The implementation of Chinese Quality Education in the context of the National College/University Entrance Examination: A case study of two senior secondary schools in Taiyuan City.

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COMPULSORY DECLARATION

This work has not been previously submitted in whole, or in part, for the award of any degree. It is my own work. Each significant contribution to, and quotation in, this dissertation from the work, or works, of other people has been attributed, and has been cited and referenced.

Signature:_____ Date: 26/03/2010

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ABSTRACT

As the unique selective mechanism for senior secondary school students who are "qualified" to access higher education institutions, the National College/University Entrance Examination (NCEE) in China has contributed significantly to a one-sided pursuit of examination scores and promotion rates by schools and to an overloaded "school burden" for students.

Thus, the Quality Education reforms were formally launched in 1993. These focus on developing well-rounded individuals, lightening the school students' academic workload, changing the one-sided pursuit of the NCEE promotion rate and reforming the NCEE testing subject areas, testing contents, and assessment methods. The latest Quality Education reform was a new curriculum introduced by the Ministry of Education (MoE) in July 2001.

This study focuses on the implementation of the new curriculum in practice and the tension between the goal of the Quality Education and the NCEE pressure. It provides an analysis of the impact of the new curriculum on the managerial decisions of the senior secondary school principals, the pedagogic strategies use of the teachers and the learning strategies of the Grade 11 students.

The site for this study is Taiyuan City, the capital city of Shanxi province. There were two participating schools, a high performing school (HPS) and a low performing school (LPS). This was done to examine the hypothesis that the degree of implementation of the new curriculum would be different in these schools due to differing performance pressures.

In order to find out how principals and teachers maintain and improve pass rates under the pressures of the NCEE while at the same time attempting to implement the requirements of the new curriculum, and the workload of the Grade 11 students, the

study conducted structured interviews with 2 principals and 8 teachers, administered questionnaires to 120 students and had 16 classroom observations in the schools.

The findings of this study indicated that, firstly, although the requirement of the new measures of the new curriculum had been implemented, the managerial decisions of the principals still focused on the NCEE preparation. Secondly, the pedagogic strategies that were employed by teachers for the compulsory courses focused only on examination preparation, and even if they attempted to employ the learner-centred teaching in the selective courses, the large class sizes and the tradition of the Examination-oriented Education hindered the implementation. Thirdly, instead of lightening the school students' academic workload, the organisation of the new curriculum aggravated it.

Thus, consequences of the pursuit of the NCEE promotion rate still remain, and there is a limited processing of the full implementation of the aims of Quality Education.

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CHAPTER 1

INTRODUCTION

This thesis is about the impact of the new curriculum on senior secondary school principals, teachers and Grade 11 students in Taiyuan City, Shanxi Province, China.

This new curriculum introduced by the Ministry of Education (MoE) in July 2001 in "*Basic Education Curriculum Reform Outline (Trial)*" *(Jichu Jiaoyu Kecheng Gaige Gangyao (Shixing))*, was a new response by authorities to the twin problems of an excessive "school burden" or workload on students and a school managerial focus on the so-called "promotion rate" to college/university as a means of attracting good students. In order to solve the two chronic problems, the new curriculum aimed to shift schooling from an Examination-oriented Education to a Quality Education, to reduce the academic workloads of students, to emphasise all-round moral, intellectual and physical development, to cultivate students' active participation in the learning process, and to break the traditional promotion rate oriented schooling.

These reform efforts are juxtaposed with the National College/University Entrance Examination (NCEE). This is the examination which qualifies senior secondary school graduates for access to the higher education institutions. As the only selection mechanism for senior secondary school students to access higher education institutions, the National College/University Entrance Examination has led to some unintended consequences for China's education system. Success in this test is the chief route to a higher level of education, and eventually a respectable job for Chinese students. Students are provided opportunities for higher level learning only if their school performances are evaluated based on their examination scores. Therefore, failure of the examination, whether the examination-taker is rural or urban, is devastating for a student and limits his/her opportunities for further education. Rural students who have failed often have to return to the desperation of rural life, while the urban failures have

tremendous difficulty finding jobs. A once promising and bright future is out of reach for students who fail the high-stakes tests. This threat and the strong desire to succeed gives students great motivation and a high expectation from learning.

There is a general consensus that the NCEE has had an influence on teaching and learning in the field of senior secondary education. In general, the competition for access to university or college is ferocious and the competitive NCEE has intensified "exam prepping" to extremes. Teachers ignore the course syllabi and drill their students exclusively toward the examination-oriented materials. School administrators also concentrate on the improvement of examination scores and the promotion rate from the NCEE because these will be used as the means to evaluate a school's effectiveness and performance. In addition more teaching time is allocated to important subject areas, the entire senior year is devoted to examination preparation, and students are overloaded with extra assignments to improve examination skills (Lu, 1993:62).This Examination-oriented Education system also places a tremendous emphasis on rote learning and makes for a general belief that the purpose of learning (and teaching) is to prepare for examinations. Thus, the one-sided pursuit of the increase of the promotion rate of students to a higher level of schooling and the overloaded school burden of students are the two chronic problems in China's selective Examination-oriented Education system.

However the examination scores and promotion rate are limited criteria for evaluating the quality of student learning, teacher instruction, and school administration. The State Education Commission (SEC) believed that the key to solving the two chronic problems (overloading students and the tendency towards a one-sided pursuit of the promotion rate) was to change the educational beliefs about learning and instruction (Ma, 1993; Man, 1997, Yang, 2004).The Chinese government has, since the 1980s, launched a series of reform agendas on a transformation from "Examination-oriented Education" to "Quality Education". The newest "Quality Education" reforms are the 3+X testing model and new curriculum. These are introduced respectively in "*Proposals on Deepening the Reform of the College Entrance Examination and*

Admission System (Jiaoyubu Guanyu Jingyibu Shenhua Putong Gaodengxuexiao Zhaoshengkaoshizhidu Gaige De Yijian)" (MoE: 02/1999) and "*Basic Education Curriculum Reform Outline (Trail) (Jichu Jiaoyu Kecheng Gaige Gangyao (Shixing)*)" (MoE: 07/2001)). The 3+X test model is requires all students to take examinations in three common areas: Chinese, Mathematics and English. Examinees have also to take an additional comprehensive test in either Arts and Humanities or Science, depending on which track they have chosen (X portion). The framework of the new curriculum was given with the changes concerning purpose and objectives, curriculum structure, curriculum standards, learning and teaching process, development of instructional materials, evaluation systems, and teacher preparation. The core goals of new curriculum include:

1. Provide a positive learning attitude and correct value orientation to learners.
2. Form a balanced, comprehensive and selective curriculum structure.
3. Focus on the every day experiences, learning interests and lifelong learning of learners.
4. Emphasise the originality, the practical application ability and the interpersonal skills of learners.
5. Provide a decentralised administrative mechanism.
6. Establish a new evaluation system which moves away from an overemphasis on selective mechanism for the development of learners, teachers and curricula.

The new curriculum also highlights several new measures, such as the "Course Credits System", the "Mobile Class System", the "Growth Portfolio" the "Learner-Centred Pedagogy", the "Selective Courses System" and so on.

However, Quality Education and educational assessment reform are interdependent. The school burden, promotion rate, pursuit of examination scores and Examination-oriented Education are inextricably intertwined. If one wishes to improve a senior secondary school's enrolment rate in colleges or universities, the only mechanism is students' scores in the NCEE. If one wishes to improve the scores, extra homework and examination-oriented teaching and learning are necessary. Given that extra homework will help students to acquire examination-oriented knowledge, examination–oriented pedagogy forces teachers and students to focus closely on testing contents of the NCEE.

If the government advocates lightening students' school burden and promoting all-round development in order to enhance Quality Education, the school will complain that the NCEE is a major barrier to the development of a quality-oriented education, given that an adequate NCEE score is the route to students' access to higher education. Thus teaching in schools will inevitably focus on an examination-oriented pedagogy. Similarly, school principals are under pressure to maintain and improve pass rates while at the same time attempting to implement the policy.

The main concern of this study is to explore the impact of the new curriculum on senior secondary school principals, teachers and Grade 11 students in Taiyuan City, Shanxi Province, China. Grade 11 students were selected for two reasons. Firstly, Grade 12 students would be in the preparation stage for the NCEE and would be unlikely to have time to respond to questionnaires. Secondly, Grade 10 students have not yet properly experienced the new curriculum by 2009.

This study also will examine the hypothesis that the degree of implementation of the new curriculum will be different in high performing schools to that in low performing schools. The selection principle will be based on the admission score of each senior secondary school in Taiyuan City. This admission mark will refer to "Instructions for the application and admission of Taiyuan City's senior secondary schools in 2009" which is published by The Administration Centre of Admission and Test of Taiyuan City. The senior secondary school admission score links closely with the NCEE promotion rate of schools. Students who have a high senior secondary school admission score will be treated as the maintenance of a high NCEE promotion rate in future, and these students are generally in the high performing schools. In addition, the NCEE promotion rate is one of the most important means for evaluating the effectiveness and performance of a senior secondary school in China. In the high performing schools students achieve and maintain a high NCEE promotion rate. Therefore a high NCEE promotion rate is still required and students in a high performing school still have a heavy "school burden". Conversely, the school academic workload in a low performing

school may be low because most of the students cannot perform very well at the NCEE. In this case the principal, teachers and students may have more time to focus on the implementation of the new curriculum.

Eight participating teachers and 2 school principals were randomly selected in two schools (4 teachers and 1 principal from each school). The four teachers are selected according to subject. They were selected in this way because the teachers who teach the different subjects will have different experiences and understandings of pedagogy and of the impact of the new curriculum on the one hand. On the other hand, selecting teachers by subjects will yield multiple-faceted evidence to the research in terms of the teachers' perspectives on the implementation of the new curriculum.

Although this study does not focus on "policy implementation" in the generic sense, this orientation provides some analytic guidelines. According to Fitz et al (1994:53), implementation research is broadly concerned with investigating the structures and processes within which policy objectives are put into practice. Since the 1970s, studies of policy implementation in general have become abundant, mostly inspired by the desire to explain the "implementation gap" (Hunter & Marks, 2002 cited in Treu et al, 2010:344).

There are two broad approaches to studying policy implementation. The "top down" approach conceives of policy formulation and policy implementation as two distinct phases within the policy process and organises research around them which is further advanced by the construction of models, structured around successive "stages" of the policy implementation process (Fitz et al, 1994: 54). This research is primarily concerned with identifying the conditions which would maximize the translation of policy objectives into practice (Sabatier, 1986 cited in Fitz et al, 1994: 54).

There could be an implementation gap as a result of many factors, which could "arise from the policy itself, the policy maker, or the environment in which the policy has been made" (Makinde, 2005:65). Firstly, top-down models take the statutory language

as their starting point. This fails to consider the significance of actions taken earlier in the policy-making process (Matland, 1995:147). Winter (1986:363) notes that "many implementation barriers are found in the initial stages of the policy-making process and to understand policy implementation". Secondly, "policy makers have been accused of seeing implementation as a purely administrative process and either ignoring the political aspects or trying to eliminate them" (Berman 1978:12).Thirdly, top-down models have been criticised for their exclusive emphasis on the statute framers as key actors. This criticism has two primary aspects. One argues that "local deliverers have expertise and knowledge to deal with the true problems; they therefore are in a better position to suggest purposeful policy" (Matland, 1995:148). The second variant argues from a positive perspective that "discretion for street-level bureaucrats is inevitably so great that it is simply unrealistic to expect policy designers to be able to control the actions of these agents" (*ibid*). That service deliverers ultimately determine policy is a major rationale of bottom-up models.

Implementation theory therefore indicates that, if the problems of a top-down approach are not addressed or modified in ways which take into account the importance of street-level bureaucrats, social policy implementation is unlikely to be successful (Morris & Scott , 2003:74).

A second approach that might help to overcome the limitations of a "top-down" orientation would be to seek to establish community agreement on values and then to translate them into policy. The "bottom up" approach emphasises the importance of the "street level" bureaucrats and locally based organisations to the success of policy implementation. This approach argues that the institutions, organisations and actors should be considered to be most closely involved in the lives of target groups and individuals and, it is they, through their interaction with consumers, who determine the extent to which policies are rendered effective (Fitz et al, 1994: 55). This is the orientation of this study which reports the responses to policy of the actors at the school level.

The main research question and sub questions that focused are indicated as below.

Main question:

What is the impact of the new curriculum on senior secondary school principals, teachers and Grade 11 students in one high performing and in one low performing school?

Sub questions

1. How do the new curricula demands impact on managerial decisions related to issues such as student intake, student and teacher allocation to classes, and curriculum organisation in the face of promotion rate pressures?
2. What has been the impact of the new curriculum on the pedagogic strategies of eight secondary school teachers (four in each school) with regard to content selection and pedagogic method use?
3. What has been the impact of the new curriculum on the learning strategies of the Grade 11 students in the two schools with regard to time use and workloads?

The site for this study is Taiyuan City, the capital city of Shanxi province. This city has been deliberately selected because of its accessibility and ease of mobility (Creswell, 2008:214). In addition, in terms of the Chinese centralised context, schools in Taiyuan City can be seen to be representative in the sense that these schools are all use a unified curriculum and textbooks which are officially stipulated by the MoE. All schools in Taiyuan City have been implementing the new curriculum policy since 2008. Senior secondary school students in Taiyuan City who want to access universities and colleges have to participate in the NCEE. Lastly, choosing to do fieldwork in Taiyuan City, a semi-developed city in China, provides an opportunity to examine the weakness of the new curriculum and its implementation, because if this research takes place at schools in a metropolis with access to abundant educational resources, some of the problems of the implementation of a new policy will not be immediately obvious.

A case study approach was chosen in order to understand the impact of the new curriculum on principals' managerial decisions, on teachers' content selection and use of teaching time and on the learning strategies the Grade 11 students applied in a high performing and in a low performing school. Research instruments included structured interviews of school principals and teachers, questionnaires for students, classroom observations to assess the teaching style and policy and school documentation review (Appendices 2, 3, 4, 5).

The lay-out of the thesis is as follows:

Chapter 2: Background and rationale of this study.

This chapter introduces the history of the Chinese examination system and the structure of the contemporary Chinese educational system as well as the reform agendas for the transformation from an examination-oriented pedagogy to a quality-oriented education. The rationale of this chapter is to explore the tension between the impact of the NCEE and the implementation of the goals of Quality Education.

Chapter 3: The impact of high-stakes testing.

This chapter reviews the impact of high-stakes testing in general and the impact of the NCEE in China. The key issues here are the "school burden" of students and the "one-sided pursuit of promotion rate"

Chapter 4: Research design and methodology.

This chapter explains the rationale for choosing a case study approach, as well as the choice as research instruments of questionnaires, interviews, observation and policy and school documentation review. The site and sample selection, data collection and capturing methods, as well as the limitations of this study, are also discussed.

Chapter 5: Overview of data.

This chapter provides an overview of the interviews, questionnaire and classroom observation from two schools, 2 principals, 8 teachers and 120 students. It comprises three main sections: the impact on managerial decisions of school principals, teachers' content selection and teaching time use, and the learning strategies of the Grade 11 students. Individual school analyses enable the research to identify the differentiation of impact of the new curriculum between a high performing school and a low performing school.

Chapter 6: Summary and conclusion.

The main conclusions of this study are summarised in this chapter.

CHAPTER 2

CHINESE EXAMINATION CULTURE AND QUALITY EDUCATION REFORM

2.1 Chinese Education System and Examination Culture

2.1.1 The structure of basic and secondary education systems in contemporary China

China has the largest education system in the world. According to statistics for 2003, there were a total of over 240 million students and 12 million full-time teachers in China (Mazurek & Winzer, 2006:72).

The Chinese education structure consists of four major tiers: primary, junior secondary, senior secondary and higher education. From the 1980s onwards, and as a result of strong market economy forces, in order to reduce its rigid control over schools, the Chinese Communist Party (CCP) had decided to "take resolute steps to streamline administration, devolve powers to units at lower levels so as to extend the schools' decision-making power in the administration of school affairs" (Lewin et al, 1994, cited in Chan&Mok, 2001:26). The structure of education finance has moved away rather rapidly from a centralised system with a narrow revenue base to a decentralised system with a diversified revenue base (Tsang, 1996:423).The four major tiers are therefore run by different levels of government. Primary education is administered and funded by district governments, secondary education is administered and funded by the city government and higher education is administered and funded by the Ministry of Education (MoE) and provincial governments (Tsang, 1996:425).

The first two tiers constitute the nine compulsory years of basic education. In 1986, the National People's Congress promulgated the "Compulsory Education Law of the People's Republic of China" (revised in 2006). According to this Act, all children over

six years of age are required to have a nine-year mandatory education, 6 years of primary school and 3 years junior secondary education. Since the promulgation of the "Compulsory Education Law of the People's Republic of China" in 1986, the 9 year compulsory education has been implemented by governments at various levels and has made significant progress. By 2002 there were altogether 456,900 primary schools with an enrollment of 121,567,100 students and the net enrollment rate of primary schools had reached 98.58%. 97.02% of the graduates enjoyed access to junior secondary schools. In addition, there were 65,600 junior secondary schools with an enrollment of 66,874,300 students and the net enrollment rate of junior secondary schools had risen to 90%. Curriculum planning and development in China is highly centralised and is governed by the MoE.
(http://www.moe.edu.cn/edoas/website18/en/basic_b.htm)

Table 2.1 presents the system as a whole. The length of study in primary schools is six years for 7-12 year old children. Education at this level is compulsory. The primary school curriculum consists of Chinese, Mathematics, Physical Education, Music, Art, and elementary instruction in nature, history, and geography, combined with practical work experiences around the school compound. A foreign language, often English, is introduced in the third grade. The graduates from the common primary school system proceed to general junior secondary schools without examination.

