the same way, change, either positive or negative, occurs more quickly and explicitly. However, if driving and restraining forces are in a state of equilibrium change hardly occurs (Harvey and Broyles, 2010), because some causes can undermine the impact of others on the dependent factor (Morrison, 2009). In this study, the crucial elements including knowledge and beliefs about the benefits of CT, as well as the understandings of historical knowledge and interactive teaching could not drive teachers to a learner-centred approach to teaching because they were hindered by obstructing factors at both societal and school levels (see the previous sections and section 5.5 below). In accord with Stoll (1999) and Hall (2009), teacher interviews illustrate that while curriculum knowledge and pedagogic

understandings can support and inform teaching, norms of each school and external pressures of policy, inspection and assessment shape it.

Another obstructing factor could be the fact that the concept of students taking control of their own learning has been difficult for the surveyed teachers to accept, as it contradicts their mindset about the role of children (Hamano, 2008; Saito *et al.*, 2008). Alternatively, the teachers' low effort in teaching for CT could result from their personal traits, such as low intrinsic motivation and limited responsibility to students as suggested by attribution theory (Hogg and Vaughan, 2011). The issue of low salary is also regarded as a contributing factor to Vietnamese teachers' low commitment to change in recent research (e.g. Hamano, 2008; Phelps and Graham, 2010; Rỹ, 2012). However, within this study, the evidence appears relatively weak. It is expected that these justifications help explain the contradiction between understanding and actual practice of Vietnamese teachers that Saito and his colleagues outlined in a recent study.

> Although all the teachers participated in the training programme on child-centred education conducted as part of the project and took notes indicating that they understood the concepts, only a few of them actually practised during the lessons what they had understood' (Saito *et al.*, 2008, p. 99).

It should be acknowledged that this finding does not diminish the significance of teacher training. In fact, the association between it and teaching practice identified in the quantitative phase and the interview accounts indicate that without training to teach thinking, the teaching practices could have been more didactic. In line with Fullan (2006, p. 7), the key message of this finding is: to attain radical reform, besides changing individuals, change policy must simultaneously focus on transforming the culture or system in which they work. As such, a key solution could be to build PLCs where both peer challenge and support are available (Fullan, 2007) to help teachers enhance their pedagogical knowledge and skills as well as creating in them a sense of internal accountability (Fullan, 2006).

5.4   Accountability versus responsibility

As the literature review shows, educational accountability mechanisms have been implemented in various parts of the world including Vietnam (Quang, 2006; West, 2010; Berliner, 2011). Generally, accountability suggests that a party is held responsible for its decisions and outcomes of those decisions to the other who provides financial support for

the activity (Stecher and Barron, 1999; Smith and Fey, 2000). In education, accountability appears when 'a test is used to hold individuals or institutions responsible for their performance and has stakes attached to it' (Supovitz, 2009, p. 213). It is based upon motivational theory, which holds that education quality will be improved if test results are published and used for rewards and sanctions (Supovitz, 2009). The review presented in chapter 2 and the empirical findings of this study, however, indicate that the drawbacks of high-stakes testing appear to outweigh its benefits. Particularly, although the overriding aim of high-stakes testing is to make teachers and schools more accountable for the education they provide (Linn, 2003; West, 2010), one question that needs to be asked is whether direct accountability occurs between schools and parents.

Regarding this question, research suggests that whilst accountability refers to political and formal relationships between two or several parties (Stecher and Barron, 1999; Smith and Fey, 2000), the relations between schools and parents are informal and economic in nature. Even in terms of economics, this relationship is also rather weak, because parents' financial contribution to state schools is likely to account for only a modest portion. Accountability in education reflects a contract between two parties in terms of education standards and test results (Glatter, 2002); however, it appears that no such agreements exist between schools and parents. Instead, they are signed either implicitly or explicitly with local authorities (MOET, 2009). Accountability regimes may involve inspection that requires explanations from schools (Saito *et al.*, 2008), but parents tend to play a rather small role in this process. They may exert influence on teachers and schools through their feedback on the quality of schooling (Stecher and Barron, 1999). Nonetheless, this seldom occurs as parents especially those coming from countries with less developed education systems such as Vietnam tend to lack valid pedagogical knowledge as well as opportunities to express their concerns. As Biesta (2004) notices, it appears that parents and students play only an indirect role in the accountability loop. As citizens, parents can require the government to be accountable for the quality of its public services including education; however, they are unable to hold schools accountable for their children's studies.

Then what is the nature of the relationship between teachers/schools and parents/students? It seems that it refers to responsibility rather than accountability, for it is moral rather than political (Biesta, 2004). Teachers are required to be accountable to the government for the 'quality' and outcomes of their teaching. However, whether they

are responsible or irresponsible for their students' learning and behaviours largely depends on their personal morality. The irony is that whilst accountability is supposed to lead to responsibility (Smith and Fey, 2000; Linn, 2003; Supovitz, 2009; Burgess *et al.*, 2013), the reverse appears true in the context of Vietnam.

First, empirical findings of this study indicate that due to accountability to the local governments, teachers taught to the test and coached students to answer questions with formulaic responses. They attempted to transfer book contents and encouraged rote learning notwithstanding their awareness of the benefits that collaborative work and positive thinking habits can offer students. Although they were aware that providing children with incentives to cheat could deleteriously affect their behaviours, some of them followed such a strategy. Teachers were caught between conflicting demands: teaching to tests to fulfil their accountability or teaching for CT, a method highly beneficial to students. As reported by Haas and Keeley (1998), in this case the pressures to score well on traditional student evaluations has exerted more impact on teaching strategies than an interest in improving leaners' higher-order thinking. At school level, in line with what Mansell *et al.* (2009) observe, to adapt themselves to the accountability system, the majority of schools prioritised scores of high-stakes tests over the comprehensive development of learners. The pressure of accountability has driven teachers and schools to improve test scores in ways that are not aligned with the reform intentions (Gershberg *et al.*, 2012). In this way, test-based accountability results in higher school performance, but it does not indicate a true improvement in education standards - a positive change in teaching and learning (Madaus *et al.*, 2009; West, 2010). Though morality, which is linked to responsibility, is a strong motivator (Fullan, 2006), in this case, it seems insufficient. Consistent with Jones (2010), this study implies that if teaching for CT is to be fostered, the quality of education would no longer be reduced to the one-dimensional results of a high-stakes test. To collect evidence for accountability purposes, successful learning, such as the growth of cognitive skills, the change in learning dispositions and moral attitudes of learners should be considered (McGuinness, 2005). By emphasising *processes* rather than *products* (test outcomes) of schooling, internal and external accountability could become seamless, encouraging collective capability and shared responsibility to learners (Fullan, 2010).