Secondary education consists of junior secondary schooling and senior secondary schooling which are a continuation of the primary system, with students studying the same core subjects at higher levels. There is an added emphasis on sports and physical education alongside moral, science, humanities and political education. The age of a junior secondary school student is normally 13-15 years. Education at this level is compulsory. At the end of the three years junior secondary schooling, students have to attend the Junior Secondary School Graduation Examination for graduation, and prepare for the Senior Secondary School Entrance Examination which is set by the

local education authorities as the means to screen students for the senior secondary level of schooling.

The senior secondary education consists of two types which are the regular senior secondary education and the vocational and technical training education. Those students who expect to go on to colleges or universities may choose to enter senior secondary school and those who want to work attend specialised secondary schools, vocational senior secondary schools, and skilled worker schools. The regular senior secondary schooling takes 3 years and the vocational and technical schooling takes 3 to 4 years. The age of senior secondary students is usually between 15-18 years. In general, after three years learning, the regular senior secondary school students have to pass the Senior Secondary School Graduation Examination for graduation, and prepare for the National College/University Entrance Examination (NCEE). Conversely, the vocational and technical training school students flow into the job market or study further.

Senior Secondary School Entrance Examination and National College/University Entrance Examination are the major mechanism for screening and selecting students for the next level of education. In many local areas the scores obtained in Senior Secondary School Entrance Examination are used for allocation of places at the senior level of secondary schooling. At the national level, the NCEE is the only selection mechanism for senior secondary school graduates wishing to enter higher education institutions.

Table 2.1: The basic education system in China

The Basic Education System in China						
Educational Levels	**Length**	**Admin Control**	**Curriculum**	**Graduation Examination**	**Examination to a higher lever schooling**	**Purposes of Teaching and Learning**
Primary Education	6 years (Compulsory) (7-12 years old)	District government (Finance and administration)	National Syllabus	Local Examination (Primary School Graduation Examination)	None	1. Basic knowledge about humanities, science, society etc. 2. Preparation for the Entrance to Junior Secondary School.
Junior Secondary Education	3 years (Compulsory) (13-15 years old)	City government (Finance and administration)	National Syllabus	Local Examination (Junior Secondary School Graduation Examination)	Local Examination (Senior Secondary School Entrance Examination)	1. Intermediate knowledge about humanities, science, society etc. 2. Entrance to Senior Secondary School. 3. Entrance to Vocational and Technical School.
Senior Secondary Education	3 years or 4 years (15-18 years old)	City government (Finance and administration)	National Syllabus	Local Examination (Senior Secondary School Graduation Examination)	National College Entrance Examination	1. Advanced knowledge of humanities, science, society etc. 2. Preparation for entrance to a colleges or university

2.1.2 Chinese examination culture and National College /University Entrance Examination

Amongst the many schools of thought in Chinese traditional culture, Confucianism has been the most important influence. According to Wang & Mao (1996:145) "the development and characteristics of the system of Chinese education have been greatly influenced by Confucianism and his traditional culture". Confucius was concerned with maintaining an orderly society, and consequently his teaching was conservative (Fouts & Chan, 1995:524). Confucianism has had a profound influence on the schooling system and competitive examination systems in Chinese society and culture. Confucius influenced the belief that education should be available to students from all social classes. Education in China has thus been an equalising force from ancient times. It became the means by which individuals from even the humblest backgrounds could rise to great heights. The Confucian model of education was designed to train leaders of the ancient Chinese imperial state. This led to the appearance of the Civil Service Examination (Keju) system in ancient China. The system of the Keju was first adopted in the Sui Dynasty (581-618 CE) and lasted through the Qing Dynasty (1644-1911) (Feng, 1994:1-7). Keju, with its long history, was the most important means of recruiting state officials into the large administration system of the Chinese imperial state.

As Elman says (1991:8), "the initial purpose of this system was to reduce the privileges of the hereditary aristocrat families that threatened the imperial autocracy". When Emperor Yang Di took the crown of a newly reunited China from his father Emperor Wen Di, he needed to assert his authority in the face of the old aristocratic families that had dominated China during the preceding period of disunity. He needed to find loyal and intelligent men to help him control the empire. The Imperial Examination for civil services was therefore established. Another purpose of this system was to select loyal and capable officials from the populace through open testing and not by the

recommendations of other officials from privileged families. It opened the door for ambitious commoners to take part in the empire's political life because it was open to all qualified applicants regardless of their social background (Elman, 1991:9). The Imperial Examination was not designed to provide education to the masses, nor did it aim to promote education in the empire (Feng, 1994:3). The concept of public education was not introduced to the Chinese culture until the turn of 20th century, when foreign forces invaded China (*ibid*).

As the founder of Chinese educational ideology, Confucius and his doctrines played an important role in the history of educational development.[1] The influence of the basic tenets of Confucian conceptions of learning has been pervasive over the centuries and can still be felt in contemporary education (Bush & Qiang, 2000:60). Some scholars believe that all education in China is based on Confucian principles even though the teachers and students are often unaware of the source (Jin & Cortazzi, 1998:741).

The National College/University Entrance Examination (NCEE) (or *Gaokao*) is an academic examination held annually on the mainland of the People's Republic of China. This examination is a prerequisite for entrance into almost all higher education institutions at the undergraduate level. The NCEE is a highly centralised educational testing system designed to select high school graduates for general higher education. It was established by the central government after the founding of the People's Republic of China (PRC) by the Communist Party of China (CPC) in 1949 (Feng, 1994:10).

The NCEE was discontinued during the Cultural Revolution (a political movement from 1966-1976). The first such examination after the Cultural Revolution took place in late 1977, and it was an historical event. A key characteristic of this examination was that there was no limit on the age and official educational background for examinees (Unger, 1980:32). Since its reinstitution in 1977 it has become the largest standardised educational testing system in the world (10,500,000 candidates in 2008). From 1978 the

[1]The issues here relate to text book learning and meritocracy which are the bases for the teaching styles and the examinations respectively (Yu & Suen, 2005: 25-29).

NCEE has been uniformly designed by the MoE, and all students across the country sit the same examination. High school students across the entire country take the NCEE on June 6, 7 and 8 every year. They are subsequently admitted into different universities based on their NCEE test scores.

2.2 Quality Education and Reform Agendas

2.2.1 Examination-oriented Education and Quality Education

The NCEE is the only authorised educational assessment tool in regular high school. As the unique selective mechanism for high school students who are "qualified" to access higher education institutions, the NCEE score and the promotion rate to a higher level of schooling (at all levels) used to be the main index applied by government to evaluate schools, teachers and students (Yang, 1993:19). This testing policy contributed significantly to a one-sided pursuit of test scores, to the pursuit of the promotion rate [by schools] to higher learning institutions, and to an overloaded "school burden"[for students] (Guo, 1993; Hao, 1993; Liao, 1993). In order to attain an increased promotion rate of graduates to a higher level of schooling, schools would overload students with more assignments and more classes, or would extend school time. This is Examination-oriented Education (*Yingshi Jiaoyu*). The primary goal of Examination-oriented Education is passing and getting a high mark in the examination. China's rigorous Examination-oriented Education has been widely criticised and reforms have attempted to broaden educational aims to include Quality Education (*Suzhi Jiaoyu*) which focuses on developing well-rounded individuals rather than students with memorisation skills and examination scores only.

However, Examination-oriented Education was not considered to be a quality-oriented education, and students' test scores were not exclusively equal to students' ability by the MoE (Zhang, 1997:5). A quality-oriented education was seen as a means to cultivate skills such as critical thinking, strong problem solving, as well as good citizenship, high

ethical and moral standards, and other positive qualities. Students whose abilities and qualities were confined to attaining high test scores were not necessarily well-educated, and therefore, might not be competitive nor able to meet the demands and challenges posed by both national economic development and the world global economy (Wang, 1997:44).

In 1993, Yang Xuewei, the director of the Examination Administration Centre of the State Education Commission, emphasised the necessity of reforming China's entrance examination system, particularly the NCEE, by pointing out the negative consequences such as the "school burden" and the "one-sided pursuit of promotion rate" (Yang, 1993:21). Yang (1993:20) commented that "educational proficiency and success should not be based exclusively on student test scores, instead, and more importantly, student attitudes towards society, social intelligence, and many other non-intellectual qualities should also be considered in a more comprehensive assessment of ability". Yang also expressed his concerns over the dilemma this reform might be confronted with: in spite of the unintended consequences, entrance examinations are the best way to select candidates for a higher level schooling when educational resources are limited. In terms of China's current policy, Yang (1993:18) said that:

> The college/university entrance examination is almost the only legitimate pathway for young people who live in the countryside and in the agricultural sector of society to find a way to go to urban areas. It is also the best way out for people who are not workers employed by the state to become state employers, and it is the most convenient way for physical labourers to be turned into mental labourers.

Yet China's education reform could not be achieved if too much significance was given to tests and test scores in decision making.

2.2.2 The reform agendas of Quality Education

Educational reform in China from 1993 focused on reforms of testing policies and aimed at promoting a quality education for the demands and challenges of the nation's

modernisations and the world global economy. The "Four Modernisations" officially announced and launched by Deng Xiaoping in 1978 were: Industry, Agriculture, National Defence and Science and Technology Modernisations. In order to meet the new demands and challenges of the country, on February 13, 1993, the State Education Commission (SEC) issued "*Guiding Principles of Chinese Education Reform and Development (Zhongguo Jiaoyu Gaige He Fazhan Gangyao).*"According to this document, the Central Committee clearly stated that education reform and development was the first priority of the Chinese government. This was the first time that the government officially announced the ultimate goal of assessment reform and how it might impact on China's economic and political development. From 1993 to 1998, the SEC issued more than 8 circulars and proposals about Quality Education to address the chronic problems which were being caused by the NCEE and an Examination-oriented Education. When China attempted to reform testing policies, additional reforms in the areas of curricula, teaching content, instruction pedagogy, and educational philosophy were also initiated. Both educational assessment reform and curricular reform were designed to improve educational quality.

The Chinese educators regard the year of 1999 as a milestone for Chinese educational reform as this was the first time that the government defined the contents, goals, and strategies to achieve the goal of Quality Education. The MoE promulgated a new testing model (3+X) for the NCEE on February 13, 1999. In light of the "*Proposals on Deepening the Reform of the College Entrance Examination and Admission System (Jiaoyubu Guanyu Jingyibu Shenhua Putong Gaodengxuexiao Zhaoshengkaoshizhidu Gaige De Yijian)*", all students were required to take examinations in three common areas: Chinese, Mathematics and English. In addition examinees were required to take a comprehensive test in either the Arts or the Science track (the X). The purpose of the 3+X assessment reform was to reduce students' academic burden, to release teachers and schools from the pressures of the pursuit of the NCEE promotion rate, and to promote Quality Education and the well-rounded development of students.

Further reform of educational assessment and Quality Education was adopted on the 7th of July in 2001, when the MoE formally issued the "*Basic Education Curriculum Reform Outline (Trial)*" *(Jichu Jiaoyu Kecheng Gaige Gangyao (Shixing))* for compulsory education curriculum reform. This circular outlined a new curriculum structure for primary, junior secondary and senior secondary school students. The aim of this reform was to initiate a major shift from the old curriculum to a more balanced curriculum which would develop students in a more holistic way. There were six objectives:

1. Shifting from a narrow perspective of knowledge delivery in classroom instruction to a perspective concerned with learning how to learn and developing positive attitudes.
2. Shifting from isolation among subjects to a balanced, integrative, and selective curriculum structure.
3. Shifting from out of date and extremely abstruse curriculum content to essential knowledge and skills in relation to students' lifelong learning.
4. Shifting from students learning passively to students developing capacities to process information, obtain new knowledge, analyse and solve problems, and communicate as well as cooperate with others.
5. No longer viewing the exclusive functions of curriculum evaluation to be identification and selection, but adding the promotion of student growth, teacher development, and instructional improvement as additional functions of curriculum evaluation.
6. Shifting from centralisation in curriculum control to dividing curriculum into three levels of control: central government, local authorities, and schools (Feng, 2006:132).

The new curriculum also highlighted several new systemic and assessment measures, such as the "Course Credits System", the "Mobile Class System", the "Growth Portfolio" the "Learner-Centred Pedagogy" and the "Selective Courses System". Firstly, it established the division between compulsory courses and selective courses and utilised a new mechanism for course assessment, the "Course credits system". Each course had different credits. In order to graduate students were required to have 116 credits in the compulsory section and 28 credits in the selective section. Secondly, the new curriculum broke from the fixed class setting. Students were now able to take subjects of their choice. However, for managerial purposes the original class setting

still exists. Thirdly, the new curriculum changed the traditional assessment methods. The schools were required to establish a comprehensive and dynamic growth portfolio for every student. The new curriculum underlined a new assessment method which involved evaluating students' outcomes via a combination of academic scores and a record of a student's growth. This method of assessment emphasised the "development space of students". Finally, the new curriculum required a learner-centred teaching method and stressed the interaction between students and teacher. Learner-centred teaching shows how to tie teaching and curriculum to the process and objectives of learning rather than to content delivery exclusively. According to Weimer (2002) learner-centred teaching focuses on:

1. What the student is learning.
2. How the student is learning.
3. The conditions under which the student is learning.
4. Whether the student is retaining and applying the learning and how current learning positions influence on the future learning of students.

The new policy thus emphasised that the teacher should consider the distinction of individual development between students as well as inspiring their learning interest and academic potential and focusing on the lifelong learning of learners instead of teacher-centred teaching. The new curriculum also advocated that schools have to enhance the construction of resources and materials for curriculum development.

The ultimate goals of the new curriculum reform of Quality Education were to correct the one-sided pursuit of the NCEE promotion rate and test scores, to reduce students' academic workloads, to promote a quality-oriented education and to develop competitive human resources in preparation for China's modernisation construction. (See Appendix 1 for the overview of the reform process since 1993)

The central government suggested that China had to continue the educational reform to promote quality education. Internationally the knowledge economy and the accelerating development in science and technology made the global economy more competitive. In this context quality and quantity of human resources in a nation are

critical to its competitiveness in the global competition. In this context Quality Education was equated with quality of human resources. At home China's reform was at a critical stage in terms of establishing a socialist market economy system and the realisation of modernisation. China needed quality human resources in both the socialist market economy and modernisation construction, and to be able to compete internationally.

2.3 Summary

Traditional Chinese education culture combined with the Chinese examination system produced a Chinese Examination-oriented Education. However, Examination-oriented Education was not Quality Education, and Chinese policy makers began to question whether students' test scores were equal to students' ability (Zhang, 1997:56). Chinese policy-makers and educators concurred that if students' test scores were overemphasised in decision making, teachers might be preparing students to take tests at the expense of all-rounded moral, intellectual and physical development. From 1993 to the current time, the Chinese central government, in many proposals and circulars, has indicated a policy aimed at lightening school students' academic workload, changing the one-sided pursuit of the NCEE promotion rate and reforming the NCEE testing subject areas, testing contents, assessment methods and so on.

However due to China's cultural, social, political and economic context, the NCEE still plays an important role in admission to Chinese higher education institutions. The NCEE and Examination-oriented Education have also caused some unintended consequences. Thus, in chapter 3 a detailed literature review on the impact of general high-stakes testing and the Chinese National College/University Entrance Examination on the school principals, school teachers and students will be attempt to examine this process.

CHAPTER 3

THE IMPACT OF HIGH-STAKES TESTING

3.1 Introduction

Madaus (1988) defined the nature and implications of "high-stake testing": "A test can be considered high-stakes if the results of the test produce or cause perceived or real consequences for students, staff, or schools" (Cited in Langenfeld *et al* 1997:7). Tests serve a number of functions in society, ranging from "encouraging higher levels of competence and knowledge" and "checking patronage and corruption" to "allocating sparse places in higher education" and "measuring and improving the effectiveness of teachers and schools" (Eckstein and Noah, 1993:9-14). High-stakes tests are tests whose results are used to make significant educational decisions about schools, teachers, administrators, and students.

The political and social reasons for using high-stakes tests are complex. They involve social, economic, political and national considerations. Linn (2000:4) argues that there are several reasons for the great appeal of assessment as an agent of reform to policymakers in America: 1) "Tests and assessment are relatively inexpensive"; 2) "Testing and assessment can be externally mandated"; 3) "Testing and assessment changes can be rapidly implemented"; 4) "Results are visible". The use of high-stakes tests for academic reasons is straightforward. As Heubert & Hauser (1999) state: "legislators and policymakers sanction the use of high-stakes testing with the intent to use tests in setting high standards for student learning, raising student achievement-levels, ensuring equal educational opportunity, fostering parental involvement in student learning, and increasing public support for schools" (http://www.nap.edu/html/highstakes/).

However, there are unintended consequences of high-stakes testing. Critics argue that such testing does not promote real improvements in student learning. Rather, teachers

and principals are motivated to meet standards by "teaching for the test" instead of creating an improved learning environment. Additionally, the test can have unintended consequences, such as narrowing curriculum, increasing dropout rate, and contributing to the higher retention rate (Amrein & Berliner, 2002b:35-38).

In this section, I will review the impact of high-stakes testing on the one hand, and discuss the impacts of high-stakes testing in the Chinese context as well as the reform agendas launched by the Chinese government to alleviate the negative effects of the Chinese National College/University Entrance Examination.

3.2 Impact of High-stakes Testing: A Review of Empirical Research

As the proverb says, "There are two sides to a coin". High-stakes testing generates both positive and negative effects. In this section, the impact of high- stakes testing on principals, teachers and learners, as examined in empirical research, will be reviewed.

3.2.1 High-stakes testing and its impact on principals

High-stakes testing can be a useful tool for principals. As an assessment tool, high-stakes testing can be used by school principals to guide instruction, examine school development, and allocate school resources effectively. According to Nolen et al (1992:12), school principals will use high-stakes testing to guide instruction, to communicate with parents, and to identify gifted and remedial students. In addition, test scores can be used by principals for evaluating teaching methods and programs, identifying teacher strengths and weaknesses, evaluating teacher effectiveness, evaluating materials, advertising the school, and making tenure decisions.

However, according to Stecher (2002:86), the negative effects of high-stakes testing on school principals can be summarised as follows: 1) it leads school principals to enact policies to increase test scores while not necessarily increasing learning, 2) it causes school principals to reallocate resources to tested subjects at the expense of other

subjects, 3) it leads school principals to waste resources on test preparation, 4) it distracts school principals from other school needs and problems.

3.2.2 High-stakes testing and its impact on teachers

Teachers, as the executants of teaching also experience the impact of high-stakes testing. Amrein & Berliner (2002a:6) summarised the positive effects of high-stakes testing on teachers from the findings of empirical researches: 1) teachers need, or can make use of, high-stakes tests guide them in what is important to learn and to teach; 2) teachers also need to be held accountable through high-stakes tests to motivate them to teach better, in particular the laziest teachers; 3) teachers use the test results to provide better instruction for their students.

Stecher (2002:86) states that high-stakes testing can: 1) support diagnosis of individual student needs, 2) help teachers identify areas of strength and weakness in their curriculum, 3) help teachers identify content not mastered by students and redirect instruction, 4) motivate teachers to work harder and smarter, 5) lead teachers to align instruction with standards, 6) encourage teachers to participate in professional development to improve their practice.

However, “teachers perceive that they have little control over setting the curriculum” (Schultz & Oyler, 2006:438). Lazear (2006:1038) reported that high stakes testing induced teachers to focus only on the test and ignore untested aspects of knowledge, “teaching to the test”, limiting instruction to only those parts of the curriculum that are sure to be tested, requiring students to spend hours memorising facts and drilling students on test taking strategies. Mathison and Freeman (2006:56) argue that “teaching to the test has altered the priorities of teachers. Teachers felt they not only lost control over the way they teach, but that the way they were being required to teach contradicts what they learned as professionals”. When considering teachers’ perceptions of the impact of high-stakes testing, a study showed that a majority of teachers reported state testing had led them to compromise their conceptions of what

constitutes best practice (Abrams, Pedulla, & Madaus, 2003 Cited in Brimijoin, 2005:258). Abrams et al (2003:23) argued that the "implementation of the state test may, in effect, lead to a de-professionalisation of teachers". Cimbricz (2002) found that teachers perceive that they have become testing coaches and are less likely to try innovative classroom practices.

Some studies indicate that high-stakes assessments increase stress and decrease morale among teachers. Shepard and Dougherty (1991:434) found that teachers in their survey felt a great deal of pressure to improve test scores. In their study, 79% of teachers surveyed reported that they felt "substantial" or "great" pressure from the raising of test scores and preparing students for the state test. Also, 66% of teachers reported that the media and newspapers were a source of great pressure. Results of a survey in Maryland included 88% of teachers reporting that they believed that they were under "undue pressure" to improve teacher performance. When a similar question was put to Kentucky teachers, 98% reported that they also were under "undue pressure" (Koretz, 1996, cited in Abrams *et al*: 19). Teachers are more involved in high-stakes testing because the test scores are visible public records of their students. " Test scores of their students have become public comparative measures of teacher and school effectiveness; many districts evaluate teachers and principals for promotion and merit-based pay on the basis of high-stakes test scores "(Paris *et al*, 2000:89). When salary, professional status, and careers depend on test scores, teachers become anxious about high-stakes tests. They become involved because they are supposed to be responsible for improving test scores so they engage in more test-preparation activities.

3.2.3 High-stakes testing and its impact on learners

High-stakes testing has a significant influence on students' performance. Much of the debate over high-stakes testing programs is fuelled by arguments regarding their effects on students.

According to Amrein and Berliner (2002a:5) in a survey from 27 states in America where high-stakes testing programs are already in place, the positive impacts on learners were: 1) students can be effective instruments in their own learning and the students are informed of their current performance and given clear steps for remediation, 2) students work harder and learn more when they have to take high-stakes tests, 3) students are motivated to do their best and score well on high-stakes tests, and scoring well in the test will lead to feelings of success, while doing poorly on such tests will lead to increased efforts to learn, 4) supporters of high-stakes testing also assume that the tests are effective indicators of the quality of curricula taught to students in schools, 5) the tests provide an equal opportunity for all students to demonstrate their knowledge.

However, in the same article, Amrein and Berliner (2002a:57) revealed that high-stakes tests showed no systemic evidence of improved achievement after states implemented high-stakes testing programs. The Amrein-Berliner data also suggest that in states that implemented high-stakes graduation examinations, academic achievement of students appeared to decline. Meanwhile, in article "An Analysis of Some Unintended and Negative Consequences of High-Stakes Testing", Amrein and Berliner (2002b:35-38) examined the unintended consequences of high-stakes tests in 16 states that have implemented high-stakes graduation examinations. In this study, they found: 1) higher rates of retention of low-performing students in a grade in the years before high- stakes tests were administered. This could be explained as an attempt to better prepare students to take high-stakes tests, 2) higher numbers of low-performing students being suspended before testing days, expelled from school before tests, or being reclassified as exempt from testing, 3) reduced offerings in art, music, science, social studies, and physical education-all subjects that are less often tested.

As can be seen, there are both positive and negative consequences of high-stakes testing for school principals, teachers and learners. There are two questions that arise. Firstly, are the impacts of these tests evenly distributed across the three groups, that is,

does the burden fall equally on all those involved in high-stakes testing? Secondly, does high-stakes testing produce the same impacts worldwide? I think that the major distinction between tests and their effects are differentiated by the "scales" and "stakes" of a particular test. For example, we cannot reasonably compare the Chinese National College /University Entrance Examination with such American high-stakes tests as the National Assessment of Educational Progress (NAEP), American College Test (ACT), Scholastic Aptitude Test (SAT), and Advanced Placement (AP), even though they have the characteristics of high-stake testing. This is, because the candidates' population of the NCEE is different from its western counterparts. Due to the fact that the NCEE offers Chinese students a unique pathway to access higher education institutions, the "stakes" in the NCEE are extremely high. Thus the NCEE in China has more complex social, academic and political consequences for China's society. These factors are discussed in the following section.

3.3 The impact of the Chinese National College/University Entrance Examination

Educational reform has been a widely discussed topic in Chinese media for a number of years and numerous reform directives has been issued by government authorities. In the field of education in China today what involves the society as a whole, and what generates concern from various social classes, is most likely to be the National College /University Entrance Examination.

Like its international counterparts, it can be argued that the NCEE represents a number of advantages for principals, teachers and students:

1) The NCEE provides a guide for Chinese school principals in administering school resources, evaluating teachers and students and planning school development.
2) The NCEE helps Chinese teachers to focus on the major teaching content, understand and assess their pedagogic achievements from the NCEE results. It also motivates teachers to work harder.
3) The NCEE provides an effective way for Chinese students to prepare for further learning, encourages students to work harder and to learn diligently .Chinese

> students see its most important advantage as being to provide an egalitarian opportunity for those who want to change their destiny or achieve social and economic mobility via education regardless of their social backgrounds.

However, Yu and Suen (2005:25) argued that "the NCEE system has led to many unintended social consequences". The negative consequences of the NCEE are more far-reaching than in other countries as an extreme example of such consequences of high-stakes testing show. In this section, I will first outline the reasons why the Chinese NCEE can be seen as an extreme example of the negative effects of high-stakes testing. Secondly I will focus and expand on the negative impacts of the Chinese NCEE on school principals, teachers and students.

3.3.1 An extreme example of high-stakes testing

As an extreme example of high-stakes testing, the NCEE shows four different traits: the cultural inheritance, the large numbers of examinees, fierce competition and the intervention of government and the public.

To explain why the NCEE in China is cited as an extreme example of high-stakes testing, we firstly need to consider the Chinese examination culture. As discussed earlier, China is the birthplace of the high-stakes testing system and has a long-term history of an examination culture and tradition. In China the NCEE is regarded as a cultural legacy of Keju to some extent as well as being a uniform and standardised mechanism for the selection of those students from senior secondary school to be admitted to tertiary education institutions.

Moreover, the NCEE in China is perceived to be of such crucial importance as to be widely described as a "once in a lifetime" opportunity, or a "one test to determine a life" for most high school graduates (Wang, 2006:2) even though candidates can re-sit the examination. Although, there is no accurate official data, according to the data from China Statistical Yearbook 2004, the number of candidates sitting the NCEE, together with the success rate, has changed in recent years. There were

2,975,000 candidates (success rate of 36.3%) in 1998, and this figure increased to 5,270,000 (success rate: 52%) in 2002, 6,130,000 in 2003, and over 7,000,000 in 2004 (success rate: 45%) (cited in Davey *et al*, 2007:390). Updated data from the Internet shows that there were 10,500,000 candidates in 2008 with a success rate of over 57%. (http://news.sina.com.cn/c/2008-06-07/035315698424.shtml)

Thirdly, the competition in NCEE is difficult to estimate. First, the test is offered only once a year. If a student misses it or fails to perform to expectations; he or she has to wait an entire year to retake it. Second, a decent higher education background is critical to securing a lucrative job. More and more Chinese youth wish to enter higher education institutions after senior secondary school graduation. Studying at a higher education institution is accepted as a way of improving a student's chances in the competition for future occupational opportunity and for boosting one's social status. Lastly, the government's residential policy used to prevent residents in smaller towns and cities from migrating to larger or more modernised urban cities where more educational and career opportunities were available, or where living and working conditions were perceived to be much better (Lin, 1993; Niu, 1992; Pepper, 1984). Rural peasants were subject to a very hard life in the fields, with little government support for medical care, pension and other social benefits that urban residents enjoyed and as a result rural people in China used to have a very low social status (Niu, 1992:28). For most rural students, going to college or university was the only way to work in a city and become an urban resident, hence the importance of the NCEE.

The competitiveness of NCEE means that teachers and parents place considerable pressure on their children to succeed in school and the preparation for examinations begins at an early age. The reinstated NCEE revived the Chinese people's enthusiasm for testing. Students, teachers, schools, parents, and the whole society were instantly driven to focus on entrance examinations and student test scores. Student learning, teaching methods, and educational evaluations were all geared toward NCEE scores.

Finally, during the 6th 7th and 8th of June every year, there is widespread public support for examinees. Surveys show that the NCEE has become a "nationwide primary examination". Special arrangements for traffic control, police vehicle escorts bus station changes, and airline diversions are mounted during the NCEE season (Zhang, 2008:138). Furthermore, the outside of NCEE venues always shows a high tension atmosphere. Wang (2006:1) describes such an atmosphere:

> Outside the campus gate stood a row of large white display boards reminding examinees of the test regulations, examinee obligations, and examples of violations. An ambulance was parked beyond the signs in a corner of the entrance square, ready to tend to any emergency, and an air-conditioned recreational vehicle welcomed anyone wishing to seek temporary refuge from the early summer heat. Uniformed campus security guards checked the test registration and personal identification cards of examinees filing into the restricted areas of the campus. The only items permitted were bicycles for personal transportation and test kits containing pens, pencils, erasers, and rulers. Before reaching their designated test rooms, examinees walked along a shaded path lined with large wooden boards displaying both welcomes and reminders.

These above, are the general traits of the NCEE. Below I concretely explain how the NCEE impacts on the life of Chinese school principals, teachers and students

3.3.2 The NCEE and its impact on Chinese school principals

The promotion rate is the percentage of all school graduates who are accepted to a higher level of education. This rate is decided by students' test scores in entrance examinations. For over two decades it has been the only method used to assess student learning, teacher instruction and school administration. Increasing the promotion rate has been the goal for many schools in China.

The dream of almost every school student and their families is the attainment of a high NCEE score and admission to one of the national "key" universities. Because educational resources have been and remain scarce in China, selected "key" institutions, usually those with records of past educational accomplishment have been given priority in the assignment of teachers, equipment, and funds. Records of student success in the

NCEE are seen by Chinese society as the most important or sole indicator of the quality of a school. This is why school teachers, principals and parents strongly emphasise the importance of diligent study and high NCEE scores. For instance, there is a reward system for schools linked to the number of their students who pass the national university entrance examination and enrol successfully in universities. If students within a community perform poorly in the public examinations, the head of the education department in the local government can be fired. If the performance of a school is much lower than expected the principal of the school can be removed from his or her post. If the performance of students in a class is not as good as it should be, the class teacher might lose a part or even all of his or her bonus (He, 2002).

Principals feel conflicted by this trend to increase test scores and ambivalent about the value of the tests. Paris et al (2000:94) describe the kind of pressure and conflicting demands experienced by principals:

> They understand the negative impact on students and teachers and they know that some students score poorly on the tests for reasons other than low achievement or poor effort. Principals know the loopholes for student exemption and they know the temptations that teachers face to help their students score well. Yet they also know the administrative and public demand for test scores. They have to reconcile these conflicting pressures in their reports to teachers and parents which places many principals in untenable situations defending tests and policies that they do not consider appropriate or valid. They are further compromised when their own schools are evaluated by the test scores and perhaps their own salaries and careers are influenced by test scores.

Many principals in China are coerced by these kinds of pressures to be advocates for test preparation, test scores and promotion rate of students regardless of their professional judgments about the usefulness of the tests in students' holistic education.

3.3.3 The NCEE and its impact on Chinese school teachers

The development and characteristics of high-stakes testing in China have been influenced to a great extent by Confucianism. This presents as not only a complex tradition which embraces various goals for teaching and learning but also a cultural inheritance of pedagogy. The influence of Confucianism makes for transmission teaching and passive learning. As a result the learning traditions in China have generally been teacher-centred, a process of passive transmission of knowledge and skills from teacher to students. In China, for thousands of years, education or class teaching has followed a traditional teaching pattern with teachers dominating the class for an entire lesson, explaining difficult points to students. Students seldom have the time or opportunity to challenge their teachers. The classroom atmosphere is once of solemnity and silence.

Pratt (1992:305) explains that one of the concepts of Chinese teaching is the delivery of content. In China the teacher's responsibility is to deliver content and the learner's responsibility is to absorb it. In other words, the teachers take entire responsibility for transmission of knowledge and the learners remain passive recipients. This is a Teacher-centred learning strategy. Both Chinese students and teachers pay particular attention to establishing a systematic structure of knowledge and illustrating fully the relationship among key concepts and theories (Pratt et al., 1999:306). Many teachers prefer deductive rather than inductive reasoning as the major method of teaching. Teachers first present theories or concepts step by step and then proceed in an orderly way with specific examples to explain the concepts. It is very important for teachers to be "correct" and "detailed" in teaching basic theories and concepts. Whether the lessons are lively and interesting is of secondary importance (Su & Su, 1994:263). The sole importance of teaching and learning therefore is for the examination preparation.

Concerns have also been raised about corruption. In previous years it has been claimed that the contents of NCEE were revealed to prospective students, and some teachers

have phoned students during examinations to help with tough questions (Plafker, 1997, Hewitt, 2001 cited in Davey *et al*, 2007:392).

3.3.4 The NCEE and its impact on Chinese students

The whole basic and secondary educational systems in China have been and remain examination-oriented. In the pursuit of higher promotion rates to a higher level of schooling, schools have increased the burden on students by extending school time, adding extra school assignments, sorting and placing students in different tracks, or focusing almost exclusively on the top performing students (Niu, 1992; Yang, 2003).

Parents are very focussed on the results of the schooling of their children, in particular on their examination marks. Most parents in China reward their children for high examination marks, and punish them for poor marks. Chinese students are likely to feel guilty and to be blamed by their teachers and parents if they fail examinations. The aim of all Chinese parents is to improve their children's examination performances. In order to maximize the chance of NCEE success, most high school students spend their senior year studying tirelessly for this examination. Such test preparation normally means 12 to 16 hours a day of rigorous study. Review, practice tests and organised competitions in stimulated NCEE tests leave little time for leisure activities. According to the "Survey: Chinese high school students study more", released by the China Youth and Children Research Centre (CYCRC) in September-October of 2008 which covered nearly 4,000 students in senior secondary schools and vocational secondary schools in four countries, Chinese senior secondary school students have the longest study hours compared to their peers in Japan, the US and the Republic of Korea. About 78.3 percent of Chinese students said they spend more than eight hours at school and 56.7 percent said they study at least two more hours each day at home. By contrast, only 24.7 percent of their peers in the US, 20.5 percent in Japan and 15.4 percent in Korea study more than two hours after school (China Daily, 24/03/2009).

The NCEE has unfortunately increased the rate of repeaters and dropouts in both rural and urban schools. According to Lin's (1993) research, "the higher grade level that the student reached, the more likely he or she was to become a repeater". The state unified curricula have become increasingly difficult as rural students pass and gain access to higher grades. Those students who failed to lay a sound foundation in their earlier years would eventually fall behind other students and would then be academically forced out of the system. Psychologically, being assigned to a poor or slow class is a blow to a student's self-respect and confidence. Many repeaters have also suffered psychological damage (*Ibid*). Many repeaters feel embarrassed and discouraged. Their younger classmates may look down upon them and tease them for their poor school performance, their parents probably scolded them, and their teachers often ignore them.