Second, as the literature indicates, to execute their contracts with schools and local governments, some Vietnamese teachers required students to attend extra classes,

narrowed teaching and cheated to boost test performance. Similarly, many schools created the conditions for such activities to occur. Take the outcomes of the national secondary leaving examinations as an example. In 2006, over 94% of test-takers passed the exam; however, the figures plummeted to 66% in 2007 as a result of the national anti-cheating campaign (Dũng, 2012) that suggested imposing strict punishments on violators (Government, 2006). Several provinces had huge decreases, for example Tuyen Quang from 95% in 2006 to 14% in 2007, Bac Kan from 91% to 20% within the same time. Perhaps due to the lack of determination to prevent cheating, the figures went up to 93% in 2010 and 96% in the following year (Dũng, 2012). These fluctuated figures indicate that test based accountability not only distorts test results and classroom instruction but also negatively affect educators and students by encouraging malpractice, supporting Campbell's (1979) laws on the consequence of granting a quantitative social indicator with too high importance. Together with the empirical finding of the present study discussed above, this analysis suggests that rather than enhancing, test-based accountability undermines teachers' responsibility to students. To meet the expectation of the government, who provides funding and monitors school activities, schools and teachers may neglect responsibility to students to whom they hold marginal direct accountability (see Figure 5-2).
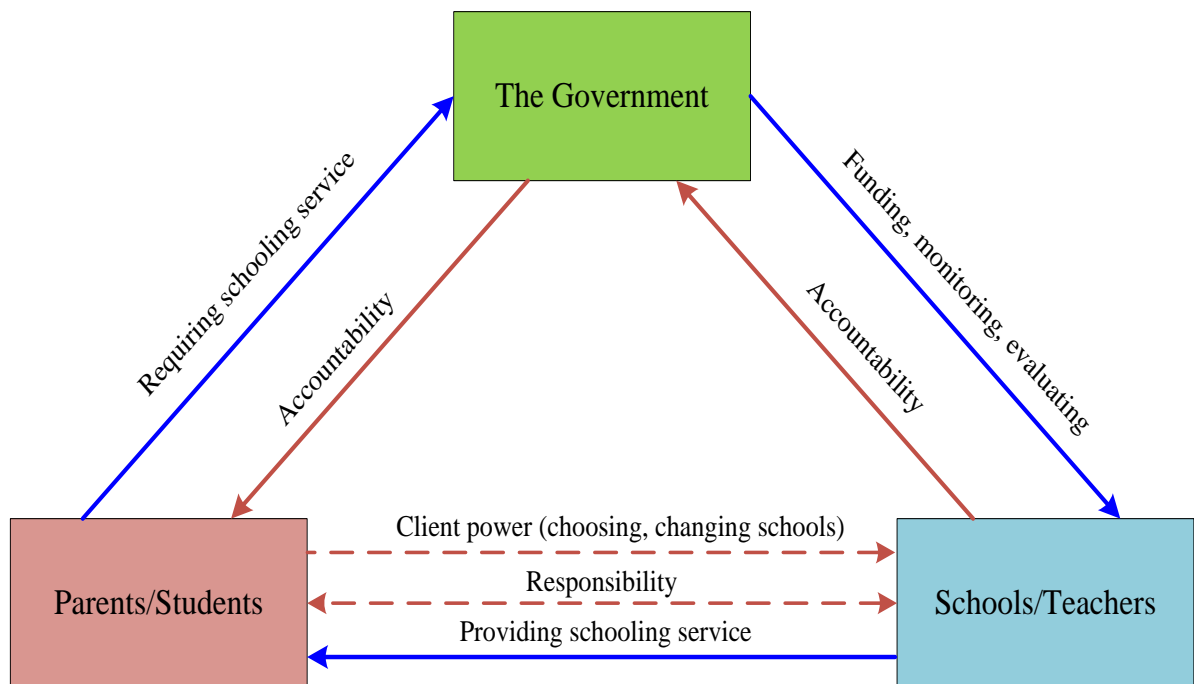

Figure 5-2: *Accountability versus responsibility*

The model in Figure 5-2 challenges accountability policies being implemented in a number of countries including Vietnam by arguing that pressures of external accountability can weaken schools and teachers' responsibility to students. It suggests re-examining the purpose of high-stakes testing and its impact on the well-being of teachers and students (West, 2010). Though testing to some extent motivates school leaders and teachers (Amrein and Berliner, 2002; Supovitz, 2009), policymakers should be alert that too much extrinsic motivation as a result of incentives may destroy intrinsic motivation (Crooks, 1988; Harpaz, 2014) which is closely associated with interests, deep engagement and creativity (Quang, 2006; Dawson and Andriopoulos, 2014). Instead of genuine changes in teaching and learning approaches, test pressures tend to result in superficial changes such as teaching to the test or attempting to cover textbook contents (Supovitz, 2009). Given the benefits test based accountability brings about, this study supports Hargreaves who asserts that 'accountability should be the small remainder that is left over once responsibility has failed' (Hargreaves, 2012, p.15).

5.5   What lies behind such school cultures and assessment practices

The empirical findings of the study indicate adverse influences of assessment practices and school cultures on teaching for CT. Nevertheless, 'while the testing system can reveal serious educational problems, these problems cannot be fixed by reforming the assessment system alone' (Supovitz, 2009, p. 222). Similarly, in order to facilitate education reform, it is important to consider the social and cultural beliefs concerning teaching and learning (Carrington *et al.*, 2010). For those reasons, this section examines several cultural aspects and national education policies that support the instructional practices identified earlier in this study or go against teaching for CT.

As regards teaching and learning to the test, apart from previously identified educational factors, a relevant cultural aspect could be the conventional perception of learning in Vietnam. Cultural research has indicated that Vietnamese people have a love of learning (Tuong, 2002; Goldman, 2009), but the intended purpose of learning is test outcomes that in turn open the gate to higher incomes and social status rather than the growth of knowledge and mental pleasure (Phelps and Graham, 2010; Thành, 2013). Owing to this exam-oriented culture, learning is often reduced to what is supposed to be measured in tests or examinations. A cross-cultural study by Helmke and Tuyet (1999) showed that

Vietnamese students spend considerably more time preparing for exams than their German counterparts. However, just a small number of them read papers or books for pleasure or for general personal learning and development (Quyên, 2014). Although lifelong learning has been nationally stressed, for the majority of Vietnamese people, the chief purpose of teaching and learning is to assist learners to pass examinations rather than to prepare a competent workforce (Vận and Trang, 2012). Research has indicated that there is always a gap between ideal learning and school learning (Woolner *et al.*, 2010); nevertheless, such a gap appears too large in Vietnam. School activities are shaped by communal values and beliefs (Prosser, 1999; Hollins, 2008; Baildon and Sim, 2009). Such a narrow social perception of learning, therefore, could be a contributing factor to the test-driven culture in the surveyed schools noted earlier.

A cultural value that supports the standardised testing and indirectly leads to narrow teaching-learning and cheating could be the qualifications-driven system (Tụy, 2012a). Culturally, in Vietnam a high qualification such as a diploma is more related to the gaining of social acceptance than the mastery of a subject (Phuong-Mai *et al.*, 2005). Instead of checking candidates' skills concerning the jobs, a large number of offices base their staff recruitment on the 'quality' of degrees (Tú, 2009; Đức, 2013). To be knowledgeable and skilled, there is no way other than studying and practising with appropriate strategies and constant efforts. Nevertheless, to attain high marks and qualifications people can employ alternative ways such as cheating, bribery or buying in the black market (Phuong-Mai *et al.*, 2005; Tụy, 2012b; Thành, 2013). School practice is influenced by communal expectations and values (Hinde, 2004). Hence, to foster comprehensive and meaningful education, adjustments to the utilisation of qualifications should be made.

Teacher-centred teaching approaches and the phenomenon of cheating identified in the literature review and the empirical data of the study could have derived from 'the discrepancy between what is praised and what is practiced' (Keeley *et al.*, 1995, p. 140) - 'a societal ambivalence with education' (Supovitz, 2009, p. 224). Vietnamese MOET and LEAs deplore dishonest school reports; nonetheless, they encourage win-lose competition among institutions and regions (Quang, 2008). They assumed that by organising examinations strictly, teachers and students would devote themselves to teaching and learning. Nonetheless, it seems that criticism of public services prompted a return to earlier assessment mechanisms. MOET and LEAs require teachers to employ learner-centred

pedagogy to develop practical and higher-order thinking skills for students, but the limited teaching autonomy (Quang, 2008; Saito *et al.*, 2008; Hồng, 2010) and the favour of multiple-choice tests and low-order thinking questions appear to support 'folk pedagogy' (McGuinness, 2005, p. 35). This puts teachers in a *double bind*. They criticise rote learning and extra-curricular classes; however, by employing high-stakes examinations focussed on the recall of information and implementing a crammed curriculum, they unintentionally provide incentives for such phenomena to grow (Tụy, 2012a). As Saito *et al.* (2008, p. 98) observe, there is a fundamental conflict between the ideological foundation of child-centred education and the assessment system, which in turn contributes to low change efforts of numerous teachers.

Concerning the limited interest in teaching for CT of the participants, one contributing factor could be the national values and beliefs regarding the positions of the teacher and the learner. While teachers are encouraged to work as classroom facilitators or mentors in Western countries (Harpaz, 2014), educators in Vietnam are looked upon as exemplars for children to emulate (Phuong-Mai *et al.*, 2012). For large numbers of people, challenging teachers, who are considered parents and sources of knowledge, means a lack of respect (Le, 2005; Phelps and Graham, 2010). As a result of this perception, unlike the ways most interviewees, who are relatively open to CT interacted with students, teachers tend to maintain their authority over children (Le, 2005; Saito *et al.*, 2008; Phelps *et al.*, 2012); "students who challenge teachers may be regarded as naughty, slowing the pace of the lesson" (FTh, interviewee). An additional cultural feature that may affect teaching for CT is the modest respect for young learners. Given that the age of 'Children should be seen and not heard' has passed, children's voices are not seriously considered at home as well as in society (Phelps *et al.*, 2012). This perception could influence teachers to restrict opportunities for critical classroom discussion as described in Saito *et al.* (2008) and section 4.2.6.

It is true that the development of CT is associated with the culture where one lives (Egege and Kutieleh, 2004; Mangena and Chabeli, 2005) and schools are shaped by the community where they are located (Prosser, 1999; Hollins, 2008). Culture, nevertheless, is not static (Hinde, 2004; Clarke and Otaky, 2006). Instead, it can be changed by education (Robinson, 2009; Mortimore, 2013). By influencing the ways that young children think and act, schools can gradually *transform* the culture of a society where they were developed (Kelly, 2009; Mortimore, 2013). In Vietnamese contexts, drawing

on the interviewees' description of their colleagues' teaching approaches and the censorship of school leaders, it is suggested that change in schools should begin by redefining the role of teachers and students. Instead of working as knowledge transmitters, attempting to *cover* all textbook content as found in the study, teachers should work as learning facilitators, creating the best conditions to *uncover* and develop learners' aptitudes (Scales, 2008; Harpaz, 2014). This, however, does not mean that teachers reduce their care and love for students, which distinguishes education from training or coaching. As regards students, they should be seen as those who could construct their own knowledge rather than *empty vessels* that need to be filled up with knowledge of previous generations (McGuinness, 1999; Russell, 2009), which tends to be ideological and problematic (Kelly, 2009). Learning should go beyond the acquisition of knowledge and skills to encompass self-regulation and metacognition - powerful tools for lifelong learning (McGuinness, 2005; Robson and Moseley, 2005). By regarding learning as a process of *knowledge-making* rather than *knowledge-getting* (Kelly, 2009; Mortimore, 2013) and mistakes as a natural ingredient of learning, we not only help students feel more confident when taking part in classroom discussion but also make them feel safe to challenge their friends and teachers (Keeley *et al.*, 1995). In that way, we are preparing reasoned citizens who could transform society. Returning to the relationship between school culture and communal culture, from the author's own experience as a teacher, schools can also influence family education through meetings with parents. Rather than attempting to meet their expectations regarding test results, teachers can share with them the benefits of CT, one of the most significant life skills in the 21st century (Lộc *et al.*, 2011). In so doing, they can not only manage the expectations of parents but also influence the ways parents interact with their children at home, turning parental engagement into an important driver for change (Hargreaves, 2012)

5.6   Summary

By integrating data collected from three research techniques, the chapter has presented an overall picture of assessment practices and school cultures in Thai Binh Province, North Vietnam and explained how these factors could exert impact upon teaching for CT. Data integration stresses the influence of five significant elements including test requirements, test accountability, teaching autonomy, school democracy and collegiality while recording

moderate impact of parental expectation. The chapter also indicates the influence of cultural factors, such as the narrow perception of learning, the overemphasis on qualifications and the contradiction in educational policies upon critical and innovative pedagogies. Findings indicate that instead of making teachers more responsible, test-based accountability mechanisms in Vietnam make them neglect their responsibility to learners. As learning outcomes are narrowly defined as marks and grades, teachers use various negative techniques, such as test coaching, curriculum narrowing to raise test results, paying little attention to the development of the whole child. This study implies that training is necessary but not sufficient to change teachers' practices. Teachers may teach against their beliefs and understandings if their teaching is affected by a school culture unconducive to change and negative pressures from the accountability system. This suggests a balance between strengthening drivers and removing obstacles in change management. Instead of imposing change on teachers, reformers should start by examining their perceptions of the educational context and the constraints that they face (Fullan, 2007; Jensen, 2012). This not only creates a sense of ownership that makes teachers more committed to change (Dawson and Andriopoulos, 2014) but also helps address resistance before it occurs (Keeley *et al.*, 1995).

Chapter 6:   Conclusion

This final part of the thesis summarises the findings and presents overall conclusions of the study. It states the significance as well as the implications of the work while also acknowledging its limitations. The chapter concludes by proposing recommendations for future research.

6.1   Summary of the findings and conclusions

The current mixed methods study was conducted in an attempt to identify factors that affect teaching for CT. Data collected from 145 history teachers using close-ended questionnaires, semi-structured interviews and focus groups have provided an overall picture of school cultures and assessment practices in Vietnamese lower secondary schools as well as their impacts on pedagogical practices.

In terms of assessment practices, it is of paramount concern that assessment has been carried out to measure student performance for the accountability purpose rather than to support their learning. Instead of requiring students to demonstrate their deep understanding and reflection, as the majority of participants and the analysis of test papers presented in section 4.2.3 indicated that questions centred on the recall of factual knowledge. Test results were used not only to evaluate learners and decide progression into a higher year group but also to appraise teachers and position schools in league tables. Consequently, teachers prepared answers to expected exam questions and asked students to learn by rote; some coached students to provide answers to questions without understanding the issues. More worryingly, a few teachers collaborated in allowing their students to cheat, or bribed test designers to obtain test information in advance. The research also indicates a gradual change in the practice of assessment in a number of schools. Over two-fifths of the teachers have attempted to employ self and peer-assessment as well as paying increasing attention to formative feedback. Several of them challenged students with questions requiring high-order thinking. In spite of this, the study indicates a mismatch between assessment practices

and the recommended teaching approach. It implies that to foster teaching for CT, a more profound change in assessment is badly needed.

With regard to school cultures, the study suggests quite high levels of teachers' organisational commitment. Most interviewees and focus group members showed relatively good understanding about the discussed subjects and expressed their viewpoints openly. Overall findings, however, exhibited more areas for improvement. Leadership was not widely distributed. Teachers who wanted to revise their teaching methods received insufficient support from both colleagues and school managers. The teaching culture of individualism was dominant with limited effort for the exchange of teaching experiences amongst teachers. In the same vein, modest levels of teacher autonomy and school democracy were reported. There remained a lack of opportunities for students to express their viewpoints on social and political issues. Like schools, parents were more interested in test scores than the intellectual growth of their children. Teachers seemed to be working in an individualist and despondent culture (Stoll, 1999; Peterson and Deal, 2009) where inertia is the norm; leadership styles and school climate discourage change and innovation as well as the exchange of ideas and experiences amongst teachers.