Since 1977, when the NCEE was restored, all schooling was geared to these examinations. Consequently, the goal of most schools was to promote students to higher education through examination success. Many strategies were applied to achieve this principal goal. Besides improving the quality of teaching (actually intensifying students test-taking skills), many schools also intentionally held back students who were unlikely to succeed on the examination (Bratton, 1979; Lin, 1993). To stratify students according to performance, schools give students a series of examinations. Based on their scores, students were assigned to "good" classes (fast track), or "poor" classes (slow track). The few elite students who scored well in the examinations were given preferential treatment, while the majority of students were not. Instruction concentrated on the small number of top students who intended to enter a higher education institution, while the majority of students were ignored (Lin, 1993; Man, 1997). Lastly, morality and citizenship were not a major focus of education in schools, though the government kept stating that schools and teachers should pay close attention to moral and citizenship education. University teachers also complained that most selected high school graduates were not academically, psychologically, or morally ready for college life and college education (He, 2004). Test skills were reflected in their academic test scores, but other qualities such as morality, citizenship,

responsibility, and adaptability could not be easily measured. A student's test score was the main criterion used to evaluate student overall development. Consequently, schools, teachers, parents, and students gave their attention to improving test-taking skills rather than to the development of other qualities and skills. Many Chinese people complained that the NCEE selection mechanism and the Examination-oriented Education actually made most Chinese students selfish, immoral, and irresponsible. The social effects of this academic problem were becoming evident in the rising rate of college students who were committing suicide, murder, robbery, and other serious crimes (Zhang, 2008:140).

The review of empirical study and an analysis of the Chinese NCEE provide a summary of the impacts of high-stakes testing on school principals, teachers and student. These are detailed in Table 3.1 below.

Table 3.1: The impacts of high–stakes testing

Impacts of High-stakes Testing		
	Positive Impacts	Negative Impacts
Principals	1. Provides guide for instruction and for communicating with parents, students and teachers. 2. Serves as an evaluation of teaching methods, teacher effectiveness and materials. 3. Identify teacher strengths and weaknesses. 4. Assists in advertising the school, and in making tenure decisions.	1. Leads school principals to enact policies to increase test scores but not necessarily increasing learning. 2. Causes school principals to reallocate resources to tested subjects at the expense of other subjects. 3. Leads school principals to waste resources on test preparation. 4. Distracts school principals from other school needs and problems. 5. Leads to the de-professionalisation of principals 6. Emphasizes the pursuit of promotion ratio of students
	Positive Impacts	Negative Impacts
Teachers	1. Provides better instruction for students. 2. Diagnoses individual student needs. 3. Identifies areas of strength and weakness in their curriculum. 4. Identifies content not mastered by students and redirects instruction. 5. Motivates teachers to work harder and 'smarter'. 6. Aligns instruction with standards. 7. Encourages professional development.	1. Teaching narrowly to the test and engage in more test-preparation activities. 2. Ignore untested aspects of knowledge. 3. Little control over setting the curriculum. 4. Decreases retention rate. 5. Leads to the de-professionalisation of teachers. 6. Increases stress and decreases morale. 7. Cheating and corruption. 8. Encourages a teacher-centred teaching method.
	Positive Impacts	Negative Impacts
Learners	1. Provides effective instruments for current and future learning. 2. Motivates to work harder and learn diligently for the best score. 3. Provides an assessment instrument for curricula taught in schools. 4. Provides an equal opportunity for all students regardless of social background.	1. Does not promote academic achievements of learners. 2. Decreases achievement of learners. 3. Increases dropout rate. 4. Contributes to the higher retention rate 5. Makes for a narrow curriculum and emphasis of memorisation and rote learning. 6. Abundant time is wasted for tests preparation. 7. Narrows basic skill and test driven content. 8. Leads to extended study times and great pressure 9. Ignores morality and citizenship education.

An extreme example of the consequences of high-stakes testing, the NCEE has triggered some unintended social and academic consequences on Chinese society and the schooling system. However, because of the strong influence of Chinese cultural inheritance and the existing legitimate means of enrolling students for tertiary education, we can not abolish the NCEE system in the Chinese context. Since 1990s, the Chinese government has been issuing numerous circulars and proposals on Quality Education in an attempt to deal with the negative consequences of the NCEE. The main focus of the new Quality Education (see section 2.2.2) mainly focus on the reduction of the academic workload of students' from primary school to senior secondary school, changing the one-sided pursuit of promotion rate, all-rounded development and on the preparation for construction of Chinese modernisation .

Since the new NCEE testing structure 3+X and new curricula have been implemented, the life of senior secondary students has changed to some degree. Theoretically they have less of an academic burden and more spare time for personal development, they may have opportunities for an all-rounded development, and they may not worry about the NCEE marks and promotion rate anymore. Thus, whether the reform agendas are able to resolve the chronic problems which caused by the NCEE system and fulfil the goals of Quality Education at senior secondary level of schooling is the main focus of this study.

3.4 Summary and Conclusion

The literature review of the impact of general high-stakes testing and the Chinese NCEE shows its positive impact and unintended consequences on school principals, school teachers and students.

Because of fierce competition, the large number of examinees and the cultural inheritance, the impact of NCEE has been extreme, compared to that in other countries studied, in the Chinese context. However as the NCEE is the only means of accessing tertiary institutions for high school graduates in China, it is impossible for the

government to abolish the NCEE. Thus, the coexistence of NCEE and the goals of Quality Education will be in collision, and the question of whether the new curriculum can achieve the goal of Quality Education remains. This study focuses on the impact of the new curriculum on senior secondary school principals, teachers and students. In the course of this study relevant evidence of the ways in which the new curriculum impacts on school principals' managerial decision making, on school teachers' pedagogic strategies and on the learning strategies of Grade 11 students will be collected and presented. In addition, the collected evidence may also be used as a means to test the effect of new Quality Education reform. Thereafter the correlative analysis on the gap between Quality Education policies and actual implementation will be analysed and assessed.

Chapter 4 deals with the research design and methodology used in this study.

CHAPTER 4

RESEARCH DESIGN AND METHODOLOGY

This section gives a brief description of the methodology that the study will employ. This study will mainly employ a qualitative approach. In general, the main purpose of qualitative research is to "provide an in-depth description and understanding of the human experience" (Lichtman & Cech, 2006:8). Gorman and Clayton (2005:3) also suggest that "qualitative research is a process of enquiry that draws data from the context in which events occur, in an attempt to describe these occurrences, as a means of determining the process in which events are embedded and the perspectives of those participating in the events, using induction to derive possible explanations based on observed phenomena". The strengths of qualitative research "derive primarily from its inductive approach, its focus on specific situations or people, and its emphasis on words rather than numbers" (Maxwell, 1996:17). The advantage of qualitative research over quantitative research is that it can "capture subtleties of meaning and interpretation that numbers do not convey" (Gray *et al*, 2007:43).

The key tool utilised here is a case study approach.

4.1 Case Study

The "case study approach" refers to the "application of specific qualitative research methods in a specific setting" (Gorman & Clayton, 2005:47). Wisker (2001:190) also says that "case study as a method has been around for a long time and offers an opportunity to consider a situation, individual, event, group, organization, or whatever is appropriate as the object of study". The case study aims to "understand the case in depth, and in its natural setting, recognizing its complexity and its context" (Punch, 1998:150).

The case study approach is employed in this study for two reasons. The strength of the case study approach is that "it allows the researcher to focus on a specific instance or

situation and to explore the various interactive processes at work within that situation" (Verma & Mallick, 1999:114). A case study based on interview, observation and questionnaire can therefore offer an approach which is firmly rooted to the daily life of the participants. Use of this approach can help the researcher to obtain authentic first-hand and verifiable evidence which can facilitate analysis of the research question.

Secondly, according to Cohen and Manion (1994:106), a case study can "probe deeply and analyse intensively the multifarious phenomena that constitute the life cycle of the unit with a view to establishing generalization about the wider population to which that unit belongs". Kumar (2005:113) also says that "the case study approach rests on the assumption that the case being studied is typical of case of a certain type so that, through intensive analysis, a generalisation may be made that will be applicable to other cases of the same type". In this study, the researching of selected schools will help the researcher to build generalisations about the impact of the new curriculum on the managerial decisions of school principals, on teachers' pedagogic practices and the on the learning strategies of the Grade 11 students, as well as the differentiation of impact of the new curriculum on high performing schools and low performing schools.

4.2 Site and Sample Selection

4.2.1 Site selection

The site for this study, Taiyuan City, is the capital city of Shanxi province. This city has been selected because of its accessibility (see Creswell, 2008:214). It was easy for the researcher to carry out the study in Taiyuan City because that is where he stays and works and it was possible to build interactive relationships with the study participants (see Gorman & Clayton, 2005:84).

In addition, in terms of the Chinese centralised context, schools in Taiyuan City are representative of typical Chinese schools, because the schools all use a unified curriculum and the textbooks are officially stipulated by the MoE. Moreover, all

schools in Taiyuan City have implemented the new curriculum policy since 2008 and those senior secondary school students in Taiyuan City who want to access universities and colleges have to participate in the NCEE.

Lastly, situating the fieldwork study in Taiyuan, a "semi-developed" Chinese city provides an excellent opportunity to examine the weaknesses and impediments attendant on the implementation of the new curriculum. If this research took place in metropolis cities such as Shanghai, Beijing and Guangzhou which have abundant educational resources, some of the problems related to the finance distribution, the degree of implementation of the NCEE, and the impediments to implementation would have been hidden.

For purposes of research, a group of principals, teachers and students in the context of Taiyuan City can be seen as a representative sample in a study of the effects of the implementation of the new curriculum.

4.2.2 Sample selection

"Sampling is the selection of a relatively small group of individuals from whom we obtain data in order to be able to generalize about a large group" (Gray *et al*, 2007:102). It is usually considered necessary to sample or select because "a complete census of the wider population in which you are interested is either impossible, impractical to achieve or simply not necessary" (Mason, 1995:83). "Sampling, therefore, selects a few (a sample) from a bigger group (the sampling population) to become the basis for estimating or predicting the prevalence of an unknown piece of information, situation or outcomes regarding the bigger group" (Kumar, 2005:164).

The two principal types of sampling are probability and non-probability sampling. In the first case, criteria for selecting respondents are known; in the second case, the criteria are unknown (Scott & Usher, 1999:69). In this study "purposive sampling" which belongs to the category of probability sampling will be employed. "Purposive

sampling is a general term for judgmental sampling in which the researcher purposely selects certain groups or individuals for their relevance to the issue being studied" (Gray *et al*, 2007:105). Scott and Usher (1999:71) also state that "probability sampling is much used in case study work, where the design is considered to be emergent".

The participating schools were not randomly selected. The selection principle was based on the admission scores of schools in Taiyuan City using "The guidebook for application and admission of Taiyuan City's senior secondary schools in 2009" which is published by the Administration Centre of Admission and Test of Taiyuan City. From Appendix 6, which is a list of the scores required for automatic admission to the senior secondary schools in Taiyuan City indicated, one high performing school referred to as school HPS was selected from the mark 632 to 600 and one low performing school referred to as school LPS was selected from the mark 490 to 414. This principle of selection was based on the hypothesis that the impact of the new curriculum on senior secondary school principals, teachers and students would be different in these schools. It is hypothesised that because the LPS students are unlikely to succeed in the NCEE, the school therefore is more likely to be able to implement the requirements of the new curriculum reform than the HPS where the focus will be on preparation for the examinations.

Eight participating teachers were randomly selected from the two schools (4 teachers in each school). The four teachers in each school consisted of two major subject teachers and two minor subject teachers. The reason for selecting teachers in this way is based on the assumption that the teachers who teach different subjects would have different pedagogic experiences and the points of view on the impact of the new curriculum. In addition, selecting teachers by subject would give the researcher a generalised concept of the teachers' perspectives of the implementation of the new curriculum reform as well as providing an opportunity for the researcher to collect multiple-faceted evidence of the impact of the new curriculum reform on the pedagogic strategies of teachers.

Grade 11 students were selected for two reasons. Firstly, Grade 12 students would be in the preparation stage for the NCEE and would be unlikely to have time to respond to questionnaires. Secondly, Grade 10 students had not yet experienced the new curriculum fully. Therefore two Grade 11 classes in each school were selected.

This process of selection of schools, teachers and students based on the above mentioned methods was "in order to obtain a representative sample" (Gorman and Clayton 2005:128).

4.3 Research Instruments

This research utilises four research instruments: structured interviews, classroom observation, questionnaires and a policy and school documentation review. The outline appears in Table 4 below.

Table 4.1: Research instruments

Research instruments		
Methods	**Participants**	**Evidence Needed**
Interview	School Principals (2)	1. The survey of the school. 2. Perspectives on the impact of the NCEE 3. Understanding of Quality Education and the new curriculum. 4. The school-based implementation of the new curriculum.
Interview	Teachers (8) 4 per school	1. Personal history. 2. Understanding of Quality Education and the new curriculum. 3. Teaching strategies for compulsory and selective courses.
Questionnaire	Students (120) 15 per class x 4 classes	1. Education and personal history. 2. Attitude toward this school. 3. Time use and workload. 4. Content of homework and learning methods. 5. Academic aspirations.
Classroom observation	Teachers and Students	1. Teaching methods for compulsory and selective courses. 2. Homework given for compulsory and selective courses. 3. Teaching focus of compulsory and selective courses.
Policy and school documentation review	Researcher	1. The numbers of students and teachers. 2. Teachers' background (ages and years of working). 3. The Allocation of teachers to compulsory and selective courses. 4. The curriculum and timetable of each of the two schools. 5. The admission score requirement of each of the schools 6. The policy of new curriculum reform. 7. Assessment structure of the NCEE.

4.3.1 Structured interviews

4.3.1.1 The rationale for using interviews

The interview is one of the main data collection tools used in this research in order to gather information from the participants about the topic. (Lichtman & Cech, 2006:117). One of the advantages of the interview is that "it allows for greater depth than is the case with other methods of data collection" (Cohen & Manion, 1994:272). Furthermore, according to Corbetta (2003:267), "the qualitative interview stems more from the need to cover the range of social situations than from the desire to reproduce the features of the population on a small scale". Blaikie (2000:234) comments that "interviews combined with reasonable extensive observation of actual social situations provide extensive information". The intention of using an interview approach in this study rests on the fact that "it can test a hypothesis or suggest new ones or as an explanatory device to help identify variables and relations" (Cohen & Manion, 1994:273), and "enhance the reliability of the study" (Corbetta, 2003:267). The interviews therefore can help the interviewer to a deeper understanding of the research questions and assumptions.

4.3.1.2 The interview structure

The interview method in this study will be that of structured interviews where "the questions and the answer categories have been predetermined by the interviewer." (Gorman & Clayton, 2005:127). One of the main advantages of the structured interview is that "it imposes a formality on a situation and any results are often used to try and make generalisations" (Opie *et al*, 2004:117). In addition, as Kumar (2005:126) says, "it provides uniform information, which assures the comparability of data".

In structured interviews the respondent is asked a series of pre-established questions, with pre-set response categories (Punch, 1998:176).The structured interview questions are "often organized round a prearranged schedule of questions, which are short direct and capable of immediate simple answers" (Opie *et al*, 2004:117).

In this study, the interview schedule in a structured interview consisted of a written list of open-ended questions. (Kumar, 2005:126). Open-ended questions are flexible, "they allow the interviewer to probe and clear up any misunderstandings, they allow the interviewer to make a truer assessment of what the respondent really believes, and they can also result in unexpected or unanticipated answers which may suggest hitherto unthought-of of relationships or hypotheses" (Cohen *et al*, 2000, 275). Furthermore, there was also a sequence of questions to funnel issues from the general and non-specific to the more specific (Cohen *et al*, 2000, 276). For this reason, objective and descriptive questions (for example, "how many grade 11 lessons and classes do you teach per week and do you still teach the other grades?") were posed first and more subjective and sensitive questions (for example, "what are your purposes, and what types of assignments do you give to your students?") were asked at a later stage.

The interview questions were divided into two parts in this study: 1) the interview questions for school principals and 2) the interview questions for the teachers.

As Table 4 shows, the interview questions for the school principals include four types:

1. The survey of the school.
2. Perspectives on the impact of NCEE.
3. Understanding of Quality Education and the new curriculum.
4. The school-based implementation of the new curriculum.

These types of questions have the following purposes: firstly, it is helpful to understand general information on the managerial organisation of participating schools, secondly, such questions can indicate the ways in which school principals handle the new curriculum policies, thirdly, they can expose the positive and negative consequences of new curriculum reform on the managerial decisions of school principals. The full text of the questions is in Appendix 2.

According to Table 4, the interview questions for teachers have three parts:

1. Personal history
2. Understanding of Quality Education and the new curriculum.

3. Teaching strategies for compulsory and selective courses.

In the first instance the interview questions for teachers can assist the researcher in obtaining basic information on teachers and how teachers prepare for their teaching. Secondly, the questions can also elicit evidence of how teachers manage their teaching of both compulsory and selective courses. Lastly, these interview questions will provide an indication of the attitude of teachers towards the compulsory and selective courses and how the new curriculum policies impact on the pedagogic strategies of teachers. The full text of the questions is in Appendix 3.

4.3.2. The student questionnaire

4.3.2.1 The rationale for using questionnaires

The rationale for using questionnaires was based on a number of criteria. This method "is less expensive and offers greater anonymity" (Kumar, 2005:130). Wisker goes further to suggest that "questionnaires gather information directly by asking people questions and using them as data for analysis" (2001:147). Furthermore, the approach of using questionnaires covers a large section of the population and generates a substantial amount of data within a short time. Blakie (2003) suggests that "what enables a questionnaire to collect volumes of data within a short time are the inbuilt assumptions and technical ideas that it normally embraces".