As regards pedagogical practices, findings indicate that although a number of teachers have attempted to revise their teaching strategies, teacher-centred instruction underpinned by the 'empty bucket' theory (Scales, 2008, p. 58) was still common in most schools. This was reflected not only in the abuse of formal lectures but also in the perspectives of teachers on their students' abilities. Instead of regarding them as those who could create knowledge, many teachers attempted to fill them with factual knowledge and encouraged detail memorisation. Although learner-centred teaching has been officially recommended in Vietnam for over a decade, a notable gap exists between theory and practice.

The study has rigorously addressed the research questions outlined in chapter 1. Regarding the first and second sub-questions, findings indicate close relationships between teaching for CT and assessment practices, as well as school cultures. For instance, teachers were more likely to employ positive teaching techniques that develop students' CT if high-stake tests required students to demonstrate higher-order cognitive skills. In contrast, they tended to neglect teaching for CT if the majority of parents were seriously concerned about test performance. The perceptions of teachers on such relationships are relatively clear. According to the interviewees, the key barriers to

teaching for CT included test requirements, test accountability, limited teaching autonomy, modest school democracy, the lack of collegiality and the pressures from parents regarding test results. Similarly, most focus group members stressed the influence of the five first factors. This helps address the third sub question. By integrating findings from both phases, the study suggests the influence of assessment practice and school culture on teaching for CT, highlighting the influence of cultural aspects, such as the perception of learning, the overemphasis on qualifications, the perceived roles of teachers and learners, and the inconsistencies in education management strategies. Though no participants mentioned the efforts required to prepare and conduct a teaching period using a CT approach as an obstacle to their implementation of a thinking pedagogy, research by Buskist and Irons (2008) has suggested that this could have been a contributing factor. It is expected that underpinned by both quantitative and qualitative evidence, which has been compared and contrasted to lessen research bias, these findings could be generalised to countries where test-based accountability, individualism school culture and Confucian values are dominant, helping the research obtain wider impact.

In addressing the research questions, this research project challenges the assumptions about the influence of teachers' personal domains on their teaching and the relationship between educational accountability and responsibility. It shows that in contrast to the assumptions of recent research, the growth in subject knowledge and pedagogical understandings of the interviewees did not contribute to an appropriate teaching approach. For in this case, pedagogical revision was hindered by strong factors such as an environment unconducive to innovation or high pressures from external accountability. Interview data indicate that instead of increasing teachers' responsibility to students as supposed, the test-based accountability system in Vietnam reduces it. In effect, accountability pressures have driven many schools and teachers towards pedagogical practices that constrain student interaction and critical engagement in learning. Together with the influence of high-stakes testing on teaching discussed in the Literature review chapter, this finding is expected to provide international scholars and policymakers with some food for thought on the benefits and drawbacks of test-based accountability, in that way promoting constructive and authentic assessment practices.

By employing a critical approach to explore the literature, the study has successfully brought about concise yet overarching definitions of three contentious terms: assessment, school culture and CT. Though modest, the outcomes of teaching for CT reported support

Littlewood's argument that the passive classroom attitudes of Asian students have to do with the educational contexts rather than their inherent dispositions (Littlewood, 2000, p. 33).

This study has attempted to portray and link critical issues of Vietnamese secondary education. It is hoped that underpinned by both quantitative and qualitative data, which were meticulously collected and analysed following strategies suggested in recent research, these findings, reflecting the voice of the insiders, could be considered as feedback on the educational policy implemented in Vietnamese lower secondary schools.

6.2   Significance of the study

For a number of decades, CT has been regarded as one of the major objectives of education, a competence any modern citizen needs to survive and contribute to a democracy (Bowell and Kemp, 2004; Baildon and Sim, 2009). In the school setting, CT motivates students, supports them to make more reasoned choices and decisions and helps them develop effective learning strategies (Che, 2002; Grosser and Lombard, 2008). In spite of these benefits, CT skills are rarely taught systematically (Wright, 2002) especially to Eastern students. By using both quantitative and qualitative research techniques to investigate factors that affect teacher effort to develop CT for students, this mixed methods study has made a significant contribution to the existing body of knowledge regarding CT as well as providing recommendations for the development of education in its author's country.

In terms of theoretical contribution, the thesis is one of the first empirical studies to systematically document the impact of school culture and assessment regimes on teachers' pedagogical practices relating to the development of CT for lower secondary students. Although the findings emerged within Vietnamese contexts, the literature review suggests that several issues identified in this study, such as test-based accountability, teacher-centred approach and conventional assessment are not confined to Vietnam but occur in many nations to varying degrees of severity (Koh *et al.*, 2012). Thus, it is believed that this study will not only contribute to educational development in Vietnam but may also provide some useful lessons for policymakers and school leaders in countries with similar educational problems.

The study challenges theories on the relationships between teachers' pedagogical beliefs and knowledge and their teaching practices, between educational accountability and responsibility. In doing so, it suggests the need to reconsider existing educational policies, such as using test results to evaluate teachers and rank schools, in order to foster pedagogical change.

In terms of practical contribution, the study provides insights into three significant topics: school culture, assessment regime and pedagogical practice, which have rarely been systematically examined in Vietnam. The evidence gathered contributes to an explanation of why history teachers in Vietnamese secondary schools do not devote effort to pedagogical change and why the revision of teaching methods has failed to meet the country's expectation. It is hoped that, informed by empirical evidence and personal professional critical reflection, this research project will support the forthcoming education reform in Vietnam.

6.3   Implications of the study

The study carries several significant theoretical implications. First, it implies that school cultures and assessment practices play noteworthy roles in education reforms. Without appropriate consideration to the impact of school culture and assessment practice, the change from teacher-centred to learner-centred education focussed on CT development will not achieve its objectives regardless of efforts in training staff or upgrading teaching materials.

The second implication is that change in teachers' knowledge, skills and beliefs do not necessarily lead to alterations in their practices as the anticipations of recent studies (e.g. Yeh, 2005; Timperley *et al.*, 2009; Carrington *et al.*, 2010). Thus, apart from investing in driving factors, such as teacher training, material provision or rewards, we need to consider barriers to pedagogical revisions. Research evidence has indicated that 'more of the same' is less likely to lead to significant change (Sahlberg, 2010) and that removing obstacles may work more effectively than reinforcing efforts (Harvey and Broyles, 2010).

Third, in contrast to the underlying assumptions of theories that support the accountability system (see Supovitz, 2009), in several contexts, contractual accountability between schools/teachers and the government makes the former less

responsible for student learning. Thus, there should be change in the way evidence of successful teaching and learning is collected to make external accountability and responsibility to students aligned.

Finally, the findings of the study imply that researchers and educators should be wary when generalising about the causes of reticence and modest CT abilities in a number of Eastern learners. They could be the consequence of learning environments rather than learners or teachers' innate dispositions. This is further suggested by recent studies indicating the feasibility of teaching thinking skills to Eastern students (e.g. Che, 2002; Yang and Chung, 2009). The outperformance of Eastern students (e.g. Singaporean and Vietnamese) by their OECD counterparts in recent assessment by the Programme for International Student Assessment (PISA), which requires high levels of CT (Jensen, 2012), could be an additional piece of evidence.