4.3.2.2 Questionnaire design

In designing a questionnaire it is important to "take a general purpose or set of purposes and turn these into concrete, researchable fields about which actual data can be gathered" (Cohen *et al*, 2000:246). Thus, the posing of appropriate questions in the questionnaire is very important. The purpose of using a questionnaire for students in this study is to capture information and evidence in these five areas:

1. Educational and personal history.
2. Attitude toward this school.

3. Time use and workload.
4. Content of homework and learning methods.
5. Academic aspirations.

The questionnaire used both "closed-ended" and "open-ended" questions. The rationale for including "closed" questions in the questionnaire is based on the fact that they are easy to code (Wisker, 2001:160). Furthermore, "close-ended questions, as they provide "ready made" categories within which respondents reply to the questions asked by the researcher, help to ensure that the information needed by the researcher is obtained" (Kumar, 2005:135).

"Open-ended questions can provide a wealth of information provided respondents feel comfortable about expressing their opinions and it also can eliminate the possibility of investigator bias (investigator bias is introduced through the response pattern presented to respondents)" (Kumar, 2005:134-135). Using "open-ended" questions in a questionnaire therefore, is to help the researcher to obtain those detailed answers which are useful for answering the research question and hypothesis.

Kumar (1999:123) states "the order of questions in a questionnaire is important as it affects the quality of information, the interest and even willingness of a respondent to participate in a study'. As Oppenheim (1992) remarks "one covert purpose of each question is to ensure that the respondent will continue to co-operate" (Cited in Cohen *et al*, 2000:256) For this reason, the general and non-threatening questions (for example, "at what age did you start senior secondary school") were given first, and more subjective and sensitive questions (for example, "how would you generally rate the capabilities of your teachers at this school") were given later.

The appearance of the questionnaire is vitally important. As Cohen et al say, "[it] must look easy, attractive and interesting rather than complicated, unclear, forbidding and boring" (2000:258). Therefore, the design of the questionnaire used in this research was simple and clear (for example, putting a coding box on the right-hand side, numbering the questions and sections, and indicating clearly to participants the purposes and focus

of each section by using section headings). Secondly, simple instructions were used (for example, ticking the box). Finally, a "Lickert scale-type" of question was used (Wisker, 2001:148). The answers to questions were scaled in a range of 1-5, where 1= strongly agree and 5= strongly disagree.

4.3.2.3 Questionnaire pilot

"Undertaking a pilot study is an important part of designing a questionnaire" (Opie *et al*, 2004:104). Thus, questionnaires were piloted among ten students from one participating school. These students were asked questions based on Opie's criteria. These included completion time of the questionnaire, clear instructions, attractive layout and ways of posing questions (Opie *et al*, 2004:105). On this basis, some adjustments were made to the questions.

The questions were then translated into Chinese for use in the schools.

4.3.3. Classroom observation

4.3.3.1 The rationale for using classroom observation

To examine the reliability of informants' responses, classroom observation was employed. As Kumar notes, "observation is a purposeful, systematic and selective way of watching and listening to an interaction or phenomenon as it takes place" (2005:119). Wisker (2001:178) also says that "observation can be a rich source of information for the research; it enables you to capture what people actually do rather than what they say". Patton (1990) suggests that "observational data should enable the researcher to enter and understand the situation that is being described" (cited in Cohen *et al*, 2000:305). The observational strategy which was employed in this research was structured observation based on predetermined categories (Punch,1998:186), using a prearranged instrument or form into whose categories the observer records whether specific activities take place (Gorman & Clayton 2005:104).

4.3.3.2 Observation design

As Table 4.1 indicates, the main intentions of observation in this study were to check and reconfirm the data collected in interviews and questionnaires. Additionally, in terms of the new curriculum policy "learner-centred" teaching is emphasised and it was important to observe if this was the case. The teaching methods and teaching focus were thus examined through classroom observation:

Part A: General observations about the classrooms lessons.

Part B: Observation Schedule.

1. Educational resources.
2. Learners
3. Teacher
    - 3.1 Task identification and clarification.
    - 3.2 Lesson presentation.
    - 3.3 Consolidating strategies.
    - 3.4 Management of learners.

The full text of questions is in Appendix 5.

In order to achieve these observational purposes adequately and ensure as much objectivity as possible, the observer needed to ask three key questions throughout the process: 1) what is going on? 2) Am I seeing only what I hope or expect to see? 3) Why am I doing this? (Gorman & Clayton, 2005:112). Thus, the researcher will firstly get a focus for the study at the time the phenomena are being observed, secondly, the researcher can make sure that personal views or bias are not clouding what is being observed (*Ibid*). In addition, Wisker (2001:179) suggests that the observation schedule should enable the researcher to record certain things and the time when these are noticed, their frequency, and so on.

There are many ways of recording observation, and Kumar notes that the "selection of a method of recording depends upon the purpose of the observation" (2005:121). Gorman and Clayton (2005:104) also say that the "observer records any behaviour or event that is relevant to the research questions being investigated".

For the two purposes of research observation; the researcher recorded the frequency of interaction activities between the teacher and the students within a 45 minute lesson in order to understand the techniques of teaching, the focuses of teaching, to rate the general teaching methodology and the class atmosphere and so on. The intention of doing this is "reality verifying" whereby what people say they do can be compared with what they actually do (Gorman & Clayton, 2005:104) in terms of the requirement of the new curriculum policy. According to Kumar (2005:122), the type and number of categories depend upon the observation and the observer's choice about how to classify the observation.

In Appendix 5, the relevant observational categories are provided. These include: "the ability of the majority of learners to stay on the learning task", "the ability of the teacher to present the lesson", "forms of assessment", "consolidating strategies", "homework assignments" and so on. In order to explore the predominant teaching aims and teaching processes in detail, the questions and answers provided by both of teacher and the students and the types of teachers' facilitation techniques are recorded in Appendix 5. In following this process detailed information was recorded about what happens in classrooms. Finally, the class observations took place at different times of the day and on different days of the week (Gorman & Clayton, 2005:109) in order to ensure the randomness of the observations (See Appendix 5 for detail).

4.3.4. Policy and school documentation review

4.3.4.1 The rationale for using policy and school document review

According to Flick (2006:252), the advantages of using documentary data are:

1. Document can be instructive for understanding social realities in institutional contexts.
2. They can be a fruitful addition to other forms of data if the contexts of their production and use are taken into account.
3. They can be seen as communicative devices produced, used, and reused for specific practical purposes, rather than as "unobtrusive" data in the sense of

bias-free data.

For the purposes to examining the reliability of verbal data and to compare the policies of the new curriculum with its school-based implementation, the review of policy and school documents was employed. “The range of documents which might be used by social researchers includes: biographies and autobiographies, institutional memoranda and reports and government pronouncements and proceedings” (Jupp, 1996, cited in Punch, 1998:190).

4.3.4.2 Documentary analysis design

As Table 4.1 indicated, the main purpose of using policies and school documentation was to test or verify the verbal data and obtain first-hand information on school-based implementation of the new curriculum. Thus, the following information was collected:

1. The numbers of students and teachers.
2. Teachers’ background (ages and years of working).
3. The allocation of teachers to compulsory and selective courses.
4. The curricula of the two schools.
5. The admission score requirement of the schools
6. The policy of new curriculum reform.
7. Assessment structure of the NCEE and the schools.

The polices which were used included “*Proposals on Deepening the Reform of the College Entrance Examination and Admission System (Jiaoyubu Guanyu Jingyibu Shenhua Putong Gaodengxuexiao Zhaoshengkaoshizhidu Gaige De Yijian)*” ,“*Basic Education Curriculum Reform Outline (Trial)*” *(Jichu Jiaoyu Kecheng Gaige Gangyao(Shixing))* etc. The school documentation which has been referred to includes official written sources, surveys and reports on aspects of the institution’s operation, handbooks, day-to-day records, published or unpublished records and so on (see Gorman & Clayton, 2005:165).

4.4 Limitations

During the process of data collection in two schools, the principals and teachers provided generous assistance to the researcher and the fieldwork research was carried out successfully. However, specific limitations emerged from the design of the research instruments. These limitations are outlined below.

Firstly, although, the student questionnaires were translated from English to Chinese properly and piloted, two questions in particular produced anomalous results ("class interaction activities" and "autonomous learning") which suggested that the learners could have misunderstood these concepts. This is commented on in Chapter 5.

Secondly, given this, it is possible that students may have interpreted questions differently from what was intended, and may have unknowingly provided inaccurate responses. However, the consistency of observational and interview data with the questionnaire data overall suggests that this was not a major issue apart from the examples referred to.

Thirdly, it was not possible to pilot the observation schedules and it only became apparent when coding the data later that the instruments could not yield the required data. However, it was still possible to describe a general trend about teaching in the two schools.

The next chapter presents the results of the field-work.

CHAPTER 5

DATA ANALYSIS

As discussed before, Chinese Examination-oriented Education and its two chronic problems of overloaded “school burden” and “one-sided pursuit of promotion rate” resulted in great impact on school principal, teachers and students. As a resolution, the Quality Education and the implementation of new curriculum reform aim to solve the two chronic problems, transfer the Examination-oriented Education to the learner-centred education and improve the learners’ all-round development in morals, intellect, physical health and aesthetic appreciation through fostering learners’ creativity and practical skills. This chapter probes the current situation of China’s Quality Education and new curriculum implementation and how new curriculum impacts on the school principal , the teachers and the Grade 11 learners in a high performing school (HPS) and a low performing school (LPS).

The research findings showed that the NCEE still plays a vital role in pedagogy. Due to the complex economic, political and cultural factors of Chinese society and the tremendous pressures of the “high level schooling and university entry”, the phenomenon of “one-sided pursuit of promotion rate” and overload “School Burden” have not been decreased through the implementation of the new curricula. In addition, the research also proves that the degree of implementation of new curriculum will be different in high performing and low performing schools. This chapter investigates these findings through the comparative analysis of the data regarding interview of school principal, interview of teachers and student questionnaires.

In order to reach an outcome, an overview, as well as a comparative analysis among school principal, teachers and students and individual school analysis of the interrelationship of the data is done.

This analysis consists of four sections:

5.1 School Background.

5.2 The School-based Implementation of the New Curriculum.

5.3 Teaching Strategies and Learning Methods

5.4 Learners' Academic Aspiration.

5.5 Summary and Conclusion

5.1 School Background

This section provides an overview of the survey of the participant schools. The two selected schools which is a high-performing school and a low-performing school were screened on the basis of the 2008 senior secondary schools admission score in Taiyuan City. This section has three objectives:

5.1.1 Background of two selected schools.

5.1.2 The principle of student intake and allocation to classes.

5.1.3 The principle of teacher employment and allocation.

5.1.4 Summary and conclusion.

A comparative analysis was used in this section. Teachers and students perspectives on the same questions and the data of student questionnaire were used as the reference to support or disconfirm the principals' responses (see Appendix 2 and 3 for detailed questions).

5.1.1 Background of two selected schools

This section consists of three parts, which are the brief introduction of two schools, the principle of student intake and allocation and the principle of teacher employment and allocation

As analysed above in Chapter 4, the principle of school selection is based on the admission score of senior secondary schools in Taiyuan City; this criterion referred to "The guidebook for application and admission of Taiyuan senior secondary schools in

2009" which is published by Taiyuan Admission and Examinations Administrative Centre. One HPS will be selected from the admission mark 632 to 600 and one LPS will be selected from the admission mark 490 to 414 (see Appendix 6).

The HPS which has a long-term history is considered one of the top schools in Shanxi province. The school is prestigious for its strict admission and its high education quality. More than 50 students from this HPS are admitted by the Tsinghua University and Peking University which are the two top universities in China. Furthermore, many students from the HPS are remarkable for the national and international science Olympiad competition awards, such as Physics, Chemistry, Biology and Mathematics.

The number of teachers and staff is more than 300, and there are over 4500 students (2100 students in junior secondary classes and 2400 students in senior secondary classes) at the HPS. The HPS has two campuses which are junior secondary school campus and senior secondary school campus. The area of the junior secondary school campus is more than 33,333 square metres and the area of the senior secondary school campus is more than 148,667 square metres. Both campuses are fully equipped with modern facilities such as brand-new teaching buildings, cafeteria, library, students' dormitories, plastic track, basketball ground, sport ground and so on. As the deputy principal who is in charge of pedagogy administration at the HPS said that

> Our mission is to create the best learning environment, learning atmosphere and learning facilities to students, and to help them cultivating the sound outlook on the world, life and values and an all-round developed abilities.
> (HPS deputy principal, female)

By contrast, the physical resources in the LPS are miserable. When the researcher stood in front of the school gate of LPS, he could take in the teaching building, and the sport grounds at a glance. The LPS which has a 45 years history covers an area of 4000 square metres, the number of teachers and staffs is more than 60 and 715 students (165 students in junior secondary classes and 550 students in senior secondary classes). The school campus has only a small cement basketball ground which is used as the

playground by 715 students and 56 teachers. In addition, there is a small "multiple-function" teaching building which accommodates the teachers' offices, classes and students' dormitory in the LPS. More surprisingly, there are no indoor toilets inside the LPS teaching building, only outdoor toilets opposite the teaching building.

5.1.2 The principle of student intake and allocation to classes

The distinction between the two schools is not only evident in the number of teachers, staff and students, the area of school and physical resources, but also in the admission mark of students enrolment. Regarding the questions on student intake and allocation, the two schools' principals had the similar answers. They both said "Taiyuan Admission and Examinations Administrative Centre" stipulates the criterion to admit students for each school. This criterion is affected by the difficulty of the Senior Secondary School Entrance Examination and the previous year's admission criteria of each school.

According to "The guidebook of application and admission for Taiyuan senior secondary schools in 2009", for the HPS the generally admission mark in 2008 was 631. These who scored below 625 had to pay a "school selection fee" of 30,000 RMB (approximately ZAR32, 700). For the LPS the general admission mark in 2008 was 414, and the students who scored below 414 had to pay a "school selection fees" of 15,000 RMB (approximately ZAR16,350) (see Taiyuan Admission and Examinations Administrative Centre, 2008:31-38).

These "school selection fees" and the admission marks are set by the local education department. In practice this means that poor students who cannot reach the minimum admission marks that a regular senior secondary school requires, may be excluded from the academic secondary schooling system and would either drop out or go to the vocational/technical system.

The 60 questionnaires in the HPS shows that 60% students' admission marks is from 631 to 700, 40% students' admission marks is from 501-630 , and also, according to 60 questionnaires in the LPS, the 90% students' admission marks is from 414 to 600, 10% students' admission marks is from 251 to 413. To see Table 5.1.1 shows that 40% Grade 11 students at the HPS were fees paying compared with 10% at the LPS.

Table 5.1.1: The distribution of admission marks of two selected schools in 2008

The range of marks	HPS% (n=60)	LPS% (n=60)
251-300	0.0	1.7
301-350	0.0	0.0
351-400	0.0	0.0
400-413	0.0	8.3
414-450	0.0	41.7
451-500	0.0	43.3
501-550	1.7	3.3
551-600	3.3	1.7
601-624	13.3	0.0
625-630	21.7	0.0
631-650	48.3	0.0
651-700	11.7	0.0
Total	100.0	100.0

More importantly, no students at the HPS were below 500 marks compared with 95% of students at the LPS. This has three main impacts. Firstly, the motivation and aspiration of the HPS is very high. Secondly the school is able to maintain good physical and human resources through fees income refunded from the local Commission of Education. Thirdly, a vicious cycle is build up as high performing students are attracted for the HPS while the opposite happens at the LPS. It should be noted through that the majority of students (96.7 %) said they would take the NCEE though for the student at the LPS their chance of succeeding are very low.

Once admitted, students are then tracked to classes by "ability", the so-called "fast-slow" class system even though this is prohibited. Furthermore, 78.3 % of students said the system was in operation even though both principals said this was not the case, and the schools only start to allocate student in Grade 11. However, 40.2% of

students had a positive answer to the “fast-slow” class system”, 59.8 % of students expressed a negative response to the “fast-slow” class system”. According to Table 5.1.2, 25.4% of participant students didn’t like this system is because “fast-slow” class system brought about the “uneven opportunity and inequality”, 24.9% of participant students thought this system provide “good learning atmosphere and teach them in accordance with their aptitude”, and 20.6% of participant students chose “it causes a negative learning attitude and resistance”.

Table 5.1.2: Learners’ attitudes towards the “fast-slow” class system

Learners’ attitude towards the “fast-slow” class system	n	%
Uneven opportunity and inequality	48	25.4
Good learning atmosphere and “teach them in accordance with their aptitude”	47	24.9
It causes a negative learning attitude and resistance.	39	20.6
It causes a psychological burden on students.	33	17.5
School only focuses on the NCEE marks is too pragmatic.	12	6.3
Exam mark can not be used as a criterion to judge the “good or bad” of a student.	8	4.2
Other	2	1.1
Total	189	100.0

Teachers too, indicated that streaming took place and that they support it. The majority of teachers (7 out of 8) in two schools expressed a favourable attitude to the “fast-slow” class system. They thought this system provides a good learning atmosphere to students and teacher can teach them in accordance with their aptitudes. A teacher at the HPS said that:

> Undoubtedly, the individual’s intelligence, aptitude and comprehension are varied, this way of allocation gives students a comfortable learning environment, and also, as a teacher, I can teach them in accordance with their aptitude.
> (HPS History teacher, male)

A teacher at the LPS also commented that:

> This method is able to motivate learners and enhance the competition between classes.
> (LPS Chinese teacher, female)

5.1.3 The principle of teacher employment and allocation

The two principals have different answers on the standards required to employ a teacher. The deputy principal at the HPS (female) said that:

> There is no specific requirement for candidates' professional qualification, we emphasise the ability of candidates.

The principal at the LPS (female) said:

> The minimum requirement for senior secondary class teaching is the Bachelors degree and for the junior secondary class teaching is a Teaching Diploma.

Significantly, according to Table 5.1.3, 19% (5/271) of teachers in the HPS have a diploma only compared with 24.5% (13/53) of teachers in the LPS. Also, 93.7% (254/271) of teachers in the HPS have a BEd degree only compared with 75.5% (40/53) of teachers in the LPS .This difference may impact on the quality of teaching.

Table 5.1.3: Teachers' professional qualification in two school

Professional qualification (HPS)	n	%	Professional qualification (LPS)	n	%
Teaching Diploma	5	1.9	**Teaching Diploma**	13	24.5
B Ed.	254	93.7	**B Ed.**	40	75.5
M Ed.	12	4.4	**M Ed.**	0	0
Total	271	100.0	**Total**	53	100.0

With respect to teacher allocation, both principals said that teachers were allocated to specific grades and 'followed' these grades through to completion. For example, teachers would begin with a Grade 10 class and teach this cohort through to Grade 12.

5.1.4 Summary and conclusion

This section briefly introduced the background information of two schools such as physical resources, the principle of student intake and allocation and the principle of teacher employment and allocation.

The background information indicated three main distinctions of two schools. Firstly, two schools have the unequal physical resources which directly caused the difference source of students and quality of teaching. Secondly, both schools started to stream students by the so-called “fast-slow” system at Grade 11 for maintenance of the NCEE promotion rate though it was banned by local Commission of Education. Thirdly, the levy of “school selection fees” aggravate the discrepancy of two schools, the HPS then benefits more from the extra fees, but the LPS vice versa.

In this next section, a narration on how two schools implemented the new curriculum on the basis of different physical and human resources was completed.

5.2 The School-based Implementation of the New Curriculum

The main purpose of this section focuses on the school-based implementation of the new curriculum reform.

In order to achieve the goals, the following sub-sections are discussed:

5.2.1 Understanding of Quality Education and the new curriculum.

5.2.2 The implementation of new curriculum.

5.2.3 Summary and conclusion

In addition, an interconnected discussion amongst principals, teachers and learners is employed in order to support an entire understanding on the school-based implementation of new curriculum policy.

5.2.1 Understanding of Quality Education and the new curriculum

The two school principals have a comprehensive cognition on the rationale of the Quality Education. Regarding the conduit to get the relevant policies and documentations, they all answered that they got the policies from the local Commission of Education. In addition, the local Commission of Education termly organises the seminar on Quality Education. When the researcher asked "what is the rationale of Quality Education", both of them said that the Quality Education not only focuses on the development of intelligence, it also has a stress on the development of holistic abilities.

They also gave a similar answer to the topic on the new curriculum. About the rationale of new curriculum, the principal of the HPS (female) said "*it is a learner-centred education*". The principal of LPS (female) answered that:

> The new curriculum is to culture a positive learning attitude and improve the learning ability of learners, in other word, we can say that it is the change from "teachers and parents force to learn" to "I want to learn".

Teachers equally showed an adequate understanding of the purposes of Quality Education and were able to produce considerable evidence about the training (including Internet programs) and documentary support was available. They deemed that the Quality Education aim to transfer the educational culture from an overemphasised Examination-oriented Education to an quality-oriented education via a positive and autonomous learning method, provide learners the all-round development and focus on the physical and mental growth of students.

Concerning the main focus of the new curriculum, all eight teachers said that the new curriculum paid attention to the training of thinking and practical abilities, autonomous learning, a new structure of knowledge and accumulation of hands-on experience etc. The HPS English teacher (female) said "*the new curriculum is the emphasis of hands-on experience and practical abilities*". The LPS Chinese teacher (female) said "*this curriculum has an outstanding difference; it is incarnated on a more comprehensive knowledge structure and the training of thinking abilities*". The HPS History teacher (male) said "*the focus of this curriculum are the abilities of self-learning and "find out and solve" problems*". All were clear that the new curriculum intended to shift education from an Examination-oriented Education to the learner-centred education. The school principal of the LPS moreover showed the circular of "Shanxi regular senior secondary schools' organisation of the new curricula's experimental courses and instructive advice for implementation (trial)" (08/06/2008) which was released by Taiyuan Commission of Education to prove that they have an adequate attention to policy study.

How these understandings are carried out in practice is discussed in section 5.2.2 below. In general, the promotion of the new curriculum was good and the support documentary was clear and available. Against their background the next section reviews the implementation of the curriculum.

5.2.2 The implementation of the new curriculum

This section discussed the key elements of the new curriculum and the implementation of the new measures. These are the "Selective Course System", the "Mobile Class System", "Course Credits System" the "Growth Portfolio" the "Learner-Centred Pedagogy" and the "All-round Development".

5.2.2.1 The Selective Courses System

One of characteristics of the new curriculum is the establishment of Selective Courses. The "Selective Course" has three levels, which are national curricula, local curricula and school-based curricula. The national and local curricula are called Selective Course I and the school-based curricula is Selective Course II. The teaching materials and organisation of Selective Course I are compiled by the national or local authorities. According to "Shanxi regular senior secondary schools' organisation of new curricula's experimental courses and instructive advice for implementation (trial)" (08/06/2008):

> Schools should offer several selective modules to students on basis of the needs of societal, economic, scientific and cultural development of local society and interest of students.

Thus, the school is responsible for the organisation of Selective Course II.

The two principals indicated that the establishment of a new Selective Course II has to pass the evaluation of the school board, teachers and learners. The deputy principal of the HPS (female) said that

> Learner choice is the key factor for the establishment of a new school-based selective course. Once a majority of learners reject a new offered school-based selective course, the course then will be cancelled even if the teacher and school evaluation have already been passed.

The teaching materials of school-based selective courses are prepared by teachers, and every teacher has to offer at least one school-based selective course.

When asked about the physical and human resources available for the organisation of school-based selective courses, the principle of the LPS said that they did not have enough funds and human resources. By contrast, the school principal of the HPS said that the resources for the school-based selective course were not a problem. As she said "*our school has offered the school-based selective courses since 1997, we therefore are experienced and have enough teachers and resources*" (HPS deputy principal, female). Though the LPS didn't have enough funds and human resources, the selective courses of the art subjects were good. The department is headed by a graduate of the Central Academy of Fine Arts (CAFA) which is the best arts academy in People's Republic of China and a high proportion of students have graduated to university study.

As the principal of this school said:

> Although this school is not able to get a high NCEE promotion rate, as the educators we care about the future of students as well. Offering the training classes of fine art will help them to get more opportunities for the university admission because the NCEE admission mark for those who specialize in the art subjects is lower by contrast with other disciplines. More than 40% of the graduates who were admitted by the art universities from this school chose the art subject selective course.
> (LPS principal, female)

Significantly, the division of Selective Course I and Selective Course II has four impacts. Firstly, the teaching schedules from the two schools do not indicate the organisation of Selective Course I, which means it perhaps is treated as a part of compulsory teaching; students actually have no right of selection. Furthermore, under China's centralised education culture, once the Selective Course I is designed by the national or local authorities, all schools have to teach them in light of the requirements of unified teaching materials and syllabus in order to cater to the demands of the examinations.

Secondly, insufficient physical and human resources will impact on the establishment of Selective Courses II in the LPS compared with the HPS. However, even though the HPS has sufficient resources, the students can not choose the selective courses in

accordance with their interests. The selection can only be focused on the courses which are offered by school.

Thirdly, according to "Shanxi regular senior secondary schools' organisation of the new curricula's experimental courses and instructive advice for implementation (trial)" (08/06/2008), the learning hours of Selective Course II for the 3 years of general senior secondary schooling is supposed to be not less than 108 learning hours (1 learning hour is 45 minutes). However, the timetables of the two schools shows that the schools offer 2 learning hours of Selective Course II to Grade 10 and Grade 11 per week, and there is no arrangement for Grade 12 in order to give priority for NCEE preparation.

Fourthly, in terms of the effect, the LPS has a better implementation for the Selective Course II because the teachers and learners treat them as an opportunity for the admission of higher education.

5.2.2.2 Comprehensive Practical Activity

The "Comprehensive Practical Activity" consists of three parts these are "Community Practical Activities" "Social Practice" and "Research Learning".

Both principals said that schools have organised "Community Practical Activities" "Social Practice" and "Research Learning" for learners. As "Shanxi regular senior secondary schools' organisation of the new curricula's experimental courses and instructive advice for implementation (trial)" (08/06/2008) stipulated:

> Schools have to provide no less 270 learning hours of "Research Learning", 3 weeks of "Social Practice" and 10 workdays of "Community Practical Activities" to learners in three years.

According to their timetables, there is three learning hours for "Research Learning" per week in both schools. Classroom observation at the LPS showed that the Grade 11 "Research learning" courses actually are the self-learning classes or teachers use the time to formally teach.

However, there is no direct evidence to prove the actual operation of "Community Practical Activities" and "Social Practice" in both schools.

5.2.2.3 The "Course Credit System", the "Mobile Class System" and the "Growth Portfolio"

The two principals had a positive attitude to the "Course Credits System" and the "Mobile Class System". They thought that the "Course Credits system" is good for the development of learners' specialities, and that discipline is not a problem with the "Mobile Class System". Furthermore, the two schools also built the "Growth Portfolio" for learners, and principals said this portfolio is in the learner's hand. The reason they do this, as the HPS deputy principal (female) commented "*the learners will witness their growth*", and 77.3 % (92/120) of learners in both schools said that the school had already built growth portfolios for them.

5.2.2.4 Learner-Centred Pedagogy

In respect of the learner-centred teaching method, both principals claimed that this teaching method is the core of school development and pedagogy as well as a means of enhancing lifelong learning. For example, the HPS deputy principal (female) said "*it is the core of school development and it should be the main object of teaching and learning*" and the LPS principal (female) commented "*it motivates learners and it's a lifelong learning*". However, though all eight teachers said that this method was good for the development of learners and provides for the training of abilities, six of them worried about its implementation because of the NCEE pressure and the traditional Examination-oriented Education.

The implementation of the new curriculum has triggered many changes and discussion, as the principal of LPS (female) described:

> The most notable change of this curriculum is the transformation of the pedagogical goals and the teachers have paid more attention to the training of abilities, autonomous learning and the development of learners' aptitudes. But

> the teachers and learners are not able to change the idea of Examination-oriented Education over a night.

The HPS have started the reform of school-based curriculum since 1997; the principal of the HPS therefore said that the curriculum structure of the HPS is close to the new curriculum, the changes caused by the new curricula then are small. The teachers at the LPS considered that the change they have experienced is from the traditional cramming teaching and rote learning to the learner-centred teaching, but the difficulty of reform is tremendous. The teachers of the HPS generally said that the change of pedagogy is from a teacher-centred to a learner-centred and they didn't mention the difficulty of the reform.

Evidence however showed that the teacher still dominates the class teaching in both school. This is discussed more focus in section 5.3.

5.2.2.5 All-round Development

This aims to probe the implementation of the learner's all-round morals, intellect, physical health and aesthetic appreciation development. Both principals said the new curriculum provides an all-round development to learners and have introduced their school-based all-round development programs. The HPS deputy principal (female) said that:

> All-round development is the core concept of the new curriculum. We hold sports competitions and a labour festival every year. Additionally, the school usually invites well-known professors and scientists to give lectures for learners.

The principal of the LPS (female) described the plan of school-based all-round development as well. She said:

> We have provided the opportunity of all-round development to students though the resources are limited. The school annually organises the "Sunshine sports" festival, painting and instruments playing contests, speech competition and the lectures on earthquake and fire disaster.

The teachers too said the schools had actively implemented a plan of school-based all-round development. Five of them reckoned that the new curriculum intensifies the all-round development of learners, as LPS Chinese teacher (female) said: "*the new curriculum widen the learners' range of knowledge and emphasised the lifelong learning*". However, the Biology and Math teachers at the HPS and the Biology teacher at the LPS said the new curriculum provides an all-round development to learners to some extent.

Additionally, 61.7% (37/60) of learners at the HPS and 55% (33/60) of learners at the LPS said that schools offered them the chance for holistic development. And, as Table 5.2.1 shows 54.4% of HPS learners and 58.2% of LPS learners considered that the school has provided plenty of extracurricular activities to learners.

Table 5.2.1: Learners' comments on school-based all-round development

Learners' comments		HPS n	HPS %	LPS n	LPS %
1	School provides plenty of extracurricular activities.	37	54.4	32	58.2
2	Sound arrangement for Selective Courses.	14	20.6	3	5.5
3	The all-round development is for the NCEE.	11	16.2	0	0
4	School does not care about the moral education.	2	2.9	0	0
5	The selective courses organisation is deficient.	3	4.4	5	9.1
6	Poor school facilities	0	0	4	7.3
7	Other	1	1.5	11	20.0
Total		68	100.0	55	100.0

By contrast, only 20.6% of HPS learners and 5.5% of LPS learners indicated that the school has a sound organisation for selective courses. However, the function of the selective courses is to provide learners an opportunity to choose the favourite subjects based on the personal interest which improves the development of the individuality and diversity. The incomplete organisation and establishment of the selective courses actually has brought more detrimental influence compared with the formalistic organisation of the school-based extracurricular activities. Although the concept of new curriculum reform likely provides the all-round development to learners, nonetheless, the formalistic practice will not able to satisfy the requirement of the new curriculum.

5.2.3 Summary and conclusion

This section focused on school-based implementation of the new curriculum which includes the aspects of understanding on the Quality Education and new curriculum, organisation of school-based selective courses, implementation of new measures and school-based all-round development activities.

The data showed the advantages and disadvantages of new curriculum implementation. The positives aspects are, 1) the conveyance of new polices is available and the principals and teachers have a full understanding on Quality Education and new curriculum. 2) They all realised that the new curriculum is a transformation from the Examination-oriented Education to the learner-centred education. 3) Both schools have arranged the extracurricular for the all-round development of learners depending on their physical and human resources of schools. 4) They entirely implemented the "Credits System", the "Growth Portfolio" and the "Mobile Class System" in accordance with the requirements of new policy.

The shortcomings embrace four facets. 1) The Selective Course I is taught as the compulsory courses and students can not exert the power of choosing for both of selective courses. 2) The Selective Course II has to make concession to the NCEE preparation and schools are not able to entirely implement the requirements of "Comprehensive Practical Activity" courses. More importantly, the insufficient organisation of Selective Courses II and the compulsorily Selective Course I directly hinder the implementation of the "All-round Development" compared with the formalistic school-based extracurricular activities. 3) Despite the principals and teachers underlined the advantages of the Learner-Centred Pedagogy, the obstruction of implementation is still tremendous. 4) Although the significance of art selective courses in the LPS is outstanding, nevertheless, the lack of physical and human resources will impact on the quality and quantity of selective courses.

For the purposes of examining teaching strategies and the learning methods, the relevant issues such as the implementation of the Learner-Centred Pedagogy, contents and workload of homework and the learner's attitudes toward school were discussed in next section.

5.3 Teaching Strategies and Learning Methods

This section concentrates on the teaching strategies and learning methods which have employed by the teachers and learners for the compulsory and selective courses, as well as discussing how teachers deal with "Learner-Centred Pedagogy" and the workload of learners since the new curriculum was implemented.

These are discussed under the following sub-sections.

5.3.1 Teaching strategies for the compulsory and selective courses.
5.3.2 Student learning strategies and workload.
5.3.3 Summary and conclusion.

5.3.1 Teaching strategies for the compulsory and selective courses

This sub-section discusses the teaching methods and aims for both the compulsory and selective courses (Selective Course II) via the evidence from the interviews, questionnaires and classroom observations in order to examine the implementation of Learner-Centred Pedagogy. Eight teachers were observed: four teachers were observed twice in each school (1 compulsory lesson and 1 selective lesson).

There were four compulsory subjects observed in each school, which were English, Math, History and Biology at the HPS and Chinese, Math, Politics and Biology at the LPS. As indicated in 5.2.2.1, there were no teaching schedules for Selective Course I in either school, so that the selective courses which are discussed in this section are for Selective Course II. These were English, Math, History and Biology at the HPS and

Chinese, Math, Politics and Biology at the LPS. Four selective subjects which match the compulsory courses were observed in each school.

In order to reveal the process of class teaching, the following aspects are discussed below:

5.3.1.1 Teaching techniques used.

5.3.1.2 The focus of the teaching.

5.3.1.3 Consolidating strategies and forms of assessment.

5.3.1.4 An assessment of the teachers' capabilities.

5.3.1.5 The ability of the majority of learners to stay on the learning task.

5.3.1.6 The pressures on compulsory and selective courses teaching.

5.3.1.1 Teaching techniques used

The main method used here was classroom observation, but the observation schedule used was not satisfactory as indicated in Chapter 4. The data is available in Appendix 7 and is not reported on in detail here. Nonetheless, there were some clear general trends that are reported on below.

The eight classroom observations of the compulsory courses showed that seven of the eight teachers in both schools spent most of the time lecturing and used a structured chalk-board method to help learners memorise the teaching content. Only the HPS English teacher used an overhead projector but the pedagogy was still of an examination-oriented style.