6.4 Limitations of the study and recommendations for future research

This research project attempted to explain the influence of assessment practices and school cultures on teaching for CT. Despite considerable endeavour to enhance the validity and reliability of the findings, the study was subject to several limitations. First, in terms of sampling, whilst the quantitative phase was conducted using a cluster sampling strategy, most interviewees, key informants of the qualitative phase, were enthusiasts who tended to have better pedagogical knowledge and skills than the majority of teachers in the population. As a result, it is likely that the qualitative samples fail to represent the whole sample. Second, due to limited time budget, no observations were conducted to understand how teachers took part in school activities and how teaching and learning occurred in the surveyed schools. This somewhat undermines the strength of a few claims made in the study. Another restriction lies in the fact that the study could not identify a school where teaching for CT was prioritised by both teachers and schools, to provide lessons from a working model. The final limitation concerns the precision of several quotations. Although efforts to translate them authentically have been made with support from colleagues, several translated phrases may not reflect exactly the implications of the interviewees due to cultural differences.

Future research should investigate the influence of test-based accountability regimes and school cultures on the development of Eastern students' disposition and CT skills to deepen our understanding about the impact of test-based accountability and school culture on teaching and learning. The quantitative findings of this study showed a correlation between assessment practice and school culture. Likewise, MD and FTh indicated the impact of teacher cheating on professional relationships. Further research, therefore, could also usefully be undertaken to examine the influence of test pressures on some aspects of school culture, such as the relationships between colleagues, the levels of teachers' organisational commitment and job satisfaction. As CT has been found highly useful to both teachers and students, studies in Asian developing country contexts should focus on systematically introducing CT skills, developing CT dispositions and measuring the effectiveness of these approaches.

This study is not only grounded in empirical evidence but also informed by the experience of the researcher as both a teacher and educational leader at district level. The intention is that the knowledge and skills developed by conducting this research will be used to assist him in his future professional duties: linking theory to pedagogical practice and management to support the development of education in his country.

Appendices

Appendix A: Information sheet

INFORMATION SHEET

Thai Binh, September 1ˢᵗ, 2012

Dear my colleague,

My name is Nguyen Ngoc Du, Deputy Head of Hung Ha Bureau of Education and Training. I am currently conducting a study for my Doctorate in Education with sponsorship from the Vietnamese Government, under the supervision of two lecturers in School of Education, Communication and Language Sciences, Newcastle University: Professor Sue Robson – Head of School and Doctor Pamela Woolner - EdD Degree Programme Director. The title of my research is '**Factors influencing teaching for critical thinking**[*] **in Vietnamese lower secondary schools: A mixed methods study focussed on History'.**

The aims of my study are to portray assessment practices, school cultures, and teaching for CT in History in Vietnamese secondary schools; to identify if and how the two first variables impact on the last; and to provide theoretical and practical implications for educational improvement.

A mixed methods approach has been selected with the adoption of closed-ended questionnaires, semi-structured interviews and focus groups as main research instruments.

The participants of the research are history teachers in all secondary schools in five districts and a city of Thai Binh province. It is estimated that around 200 teachers will take part in the questionnaire survey. About 20 of these teachers will be invited to participate in semi-structured interviews and focus groups.

In terms of time, completing the questionnaire will take you from 20 to 30 minutes while each interview or focus group will last about an hour. Teachers who take part in the interviews will be offered a 200,000 VND (6 pounds) voucher for their preparation time. The questionnaire will investigate your perception on the culture of your school, the assessment methods and policy used in your district/city as well as in your school, and the techniques that you use to develop CT for students. Meanwhile, interviews and focus groups will be conducted to explain, deepen and expand findings of questionnaire surveys.

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[*] For the purposes of this research, **Critical thinking** is defined as reflective thinking that encourages individuals to take account of different perspectives, make use of multiple sources to make sound judgements, propose appropriate solutions and learn new concepts.

You may choose whether to take part in the survey or not. You can also withdraw from the research at any time and without having to explain. Data that you provide will be treated with complete confidentiality, published anonymously and only used for the research purpose. I promise that after the publication of my research, its findings will be available to you on request.

If you have any questions about the research, please do not hesitate to ask.

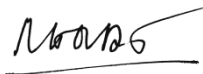You can contact me by either email or phone.

My emails are n.d.nguyen@ncl.ac.uk and nguyendu_hh777@yahoo.com

My phone numbers are +84.915.568.777 (VN) or +44.7553.580.126 (UK)

My supervisors' emails are sue.robson@ncl.ac.uk and pamela.woolner@ncl.ac.uk

Thank you in advance for your cooperation

  Sincerely,

  Nguyen Du

Appendix B: Informed consent

INFORMED CONSENT

Research title: Factors influencing teaching for critical thinking in Vietnamese lower secondary schools: A mixed methods study focussed on History

I, the undersigned, confirm that (please tick box as appropriate):

1.	I have read and understood the information about the project, as provided in the Information sheet dated September 1st 2012.	☐
2.	I have been given the opportunity to ask questions about the project and my participation.	☐

3.	I voluntarily agree to participate in the project. (Choose the tasks)
	  - Questionnaire
	  - Interview
	  - Focus group
		☐
		☐
		☐

4.	I understand I can withdraw at any time without giving reasons and that I will not be penalised for withdrawing nor will I be questioned on why I have withdrawn.	☐
5.	The procedures regarding confidentiality have been clearly explained (e.g. use of names, data analysis and storage, etc.) to me.	☐
6.	The roles and tasks of participants in each stage of the research (questionnaire, interview and focus group) have been clearly explained to me.	☐
7.	The use of the data in research, publications, and sharing has been explained to me.	☐
8.	I understand that other researchers will have access to these data only if they agree to preserve the confidentiality of the data and if they agree to the terms that I have specified in this form.	☐

9.	Select only one of the following:
	  - I would like my name used and understand what I have said or written as part of this study will be used in reports, publications and other research outputs so that anything I have contributed to this project can be recognised.
	
	  - I do not want my name used in this project.
		☐
		
		☐

10.	I, along with the Researcher, agree to sign and date this informed consent form.	☐

Participant:

_____   _____   _____
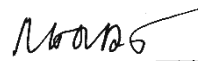Name of Participant   Signature   Date

Researcher:

Nguyen Ngoc Du   01/09/2012
Name of Researcher   Signature   Date

127

Appendix C: Questionnaire

<div align="center">

QUESTIONNAIRE

(For history secondary teachers)

</div>

Part A. Please provide some information about you

1. Gender: Male ☐   Female ☐

2. Qualification: College Bachelor degree ☐   University Bachelor degree ☐

   Master degree ☐

3. Subject(s) trained: …………………………………

4. Years of teaching experience: ……………………..

5. Have you been trained to teach thinking skills?   Yes ☐   No ☐

6. Do we need to teach students critical thinking?   Yes ☐   No ☐

Part B. In the next set of questions, you are presented with a series of statements relevant to you and your school. You are asked to indicate your level of agreement or disagreement with each statement by indicating whether you: Strongly Disagree (SD), Disagree (D), Uncertain (U); Agree (A); or Strongly Agree (SA). Please indicate your level of agreement by circling the appropriate number.

I. Assessment

No	Statements	SD	D	U	A	SA
1.	In my district/city, end-of-term history tests require students to demonstrate high-order thinking skills.	1	2	3	4	5
2.	Teachers have to follow detailed instructions to assess test papers.	1	2	3	4	5
3.	Students' end-of-term/year test results are a decisive factor to evaluate teachers in my school.	1	2	3	4	5
4.	Test results are an important factor to rank schools.	1	2	3	4	5
5.	My students repeatedly revise what is expected to come up in tests or exams.	1	2	3	4	5
6.	Students are coached to answer some questions without teaching for understanding.	1	2	3	4	5
7.	Apart from assessment by teachers, I employ self and peer assessment to assess student learning.	1	2	3	4	5
8.	In my classroom, knowledge being tested includes contentious knowledge and controversial issues.	1	2	3	4	5
9.	I spend considerable time giving feedback, discussing answers with students.	1	2	3	4	5
10.	The priority in assessment of my school is to foster learning rather than to raise test scores.	1	2	3	4	5

II. School culture

No	Statements	SD	D	U	A	SA
11.	In my school, teachers are encouraged to take part in decision-making and school plan building.	1	2	3	4	5
12.	My school encourages teachers to make change to their teaching.	1	2	3	4	5
13.	Teachers here frequently exchange ideas and experiences with one another.	1	2	3	4	5
14.	Teachers tend to avoid doing things differently from others.	1	2	3	4	5
15.	Teachers think that their major academic duty is to transmit book contents.	1	2	3	4	5
16.	Teachers assume that an effective lesson must convey all contents set in the syllabus.	1	2	3	4	5
17.	Teachers share the view that teaching effectiveness is measured by students' scores.	1	2	3	4	5
18.	Teachers believe that all students can be successful in their studies.	1	2	3	4	5
19.	Teachers show little contentment with their students' achievement.	1	2	3	4	5
20.	Teachers show high commitment to the school.	1	2	3	4	5
21.	Parents show more interest in their children's growth of knowledge and skills than test scores.	1	2	3	4	5
22.	Students in this school do not have good habits of thinking.	1	2	3	4	5
23.	Students tend to hesitate to express their opinions in the classroom.	1	2	3	4	5
24.	Students prefer working individually to working in groups.	1	2	3	4	5

Part C. Please indicate the level of frequency to which YOU employ the following teaching techniques to foster critical thinking in your students. Please circle the number corresponding to your response.

No	Teaching techniques	Never	Rarely	Some-times	Usually	Always
25.	Brainstorming	1	2	3	4	5
26.	Role play	1	2	3	4	5
27.	Group discussion	1	2	3	4	5

No	Teaching techniques	Never	Rarely	Some-times	Usually	Always
28.	Odd one out	1	2	3	4	5
29.	Interpreting photographs and pictures	1	2	3	4	5
30.	Lifelines	1	2	3	4	5
31.	Case studies	1	2	3	4	5
32.	Critical debate (divide class into two teams, debating about a contentious issue)	1	2	3	4	5
33.	Problem solving	1	2	3	4	5
34.	Making decision between two things (e.g. Should we spend more time studying national or world history?)	1	2	3	4	5
35.	Seeking explanation for some recent events	1	2	3	4	5
36.	Fact and opinion distinction	1	2	3	4	5
37.	Predicting consequences	1	2	3	4	5
38.	Listing reasons for and against something	1	2	3	4	5
39.	Listing good, bad and interesting points of a suggestion or proposal	1	2	3	4	5
40.	Dealing with ethical dilemmas	1	2	3	4	5
41.	Formulating and asking appropriate questions	1	2	3	4	5
42.	Giving alternative explanations for a consequence	1	2	3	4	5
43.	Distinguishing credible from non-credible sources of information	1	2	3	4	5
44.	Gathering data relevant to a problem from multiple sources	1	2	3	4	5
45.	Other activities used a. ………………………………………………… b. ………………………………………………… c. …………………………………………………	1 1 1	2 2 2	3 3 3	4 4 4	5 5 5

Thank you for completing this questionnaire. Please return it in the enclosed envelope either by post or to the Bureau of Education and Training by September 19th, 2012.

INTERVIEW QUESTIONS
  (for history teachers)

1. **How do you feel about teaching for the development of CT in your students? For example, is it essential? What benefits can your students get from such teaching?**

    1.1. What do you like most and least about teaching for CT?

    1.2. Does teaching for CT bring teachers any benefits? If yes, what are they?

    1.3. Do you face any problems when teaching for CT? What are they?

2. **Can you tell me how your students are assessed in end-of-term exams? Does it exert any influence on the ways you teach?**

    2.1. How do you assess your students?

    2.2. What types of summative assessment do you employ in your classroom? What are their advantages and drawbacks?

    2.3. What types of formative assessment (teacher assessment/ peer assessment/ self-assessment) do you employ in your classroom? What are their main advantages and drawbacks?

3. **How do you and your students prepare for BOET tests?**

    3.1. Do you ask them to revise by employing thinking skills such as comparing, analysing and synthesizing or learn the texts by rote?

    3.2. Why do you employ such a strategy?

    3.3. Do high stakes test motivate students and teachers to work harder?

    3.4. What is the main target of such effort?

4. **Can you tell me how students' scores in end-of term tests are used in your district and school?**

    4.1. What is your opinion about such a policy?

    4.2. Does that policy exert influence on your effort to teach for CT? If so, can you explain?

5. **How do your school leaders and pupils react when a subject such as History is not tested in an end-of-term exam?**

    5.1. Have you heard about the event hundreds of secondary school students in Ho Chi Minh City tearing up prepared answers for the history test when MOET decided not to make History an exam subject? How do you think about it? What do you think could be the causes of such an action?

6. **How are the professional relationships among teachers within your school? For example, are they fond of sharing teaching experiences and getting feedback from one another?**

    6.1. How often do they observe others' classrooms?

    6.2. What is the main purpose of such observations? Are they done as a duty (to meet the requirement of the schools), to assess their colleagues or with the aim of exchanging ideas, helping each other promote teaching? What is the quality of feedback?

    6.3. Do your colleagues advocate change and creativity in the teaching method of others? How do they react when someone suggests change?

    6.4. Does such an atmosphere affect your effort to teach for CT? If so, how?

7. **How are your relationships with students' parents? Do you know what most of them expect from their children's learning, for instance good scores or improvements in knowledge and learning skills?**

    7.1. Do their expectations of children's learning outcomes influence your effort to teach for CT? Explain why and why not.

    7.2. Does history teaching and learning receive adequate attention from students' parents, school leaders and society?

8. **Are you encouraged by your school leaders to improve your teaching methods?**

    8.1. In what ways are you supported?

    8.2. How satisfied are you with the support you receive from the school leaders?

    8.3. What have you done with such support?

9. How often do you take part in leadership activities, for example decision-making and master plan making within your school?

     9.1. How does such involvement exert impact on you?

     9.2. How would you feel and what would you do if you were offered more opportunities to take part in leadership activities?

10. How do your students prefer to learn? For example, do they like taking part in thinking activities or listening and taking notes?

     10.1. What may be the causes for such learning preferences?

     10.2. How do you differentiate your teaching to accommodate different learning preferences?

11. While some scholars believe that history is a "science" describing a chronicle of facts and events happening in the past, others see history knowledge as subjective, biased, reflecting the political position and social background of the historian. What is your position?

     11.1 With the nature of history knowledge as you perceived, how should the subject be taught to pupils?

12. What teaching techniques do you often use in your classrooms to develop students' CT? How often do you use them?

     12.1 How do your students react when you use such techniques?

     12.2 If your students show little interest in the learning activities, what can be the causes?

     12.3 If they are interested in the learning activities, can you use such positive techniques more often?

13. Is teaching for CT a priority within your school? If yes, what has been done to promote students' thinking skills?

     13.1. Can you suggest any measures to foster teaching for the development of CT?

<div align="center">

GUIDELINES FOR FOCUS GROUPS

Date: July 13th, 2013

**Place: Hung Ha Bureau of Education and Training Hall**

</div>

1. Objectives:

Focus groups are the third research activity (after questionnaires and interviews) organised to collect empirical data for my doctoral thesis. This technique takes the interaction within the group as a means of eliciting information to deal with complex assignments. The key purpose of the focus groups today is to encourage participants to discuss key findings of the interviews, providing the researcher with a deeper and wider understanding of the research issue as well as practical recommendations to facilitate teaching for CT in the context of Vietnam.

2. Contents:

Activity 1: In groups, carefully discuss to exclude four least significant out of 16 factors contributing to teaching for CT identified through the interviews.