There was limited variation from these approaches. Within the lesson, four of the eight teachers put learners in small group (4 learners in a group) for discussion and walked in rows and participated in learners' discussion. Five of the eight teachers gave exercises to learners in class. Overall, through the predominant style used was "chalk and talk"

In neither school, were learners divided into large groups (6-10) for discussion. There was no individual orientation of assignment for different levels of students, nor were

external presenters ever used. Overall, the teaching strategies at both schools for compulsory course teaching were similar. The majority of teachers in both schools primarily focused on textbook teaching. Not surprisingly, the class atmosphere of the compulsory courses observed in both schools was lifeless; students mainly sat and took notes.

By comparison, the methods used in the selective courses were diverse.

The eight classroom observations indicated that two HPS teachers and three LPS teachers lectured frequently and gave the structured chalk-board method to help learners memorise the teaching content, and they also occasionally asked learners to finish the learning tasks in class. Nonetheless, another two HPS teachers and one LPS teacher asked learners to complete the learning tasks in class most of the time. For instance, the HPS English teacher asked learners to describe a picture in English, the HPS Biology teacher played a video about the healthy lifestyle and nutrition to learners and asked them to take notes, and the LPS Math teacher designed the questions to train the logical thinking of the learners.

Out of eight teachers, six of them used small group discussion as part of the lesson. The LPS Math teacher was the only one who spent most of the time in small group discussion compared with the HPS Biology teacher who had the class with a video without any discussion.

As with the compulsory course, all eight teachers in both schools did not divided learners into large groups (6-10) for discussion. There was no individual of assignment for different levels of students, nor were external presenters. The teaching strategies at both schools for selective courses teaching were slightly different.

In general, the class atmosphere in the selective courses was more active compared with the compulsory courses. This was particularly so at the LPS where the class atmosphere was lively. However, this was not so in the HPS where as with the compulsory course there, the classes lacked life.

Overall, the classroom observation showed that the teaching techniques employed by the two schools were slightly different for the compulsory and selective courses. The teaching techniques for compulsory courses in both schools completely focused on the examination preparation. In the selective courses, while all eight teachers made an effort to employ a Learner-Centred Pedagogy, this was unsuccessful.

To support this class observation data, learners were asked in the questionnaires to indicate the two most common methods their teachers use for compulsory course and selective course teaching. The results are shown in Table 5.3.1 below. The responses are grouped around Examination-oriented Education and Quality Education to give a clear indication of the focus.

However, students' data on the teaching methods might appear contradictory. From Table 5.3.1, "class interaction activities" (27.5% at the HPS and 19.2% at the LPS) and "autonomous learning" (13.3% and 4.2% respectively) are strongly rated. However, as the sixteen classroom observations indicated, the major interaction activities which happened in class were that the teacher asked questions and the learners responded to them and that there was some small group discussion. There was also no individual evidence to show that learners got a chance to have autonomous learning. The learners were only asked to finish the learning tasks independently in class.

Thus, the learners might regard the "class interaction activities" as an application of the techniques such as: "question and answer", "small group discussion" and "teacher participates in learners' discussion", and also treat the "autonomous learning" as a simple process of completing the learning tasks independently in class. These simple teaching methods if categorised into the group of the Examination-oriented Education, responses provide a picture of the teaching that is different from first appearances.

Table 5.3.1: Two most common methods the teacher uses for compulsory courses teaching (Q 2.13)

Two most common methods		HPS% n =120	∑	LPS% n =120	∑
Examination-oriented Education	Examination-oriented instruction	34.2	**56.8%**	30.8	**72.5%**
	Textbook revision	9.2		28.3	
	Exercise-stuffed Tactic	9.2		11.7	
	Cramming method of teaching	4.2		1.7	
Quality Education	Class interaction activities	27.5	**43.3%**	19.2	**27.6%**
	Autonomous learning	13.3		4.2	
	Focus on the needs of students	2.5		4.2	
	Self and peer assessment	0.0		0.0	
Total		100.0		100.0	

If "class interaction activities" and "autonomous learning" are included in the category of Examination-oriented Education then the data shows that 97.6% of HPS learners and 95.5% of LPS learners said that the primary teaching method teacher uses for the compulsory course is the examination-oriented. This matches with the classroom observations.

The selective course methods were different as Table 5.3.2 below shows.

Table 5.3.2: Two most common methods the teacher uses for selective courses teaching (Q 2.13)

Two most common methods		HPS% n =120	∑	LPS% n =120	∑
Examination-oriented Education	Examination-oriented instruction	10.0	**24.2%**	8.3	**16.6%**
	Textbook revision	6.7		5.8	
	Exercise-stuffed Tactic	4.2		1.7	
	Cramming method of teaching	3.3		0.8	
Quality Education	Class interaction activities	32.5	**75.9%**	38.3	**83.3%**
	Autonomous learning	21.7		27.5	
	Focus on the needs of students	20.0		11.7	
	Self and peer assessment	1.7		5.8	
Total		100.0		100.0	

The data suggests that Quality Education was the most common method (75.9% in the HPS and 83.3% in the LPS). Learners at the HPS said that the two most common teaching methods which teachers use for the selective course were "class interaction activities" (32.5%) and "autonomous learning" (21.7%). Similarly, LPS students also indicated these two methods as most common. 38.3% for class interaction activities and 27.5% for autonomous learning.

However, if these are re-categorised then 78.4% of HPS learners and 82.4% of LPS learners said that teachers generally employed the examination-oriented teaching methods for the selective course as well, which is similar to the compulsory courses and which matches the observations.

These are a number of reasons why examination-oriented pedagogy is difficult to change.

Firstly, the huge number of students in a class (about 55 per class) meant that the teachers were not able to operate diverse interactive activities. As the LPS Biology teacher said "*the numbers of students obstructs the operation of interactive activities*" (LPS Biology teacher, female).

Secondly, the unified syllabus and teaching time restricts the content and form of the interactive activities. As the LPS Chinese teacher (female) said:

> I know exactly what Learner-Centred Pedagogy is. But the unified teaching contents and syllabus is a barrier for the learner-centred interaction. If I can not finish the requirements of the syllabus, I feel guilty because the examination focuses on that.

The lifeless class atmosphere of compulsory course in both schools showed that the teaching of the compulsory courses was completely for the NCEE preparation. Teachers were forced to teach to the text, and learners only responded to teachers' questions and took notes.

Thirdly, although the teaching contents and teaching material of the selective course were organised by teachers, the traditional pedagogical culture is deep-rooted and teachers and learners cannot quickly achieve a Learner-Centred Pedagogy. As the HPS English teacher (female) said "*we need time to experience and practice the new methodology*". Significantly, teachers are not able to transfer and practice the learner-centred teaching completely in the context of the examination dominated education system.

The LPS Chinese teachers (female) also said "*the traditional learning habits and the burden of the examinations obstructed the application of interactive classroom activities*". The stagnant class atmosphere of the selective courses in the HPS indicated that the Examination-oriented Education has a great impact on the learners. Across the curriculum, the high-performing learners were used to accepting a lifeless class atmosphere and an examination-oriented instruction but seldom interacted with others.

By contrast, the lively class atmosphere in the LPS showed that the so-called "hopeless" low performing learners likely realised that they would not do well in the NCEE, they hence required teachers give more concerns to them but not the examination. They therefore had high expectations for the selective courses as a path for their future development. When teachers employed different teaching techniques in the selective course teaching, they then actively responded.

5.3.1.2 The focuses of teaching

In general, the teaching aim of the compulsory courses is for examination preparation under the pressure of the NCEE, and the teaching aims for the selective courses are improving the learning interest of the learners and widening the range of knowledge in terms of the requirements of the new curriculum.

The classroom observations of the compulsory courses showed that all the teachers focused mainly on examination-related teaching. Although the focuses of the teachers

were slightly different (see Appendix 7) they nonetheless all emphasised a “correct” answering method and standardised answers.

They did this to train the question answering skills of students and to speed up their answering time. In addition, all eight teachers drilled students in various questions to help them experience the examination in advance.

This indicates that the examination-oriented pedagogy has not been changed and the teaching aims the teachers who taught the different compulsory subjects still focuses on the NCEE promotion rate. As the HPS Biology teacher (male) said:

> No matter what you taught, the only means to examine the outcomes of you and your students is the examination.

By contrast, for the selective course, the teachers in both schools focused on widening the students’ range of knowledge, strengthening knowledge application and improving the students’ learning interest. For instance, the HPS English teacher, the LPS Math teacher and the HPS Math teacher designed exercise activities to improve the learner’s knowledge application; the HPS History teacher, the LPS Chinese teacher and the LPS Politics teacher improved the students’ learning interest by analysing historical figures, political events and literacy classic, and the HPS Biology teacher and the LPS Biology teacher tried to widen students’ range of knowledge by teaching extracurricular knowledge. Thus, the teaching focus in selective courses in both schools was in line with the aims of the new curriculum. However, as indicated, this is undermined by the traditional teaching methods still employed.

5.3.1.3 Consolidating strategies and forms of assessment

The major consolidating strategies which were employed by all the teachers for both the compulsory and selective courses were that the teacher presented a problem to the learners, the learners verbalized responses, and the teacher then demonstrated the solution on the chalk-board.

This method was also the primary form of assessment for both the compulsory and selective courses. In addition students in five of the classes had to complete tasks from the textbook or exercise books. In 14 of the 16 classes learners were given homework to do.

These forms of consolidating strategies and assessment symbolise the repetition of knowledge and an emphasis on memorisation that characterise the Chinese system. As the HPS History teacher (male) put it:

> The unified syllabus and examination need a standardised answer; all the techniques we apply in teaching are to satisfy this requirement. Learner-centred teaching is good; however we can not make it under a centralised and standardised education system.

5.3.1.4 An assessment of the teachers' capabilities

Classroom observation of the compulsory courses indicated that all eight teachers in the two schools were equally very good at clearly spelling out instructions; they were familiar with the content of the subject and were able to answer learners' academic questions accurately due to their teaching experience and many years of repetitive teaching of the same textbook.

However, these teachers had a poor ability to link the lessons to the life experience of learners; to encourage learners to participate and to integrate the daily life example into the lesson.

This is against the rationale of the new curriculum which is to "shift from out of date and extremely abstruse curriculum content to essential knowledge and skills in relation to students' lifelong learning" (Feng, 2006:132). In addition, the teaching only emphasised the delivery of knowledge, and the learners remained passive recipients. In general, teachers did not encourage learners' participation.

By contrast in the selective courses, all eight teachers in both schools focused on the lifelong learning of learners and emphasised the linkage of the teaching contents with

the daily life of the learners. In addition, they all attached importance to the participation of learners. For example, they frequently asked questions to learners and designed interesting interactive activities.

Thus, all eight teachers in both schools actively implemented the requirements of the new curriculum for the selective course teaching compared with the compulsory course teaching. In general, all the teachers were capable and well-prepared.

5.3.1.5 The ability of the majority of learners to stay on the learning task

The average student numbers in a class was about 55 in both schools. Teachers primarily taught from the textbook in front of the class to learners who sat in rows with the same textbook. It might be assumed that in these circumstances that the learners might not be able to focus on the teaching or keep discipline very well. Surprisingly, the sixteen classroom observations indicated that most of the learners followed teaching instructions, participated in the learning task such as reading in unison, did individual exercises very well and showed good discipline in both the compulsory and selective courses. In addition, a majority of learners responded to questions and occasionally asked questions (although they tended to ask questions after the class).

In the compulsory classes the textbooks directed the teaching content and the teacher's chalk-board approach helped most learners to understand what was expected from them. In the selective courses where there is no compulsory textbook, the teacher's chalk-board methods for note-taking and hand-outs also directed learning. These approaches and an examination focus created strong discipline and forced learners to stay on the learning task, narrowly defined as it is.

This examination focus is probably why students were reluctant to ask questions in class as this would have disturbed the teaching or transmission which is the focus of lessons. Even in the selective courses, the teachers and learners couldn't get rid of the examination-oriented pedagogy.

5.3.1.6 The pressures on compulsory and selective courses teaching

In Chapter 3, the impact of the high-stakes testing on school principals and teachers was discussed. Once again, the two school principals and eight teachers said when the NCEE season comes around they are under pressure. Both principals indicated that they have great expectations for the performance of learners despite the NCEE promotion rate not being linked to the allocation of the school fund. As the LPS principal (female) said:

> We organise mobilisation meetings for the learners before they take the examination every year in order to alleviate their psychological burden and to ensure performance as usual at the examination.

The HPS deputy principal (female) too said:

> Although the examination marks and the promotion rate of learners represent the efficiency and performance of a school, as an educator I hope all my students will be able to fulfil their ambitions and dreams.

The teachers too obviously feel the pressure. As the HPS History teacher (male) put it, "*the NCEE examines the achievement of both me and my students*". The LPS Chinese teacher (female) said "*I care about the examination marks and future of my students*; *the NCEE is the unique chance for them after all*". When asked if the principals use a reward-punishment mechanism to motivate teachers, both school principals said that the criterion to assess a teacher's performance and capability is based on peer assessment, learners' feedback and evaluation of the Commission of Education and not the NCEE results. However, in both schools, teachers in casual conversation disclosed that they would get year-end bonuses if the students they taught had a high NCEE promotion rate at the examination. This focus on the promotion rate clearly adds to the pressures on teachers to teach in the ways that they do.

This pressure extends to the selective courses. As with the compulsory courses, the results form part of the senior secondary school graduation requirements ("Shanxi regular senior secondary schools' organisation of the new curricula's experimental

courses and instructive advice for implementation (trial)," 08/06/2008). According to the teachers, these requirements include the completion of assignments and class attendance as well as the class performance of learners.

With respect to the impact of the selective course, all the teachers commented that the new curriculum brought pressure to bear on them to improve their teaching methods and professionalism. As the HPS History teacher (male) said, "*teachers have to expand the range of knowledge in order to anticipate the various questions learners ask*". The HPS math teacher (female) said "*focusing on standardised and repeated compulsory teaching makes teachers lag far behind in the era of knowledge exploration*".

Keeping up means more preparation time and six teachers said that the average preparation time for a 45 minute selective course is 3-4 hours. Two others said they took a week! These were the LPS Chinese teacher and the HPS History teacher. By contrast, all eight teachers said that the average lecture preparation time for a 45 minutes compulsory course was 2-3 hours.

Thus, the NCEE promotion rate and the requirements of the new curricula simultaneously have aggravated the pressure on teachers. This situation is even worse than before the reforms.

5.3.2 Student learning strategies and workload

As has been discussed, the chronic Examination-oriented Education and the NCEE pressure has caused schools to increase the workload on learners by extending school time and adding extra assignments which focus on examination preparation in order to pursue a better NCEE promotion rate. This section therefore looks in detail at the issue of the "overloaded school burden" since the new curriculum reform was implemented by reviewing students' indications of firstly, the type of homework they do, and secondly, their workload.

5.3.2.1 The Type of Homework

The type of homework given is an indication of the form of teaching. Students were asked to indicate the two most common type of homework they received from the teachers. The results are shown below.

For both HPS and LPS learners, examination preparation was paramount. 100% of HPS learners and 95.9% of LPS learners indicated that their homework was examination-oriented. As Table 5.3.3 shows 82.5% of HPS learners and 83.3 % of LPS learners said that two main types of homework assigned by teachers in general was textbook revision and to finish the exercises in examination-preparation tasks.

Table 5.3.3: Two type of the homework assigned by teachers (Q 4.2)

Types of the homework		HPS% n=120	LPS% n=120
Examination -oriented Education	Textbook Revision	47.5	45.8
	Exercises in exam-preparation tasks	35.0	37.5
	Examination-related exercise books	17.5	12.5
Quality Education	Choose the reading materials myself	0.0	2.5
	Write a research report	0.0	0.8
	Interactive activities with your classmates	0.0	0.8
Total		100.0	100.0

As Table 5.3.4 shows, students were then asked to indicate three important purposes of the homework assignment. 76.1% of HPS learners and 60.2% of LPS learners said that reviewing class teaching and examination preparation were the main purposes of homework assignment, confirming the general orientation of the school. Interestingly, more LPS than HPS students thought that the purposes were quality-oriented (39.8% versus 23.9%). This may be a reflection of the slightly different orientation and pressures at the two schools.

Table 5.3.4: Three important purposes of the homework assignment (Q 4.1)

The purposes of the homework assignment		HPS% n=180	LPS% n=178
Examination-oriented Education	Review the knowledge you learnt in class	28.3	27.0
	Experience different types of questions for the examination	17.8	16.3
	Speed up the time of answering questions in the examination	12.2	3.9
	Improve the skill of answering questions in the examination	17.8	12.9
Quality Education	Enrich your knowledge and information	2.8	10.1
	Focus on flexible application of knowledge	15.0	14.0
	Improve my skills of self-learning	5.0	10.7
	Explore knowledge for myself	1.1	2.8
	Other	0.0	2.2
Total		100.0	100.0

Undoubtedly, the learning methods which were employed by learners for their study are influenced by the type of homework and the examination pressure. However, to try to understand if learners might prefer different methods (for instance, whether or not they would like Quality Education), students were asked what learning methods they would choose. The results are shown in Table 5.3.5 below.

Strikingly, the majority of students in both schools said they would prefer learning methods that were more in line of with the Quality Education (69.1% of HPS and 61.7% of LPS learners). However, 30.9% of HPS learners and 38.3% of LPS learners still chose examination-oriented learning methods which shows how the Examination-oriented Education and the examination pressure have distorted these learners' understanding of the essence of the learning which is even more difficult to change than Examination-oriented Education itself.