Activity 2: Arrange the selected factors in the given diamond ranking model basing on the levels of their impact (from strongest to weakest).
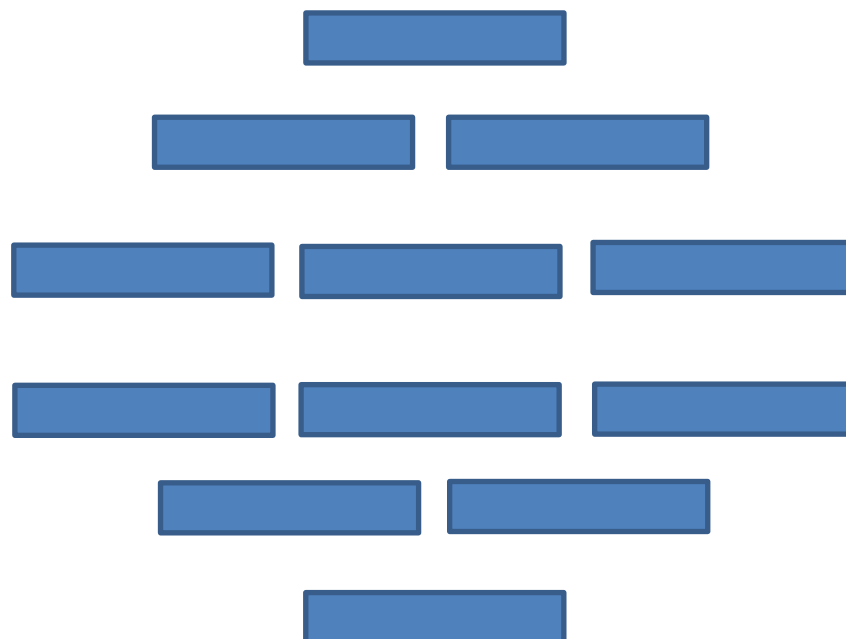
Activity 3: Please suggest three significant individual recommendations to foster teaching for CT in the context of our province.

Activity 4: Share your measures and explain them to your colleagues. Discuss in groups to determine five most important recommendations and rank them.

3. Code of conduct:

- All information collected during the discussion must be kept secret by all participants, strictly protected by the researcher and used for the purpose of this research only. No real names or schools will be mentioned in the report.

- All of you are encouraged to express and explain your viewpoints on the discussed issues to other group members.

- All participants are equal, so are your opinions.

- In discussion, disagreement is inevitable. Therefore, if you all cannot reach an agreement, you can vote. Those who do not agree can reserve your viewpoints.

- The duty of the moderator is to organise the activities, create a comfortable environment to ensure that the discussion occurs openly, frankly and effectively.

- Secretary of each group is responsible for taking notes of the activities, recording and summarising the results to all members at the end of the discussion.

- After the Secretary reports the results of the discussion to the group, you all can add or modify your ideas.

Appendix F: Sample of interview data analysis (single case)

Transcript (translated version)	Key words, codes	Statements
Interviewer: Another question for you is: Are there any difficulties that you meet when applying critical thinking techniques? If yes, what are they?		
FNh: I think I have encountered many difficulties. The first difficulty relates to the curriculum. As a teacher I am required to cover all contents set in the syllabus in a fixed period, so if I spend time developing thinking skills for students, I will not be able to finish the lessons. Is that right? The second difficulty concerns the openness of society. I have to choose the content that does not challenge the common perceptions. The third obstacle is the exam questions. What do exam questions require? Which rules do test designers have to follow? I myself have been assigned to develop exam papers to choose and nominate talented students and I was advised: 'Our highest priority is the safety for test designers. What does it mean? It means that you should design questions whose answers can be found in either student or teacher books, to avoid debate on marking criteria'. Thus, as teachers, we have to base on such documents to teach students regardless of their learning abilities. Of course, to make our lessons interesting we have to read reference documents but the content of textbooks and teacher books must be transmitted to students completely precisely because that is what tests require. This makes us neglect the development of CT for our students though we all know its benefits.	Curriculum, cover, fixed time Openness of society Exam questions-book contents> transmit, neglect	Low teaching autonomy, limited freedom of speech and exam questions that require knowledge reproduction discourage teachers to teach thinking skills to students.
Interviewer: You said you are advised to follow the contents of textbooks and teacher books when designing exams questions to avoid debate on marking criteria. What about marking guidelines? How are they prepared? FNh: First, they must be detailed. Second, There is only one correct answer. Interviewer: Will students get any marks if their answers are reasonable but inconsistent with the given ones?	Marking guidelines, detailed, one answer > low effort	Teachers do not devote their effort to teach for CT, because marking guidelines are fixed, offering no marks to students with answers that are reasonable but inconsistent with provided keys.

FNh: Of course not. That is why we do not spend effort to teach thinking. ………………………………………………………………………………………… Interviewer: You have said that you have a close relationship with the parents of your students. Do you know what they expect from their children? Do they care about the ways their children learn or their children's marks in the end-of-term examinations? FNh: Most parents regard the exam results as the learning outcomes of their children. They hardly care about what their children learn and whether they develop their thinking skills or not. Interviewer: Does such expectation of parents influence your teaching approaches? If yes, how? FNh: Of course, it exerts great impact. Instead of engaging students in thinking activities, I focus my teaching on the contents that may appear in end-of term tests. Why? Because students' marks reflect the competence of teachers and the ability of students. As parents care much about students' marks, I have to find the ways to meet their demands. My reputation will be low and I will be seen as a bad teacher if I fail to do so. Interviewer: Earlier you told me that the requirements of tests influence teaching methods. Compared to the influence of the expectation of parents, for you, which factor is stronger? FNh: Of these two factors, I am more influenced by the requirements of test questions. The rationale behind it is that by teaching to the test I can help my students to obtain good test scores. This not only helps me to achieve rewards but also helps me to meet the expectation of parents, who also base on test scores to evaluate teachers. In that way, I can meet the demands of both parties.	Exam results> thinking skills Parent expectation > teaching methods Because, marks - teacher competence Test requirements> parent expectation, good scores - demands of both	Parents care about test scores of their children more than the development of thinking skills. Because marks are considered to reflect teacher competence, to meet the expectation of parents, rather than engaging students in thinking activities the teacher teaches to the test. Compared to parent expectation, test requirements exert more influence on the teacher' teaching because by teaching to the test she can meet the demands of both schools and parents.

Appendix G: Sample of interview data analysis (across cases)

TOPIC	The obtacles that teachers encounter when teaching for CT (Interviewee 1: Fhu)	The obtacles that teachers encounter when teaching for CT (Interviewee 2: MD)
Meaning units	One of the difficulties that I face when applying critical thinking techniques is the fact that my students are not used to such way of teaching. From primary education they have been taught by listening and note taking. / History curriculum involves a large number of political issues, but many of them are untouchable. In fact, we cannot talk about two sides of a regime. We only dare to discuss what appear clear to most people./ Teaching for CT requires discussion which makes the classroom not silent as usual. If the headteacher or the deputy head notice this, they will criticise me for failing to control my class. In fact it is not that.	The biggest difficulty concerns students. Many of them are passive with limited living experience and this prevents them from engaging in critical discussion. In fact, textbooks are also a problem. They are too long while we have only one or two periods a week. Thus, most of my teaching time is spent on transmitting the contents of textbooks.
Statements	The obstacles that this teachers meets when teaching for CT are students' passive learning habits and the limited freedom of speech in the school. The misconception of a good lesson and the control of school managers in terms of classroom management is also an obstacle.	Two main obstacles for this teachers are the learning styles of students and the overloaded textbooks
Quotations	History curriculum involves a large number of political issues, but many of them are untouchable. In fact, we cannot talk about two sides of a regime. We only dare to discuss what appear clear to most people.	

The obtacles that teachers encounter when teaching for CT (interviewee 3: FNh)	The obtacles that teachers encounter when teaching for CT (interviewee 4: MG)
I think I have encountered a lot of difficulties. The first difficulty relates to the curriculum. Teachers are required to cover all contents set in the syllabus in a fixed period of time, so if I spend time developing thinking skills for students, I will not be able to finish the lessons. Is that right? The second difficulty concerns the openness of society. I do not dare to bring to the classroom the content that challenge the common perceptions. The third obstacle is the exam questions. What do they ask students to demonstrate? Which rules do test designers have to follow? I myself have been assigned to develop exam papers to choose and nominate talented students and I was advised: 'Our highest priority is the safety for test designers. What does it mean? It means that you should design questions whose answers can be found in either student or teacher books, to avoid debate on marking criteria'. Thus, as teachers, we have to base on such documents to teach students regardless of their learning abilities. Of course, to make our lessons interesting we have to read reference documents but the content of textbooks and teacher books must be transmitted to students completely precisely because that is what tests require. This makes us neglect the teaching for CT though we all know its benefits./ First, they (marking guidelines) must be detailed. Second, there is only one correct answer./ Of course [students will] not [get marks if their answers are reasonable but inconsistent with the given keys]. That's why we do not spend effort to teach thinking.	In teaching for CT, I think the biggest difficulty relates to the inappropriate understanding about the significance of the subject of students, teachers as well as the whole society. They all regard History as an insignificant subject and do not invest adequate resources to promote the teaching and learning of history. Parents have the same attitude because they believe that this subject cannot help their children to gain a job after graduation. Such attitudes toward the subject hinder teachers and students from carrying out the innovative pedagogy. The second difficulty relates to the use of test outcomes to evaluate teachers. As I said before nowadays exam outcomes are the main criterion to evaluate us as well as our students. Schools and BOET use them to reward or sanction teachers and decide students' class transference; parents base on them to evaluate our competence, too. To be honest, most of us know that, regardless of your effort, your teaching talent, if your students do not score well in the end-Of course, to make our lessons interesting we have to read reference documents but the content of textbooks and teacher books must b
Low teaching autonomy, limited freedom of speech and exam questions that require knowledge reproduction discourage teachers to teaching thinking skills to students./ Teachers do not devote their effort to teach thinking because marking guidelines are fixed, offering no marks to students with answers which are reasonable but inconsistent with provided keys.	For this teacher, obstacles towards a pedagogy that fosters the development of CT for students include the low significance of History in the curriculum, the use of test outcomes to evaluate teachers by BOET, schools and parents.
Our highest priority is the safety for test designers. What does it mean? It means that you should design questions whose answers can be found in either student or teacher books, to avoid debate on marking criteria	

The obtacles that teachers encounter when teaching for CT (interviewee 5: MTh)	The obtacles that teachers encounter when teaching for CT (interviewee 6: MT)
Of course I have some difficulties. As you know, we have only 45 minutes per period while each lesson contains a great deal of teaching content. If I organise a thinking activity, it will take at least five to ten minutes; thus, if I employ a thinking approach, I will not be able to follow the regulations that is to cover all the teaching contents set in the syllabus. /The pressure to meet the demands of the schools in terms of learning outcomes is a hindrance to the implementation of the suggested teaching approach. At the beginning of every school year we are assigned to have certain percentage of pass students and it is not easy to obtain such predetermined targets. As a result, we have to focus our effort on teaching what end-of-term tests require with the hope of fufilling our duty.	The first difficulty concerns the issue of freedom of speech in schools. Teaching for CT may involve the criticism of the State or Party's rules and this is considered a task that should not be done at schools. The second obstacle, as you know is the issue of textbooks. In our country, textbooks are considered as legal documents. We cannot omit any sections; thus we also have difficulty regarding the teaching time./ Teaching for CT, I think most teachers have mastered the theory. However, as you know, the expectation of parents, the social environment, the criteria used to evaluate teachers and the marking guidelines do not support it. To be honest, in spite of our awareness of the benefits of CT, we have to prioritise the above mentioned objectives first.
Overloaded textbooks and limited teaching autonomy hinder teacher effort to apply a CT pedagogy./ To meet the expectation of schools in terms of test outcomes, instead of developing CT skills for students, this teacher focuses his teaching on what tests require.	Limited school democracy, overloaded textbooks and limited teaching autonomy negatively affect the application of a critical pedagogy. / CT cannot help teachers to meet the expectation of parents, the social environment, the criteria used to evaluate teachers and the marking guidelines.

The obtacles that teachers encounter when teaching for CT (interviewee 7: MKh)	The obtacles that teachers encounter when teaching for CT (interviewee 8: FTh)	Themes
Teaching for CT is highly important as it helps develop skills needed in the temporary society. However, we do not have favourable conditions to carry out this objective. First, time for teaching thinking skills is rather limited. We have a long lesson to cover within 45 minutes. Second, in evaluating a lesson, most observers pay attention to whether the teacher covers all the contents rather than how the lesson is taught. Another obstacle for me is the mismatch between the teaching objectives and the requirements of exam questions. Normally, only students who think deeply could attain high grades. The paradox is that with the current assessment methods, students can achieve high marks without employing thinking skillsthe thinking habits of students.	One obstacle that I face in teaching thinking relates to the school environment. In several lessons, I allowed my students to discuss social and political issues. My students enjoyed the activities very much, but you know, I was then warned by my school leaders that, "You are not strict, your classrooms are always noisy, you indulge your students". / In my school, silent and strictly disciplined lessons are highly appreciated. If I encourage discussion, my lessons will be more noisy than usual and my colleagues will undervalue my teaching skills, my managers will see me as losing control of my class. That is a difficulty./ If I suggest change, my colleagues will see me as a stubborn, un-teachable and abnormal person. Others who sympathise with me may just say, "What a trouble maker! Why choose to be a pioneer?"... I feel worried about the current situation of education and really want to upgrade my teaching, but I cannot, because nobody supports me. Even worse, my effort can be seen as destructive, carrying Of course, to make our lessons interesting we have to read reference	Themes emerging from the comparison of statements: *overloaded textbooks, limited teaching autonomy, test requirements, low significance of the subject, limited school democracy, lack of collegial support, marking guidelines, students' learning methods, misconception of a good lesson, inappropriate criterion to evaluate an effective lesson, expectation of parents, use of test outcomes to evaluate teachers*
For this teacher, the key obstacle to teaching for CT are overloaded textbooks, inappropriate criterion to evaluate an effective lesson and the the mismatch between teaching objectives and the requirements of exam questions.	A school environment with limited democracy, an inappropriate criterior to evaluate an effective lesson and the lack of collegial support hinder the application of CT skills.	
Normally, only students who think deeply could attain high grades. The paradox is that with the current assessment methods, students can achieve high marks without employing thinking skillsthe thinking habits of students.	In several lessons, I allowed my students to discuss social and political issues. My students enjoyed the activities very much, but you know, I was then warned by my school leaders that, "You are not strict, your classrooms are always noisy, you indulge your students"/ If I suggest change, my colleagues will see me as a stubborn, un-teachable and abnormal person. Others who sympathise with me may just say, "What a trouble maker! Why choose to be a pioneer?"... I feel worried about the current situation of education and really want to upgrade my teaching, but I cannot, because nobody supports me. Even worse, my effort can be seen as destructive, carrying a negative intention by students, parents as well as school leaders.	Note: *Most of the above themes were mentioned in other parts of the interviews. Only the most prominent and well justified were selected to present in the report.*

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