Table 5.3.5: Learner choice of preferred learning methods (Q 4.3)

Learning methods		HPS% n=120	LPS% n=120
Examination-oriented Education	Rote learning	5.0	9.2
	Exercises-stuffed tactic	11.7	15.8
	Examination-oriented analysis	14.2	13.3
Quality Education	Focus on the flexible application of knowledge	32.5	27.5
	Extensive reading	16.7	20.8
	Choose the learning content myself	20.0	11.7
	Other	0.0	1.7
Total		100.0	100.0

This preference was confirmed when 61% (36/59) HPS learners and 75% (45/60) LPS learners agreed or strongly agreed that the Quality Education is the best form of the education. This is confirmed in Table 5.3.6 which showed that 77.6% of HPS and 90.7% of LPS learners had a positive attitude toward Quality Education. The most positive aspects according to students were the "development of all round qualities" (43.8% of HPS and 48.3% of LPS learners) which is clearly what they feel is lacking in the current system. This indicates the rationale of the Quality Education is supported by students, but the gap between the policies and actual implementation is wide when these hopes are lined up against the teacher pedagogy and assessment practices

Table 5.3.6: Learners' attitudes toward the Quality Education (Q 4.4 d)

Learners' attitudes		HPS% n=80	LPS% n=87
Positive	It is good for the training of creativity and the ability of practice.	17.5	10.3
	It is good for the development of all-round qualities.	43.8	48.3
	It is good for knowledge application.	8.8	8.0
	It improves the moral and patriotism.	2.5	19.5
	It allows individual talents to emerge.	5.0	4.6
Negative	"Rubbish coated in gold and jade", it is not good enough.	13.8	2.3
	I don't know what the Quality-oriented education is.	7.5	1.1
	Not applicable	1.3	0.0
	Other	0.0	5.7
Total		100.0	100.0

To sum up, although the Quality Education reform and the new curriculum have been launched for many years, the pursuit of the NCEE promotion rate and the examination pressure has compelled teachers to assign homework only for examination preparation which conflicts with all-round development and Learner-Centred Pedagogy.

5.3.2.2 The Workload of Learners

The "school burden" is one of the chronic problems which has had a negative impact on the physical and mental development of Chinese students.

This section probes the current situation with regard to the academic workload of learners through three aspects which are: 1) time spent on homework 2) time spent on extra learning and 3) time spent on extracurricular activities and relaxation. The compulsory courses are used here as the measure because the selective courses only take up one and half hours per week in both schools. They therefore have a limited impact on the workload.

5.3.2.2.1 Time spent on homework

The senior secondary learners only start to choose either the "Art and Humanities" track or the "Science" track in order to prepare for the "3+X" NCEE in Grade 12. Chinese, English and Math are the three common subjects. The Art and Humanities

tracks learners are asked to take Humanities and Social Sciences (History, Geography and Political science) and the Science track learners are asked to take Science (Chemistry, Biology and Physics) as their "X" portion (see Appendix 1 for detailed information on the subjects). Furthermore, the learners in different tracks are treated differently. For example, the NCEE Math test for the Science track is more difficult than the Math test for the Art and Humanities track. Thus, the discussion below is separated by tracks and schools in order to find out the variation.

Table 5.3.7 shows the hours that both Art and Humanities track learners and Science track learners at the HPS spent on homework for the compulsory subjects per week.

Table 5.3.7: The hours HPS Art and Humanities track and Science track students spent on homework per week % (Q 3.1)

		"3" main subjects			A&H "X"	Scien "X"	Minor subjects			
Art and Humanities track	**Hours**	**Chinese n=30**	**English n=30**	**Math n=30**	**H&S n=30**	**Science n=30**	**Tech n=30**	**Arts n=30**	**PE n=30**	**CPA n=30**
	<1-2	33.3	43.3	16.7	16.7	83.3	96.7	93.4	80.0	96.6
	3	23.3	20.0	16.7	26.7	6.7	3.3	0.0	6.7	3.3
	4-5>	43.3	36.7	66.7	56.7	10.0	0.0	6.7	13.3	0.0
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Science track	**Hours**	**Chinese n=30**	**English n=29**	**Math n=30**	**H&S n=30**	**Science n=30**	**Tech n=30**	**Arts n=30**	**PE n=30**	**CPA n=30**
	<1-2	40.0	44.8	3.3	93.4	3.3	100.0	100.0	86.7	93.3
	3	23.3	13.8	6.7	6.7	0.0	0.0	0.0	0.0	0.0
	4-5>	36.7	41.3	90.0	0.0	96.6	0.0	0.0	13.4	6.6
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

According to Table 5.3.7, there is a common trend that a majority of Art and Humanities track learners and Science track learners at the HPS spent 3-5 and more hours on each of their three major subjects, and 3-5 and more hours on their own "X" portion, but they only spent <1-2 hours on another "X" subject. Furthermore, most of the learner in both tracks spent <1-2 hours on the four minor subjects.

In contrast, according to Table 5.3.8, in the LPS a majority of Art and Humanities track and Science track learners spent <1-2 hours on Chinese and English. Also, 93.3% of

Art and Humanities track learners and 70% of Science track learners spent on <1-3 hours on Math subject. And, most of learners in both tracks spent <1-3 hours on their own "X" subject, but, they only spent <1-2 hours on another "X" subject. A majority of learners in both tracks only spent <1-2 hours on four minor subjects.

Table 5.3.8: The hours LPS Art and Humanities track and Science track students spent on homework per week % (Q 3.1)

		"3" main subjects			A&H "X"	Scien "X"	Minor subjects			
Art and Humanities track	Hours	Chinese n=30	English n=30	Math n=30	H&S n=30	Science n=30	Tech n=30	Arts n=30	PE n=30	CPA n=30
	<1-2	86.7	86.6	70.0	50.0	80.0	100.0	86.6	93.4	90.0
	3	6.7	10.0	23.3	20.0	6.7	0.0	6.7	0.0	3.3
	4-5>	6.6	3.3	6.7	30.0	13.4	0.0	6.7	16.7	6.6
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Science track	Hours	Chinese n=30	English n=30	Math n=30	H&S n=30	Science n=30	Tech n=30	Arts n=30	PE n=30	CPA n=30
	<1-2	76.7	73.3	50.0	76.6	40.0	100.0	96.7	93.3	86.7
	3	16.7	10.0	20.0	13.3	26.7	0.0	3.3	0.0	3.3
	4-5>	6.7	16.7	30.0	10.0	33.3	0.0	0.0	6.7	10.0
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Two common points were indicated from the above comparisons. First of all, the HPS learners spent more learning hours on their homework per week than the LPS learners did in order to prepare for examination. Also, it reflects that the HPS learners might have a heavier workload for homework compared with the LPS learners.

Secondly, the learners either in Art and Humanities track or in Science track of both schools spent more learning hours on the "3+X" subjects than the four minor subjects. This is despite the requirement that senior secondary learners are qualified to graduate only when they have obtained the 116 credits from all subjects (Shanxi regular senior secondary schools' organisation of the new curricula's experimental courses and instructive advice for implementation (trial)"08/06/2008). Thus, although senior secondary learners have to focus on both the "3+X" subjects and the minor subjects, it is clear that the NCEE takes precedence.

The next Table combines the data to estimate the total homework hours. According to Table 5.3.9, the HPS learners therefore approximately spent 21.6 hours per week (1298/60) either at school or at home on homework compared with the LPS learner who spent 16.1 hours per week (968/60) on their homework. This equates to 3.1 hours /day, 7 days per week for HPS learners and 2.3 hours /day, 7 days for LPS learners.

To some extent, then the course organisation of the new curriculum which intends to provide an all round development actually aggravates the academic workload of learners.

Table 5.3.9: Total hours LPS learners and HPS learners spent on homework per week

Hours	N=60 (HPS)	N=60 (LPS)
<1	257	310
2	160	242
3	141	153
4	140	108
5>	600	155
Total	1298	968
Average Time	21.6	16.1

5.3.2.2.2 Time spent on extra learning

The average learning hours that both HPS and LPS learners spent on homework per week were discussed in the last section. This section therefore looks at the extra learning hours that the HPS and the LPS learners spent after school per week in order to probe the total hours that both HPS and LPS learners spent on their study per week.

Table 5.3.10 shows that on average, the HPS learners spent approximately 18.3 hours per week (1096/60) on extra learning compared with the LPS learner who spent 15 hours per week (899/60) on extra learning. This equates to 2.6 hours /day, 7 days per week for HPS learners and 2.1 hours /day, 7 days for LPS learners.

Table 5.3.10: Total hours LPS learners and HPS learners spent on extra learning per week

Hours	N=60 (HPS)	N=60 (LPS)
<1	308	331
2	162	250
3	159	132
4	92	56
5>	375	130
Total	1096	899
Average Time	18.3	15.0

Combining this date shows that, the HPS learners spent 5.7 hours and the LPS learners spent 4.4 hours on their homework and the extra learning per day (Table 5.3.11).

Table 5.3.11: Total hours spent on homework and extra learning by HPS and LPS learners per day

	HPS learners	LPS Learners
Hours spent on homework	3.1	2.3
Hours spent on extra learning	2.6	2.1
Total	5.7	4.4

Besides the homework and the extra learning, the phenomenon of remedial classes aggravates the academic burden of learners as well. Although the principals and teachers had an antagonistic attitude toward taking remedial classes, 80% of HPS learners and 86.7% of LPS learners confirmed that they had taken remedial classes. Both principals also said that their schools didn't organise any forms of remedial class for learners and all eight teachers claimed that the learners only need to focus on the class teaching in order to succeed.

The main reasons for taking remedial classes are that they seen as necessary for NCEE preparation. Table 5.3.12 shows, 62.3% of HPS learners and 72.1% of LPS learners said this was the main reason. Interestingly, 13.1% of HPS learners also indicated that

they took remedial classes because they don't want to fall behind those who have taken the remedial classes and 13.1% of LPS learners said they were forced to take remedial classes by their parents and teachers.

In this sense, there are powerful competitive pressures operating to achieve motivation. Thus, the learners in both schools not only have to spend several hours on school homework and extra learning per day, but also take remedial classes in order to improve their NCEE competitiveness per week caused a overload academic burden.

Table 5.3.12 The reasons that learners take remedial classes (Q 3.6 b)

Reasons	HPS% n=61	LPS% n=61
It is good for my study and NCEE preparation.	62.3	72.1
I only focus on school teaching.	9.8	6.6
It can not satisfy me and it wastes my time.	8.2	0.0
I don't want to fall behind those who have taken the remedial classes.	13.1	4.9
I was forced to take the remedial classes by my parents or teacher.	4.9	13.1
Not Applicable	0.0	0.0
Other:	1.6	3.3
Total	100.0	100.0

5.3.2.2.3 Time spent on extracurricular activities and relaxation

This section probes the hours that both HPS and LPS learners spent on extracurricular activities and sleep per day.

Table 5.3.13 shows that 55.7% of HPS learners and 49.3% of LPS learners only have recreational time at school. Furthermore, 18% of HPS learners and 31.5% of LPS learners also indicated that they spent most of their time on study and that they don't have time for sports and other recreational activities. Only 9.8% of HPS learners and of 5.5% LPS learners said that they have time for hobbies. Thus, most of the learners in both schools actually do not have enough time for sports and entertainment every day, and the class break, morning exercise and PE is their time for recreational activities.

Table 5.3.13: Do you have time for sports and other recreational activities every day? (Q 3.8 b)

Learners' explanations	HPS% n=61	LPS% n=73
I have time for my hobbies.	9.8	5.5
I spend most of my time on my study.	9.8	12.3
I have spare time but not everyday.	14.8	8.2
I only have recreational time at school.	29.5	23.3
Class break time and morning physical exercise time.	26.2	26.0
I don't have time for sports and other recreational activities.	8.2	19.2
Other:	1.6	5.5
Total	100.0	100.0

Given these full days it was interesting to see how much rest learners got. Table 5.3.14 shows that 95% of HPS learners and 76.7% of LPS learners usually sleep 6-7 hours per day, and only 1.7% HPS learners can sleep 8 or more hours per day compared with 10% of LPS learners. According to the Grade 11 timetable at the two schools, the first class in the morning starts at 7:30 am and the fourth class ends at 12 am. The first class in the afternoon starts at 2:30 pm and fourth class ends at 6:30 pm. The learners still need to attend evening class at the school (1.5 hours) afterwards. The learners therefore are supposed to get up at 7am provided they don't want to be late. If a majority of learners in the schools only can sleep 6-7 hours per day, the time to go to bed will be at 0:00-1:00 am. Thus, a long school day plus the time needed for homework and extra learning shortens the sleep time available to learners in both schools.

Table 5.3.14: The hours learners can sleep per day (Q 3.9)

Hours	HPS % n=60	LPS % n=60
<5	0.0	5.0
5	3.3	8.3
6	53.3	45.0
7	41.7	31.7
8>	1.7	10.0
Total	100.0	100.0

The pressure from the NCEE preparation therefore has decreased the hours that learners should spend on entertainments and relaxation and aggravated the academic burden of learners in order to enhance the competitive edge in examinations.

In order to find out the learners' dissatisfaction under the pressure of the NCEE, they were asked to indicate their attitudes towards the NCEE. The results are shown below.

As Table 5.3.15 demonstrated, 83.5 % of HPS learners and 73.8% of LPS learners both said that the senior secondary students aims at the university entry and the "3+X" NCEE determines their fate and gives them too much pressure.

Table 5.3.15: The learners' response towards the NCEE is a major cause of the overload "school burden" (Q 3.5 b)

Learners' response	HPS% n=110	LPS% n=122
Taking the NCEE is the national condition of China.	12.7	7.4
"3+X" subjects caused the overload school burden.	13.6	16.4
The senior secondary students aim at university entry.	24.5	27.9
The NCEE determines a senior secondary student's fate.	21.8	17.2
The NCEE gives us too much pressure.	23.6	12.3
The NCEE is a barrier to the mental and psychological development of students.	2.7	9.8
Other:	0.9	9.0
Total	100.0	100.0

Though the new curriculum reform intends to lighten the overload school burden, however, the complex curriculum organisation, a long schooling day and the NCEE preparation has increased the academic burden of learners. The learners therefore only have the entertainment time at school and sleep 6-7 hours per day.

5.3.3 Summary and conclusion

This section discussed the teaching strategies, type of homework and the workload of homework.

Classroom observation indicated that all eight teachers in both schools applied an Examination-oriented pedagogy for the compulsory courses teaching. In addition, the tradition of Examination-oriented Education and the large class number obstructed the implementation of the Learner-Centred Pedagogy in the selective course. More importantly, the HPS learners were used to a stagnant class atmosphere and the Examination-oriented instruction, and they did not like to interact with others compared with the LPS learners who displayed an active class atmosphere in the selective course.

As with the teaching strategies, the homework assignment in both schools for the compulsory courses is closely related to the NCEE preparation. Additionally, the new curriculum has caused the learners not only need to focus on the "3+X"subjects for the NCEE and other minor subjects for graduation, but also to spend extra learning hours and take the remedial classes per week in order to keep up their competitiveness in the NCEE. As a consequence, learners in both schools have limited entertainment and rest time.

In short, a huge gap exists between the policy and grounded practice. The new curriculum will be not able to achieve a Learner-Centred Pedagogy within a short period compelled by the pressure of the NCEE promotion rate. Furthermore, the new curriculum which aims to improve all-round development seems to conflict with the goal of "lightening the academic burden of learners" and has aggravated the academic workload of the learners. Thus, the current reform is not able to carry out the goals of the Quality Education.

5.4 Learners' Academic Aspiration

In this section, the learners' academic aspiration was discussed in order to probe the learners' attitude towards the NCEE.

The questionnaires showed that 90% (54/60) of HPS learners and 96.7% (58/60) of LPS learners will take the NCEE. Additionally, 91.7% (55/60) of HPS learners and 70% (42/60) of LPS learners too said that they will study further when they leave school.

As a form of the high-stakes testing, the NCEE selection mechanism is a unique means for the university admission in China. A majority of senior secondary learners in two schools also wished that they could study at the universities. This is the national situation of China's education. The "stakes" of the NCEE are still high and the pursuit of promotion rate and examination marks are an unavoidable focus by the schools, teachers and students. In this scenario, the likelihood of successful implementation of the Quality Education is low.

5.5 Summary and Conclusion

This chapter mainly discussed four aspects; these were the school background, the school-based implementation of the new curriculum, the teaching strategies and learning methods for the compulsory and selective courses and learners' academic aspirations.

There are four main problems that were exposed. Firstly, the levy of "school selection fees" aggravates the discrepancy between the two schools and the resultant unequal physical and human resources directly impacts on the calibre of students and quality of teaching. Additionally, the so-called "fast-slow" tracking system, which is used in order to pursue a high NCEE promotion rate, has caused learner resentment.

Secondly, although the new polices are available to schools and the school-based implementation of these in terms of technical requirements is going well in both schools, the weak organisation of the selective courses and Comprehensive Practical Activities that are supposed to accompany these has hindered the achievement of the main goal of all-round development of the learners. As predicted, the LPS attached more importance to the arts selective courses compared with the HPS, but this school has been hampered by the lack of physical and human resources which impacts on the quality of these courses.

Thirdly, all the teachers applied an examination-oriented, rote learning pedagogy for the compulsory courses. While teachers indicated an awareness of the new requirements around Learner-Centred Pedagogy it was clear that the deeply-rooted examination-oriented education system as well as large class sizes made this very difficult to apply. Consequently the class atmosphere in both schools was largely dull and lifeless, although the LPS learners were more interactive in their selective course classes. This examination focus was reinforced by the consolidation and assessment techniques used. Ironically, overall, the new curriculum and the continuing NCEE pressure have put an even heavier academic burden on learners.

Fourthly, a majority of learners in both schools had university access and further study as their learning goals. However, the huge numbers of examinees and fierce competition in the NCEE continues to force schools, teachers and students primarily focus on NCEE preparation. In these circumstances, anything other than a formalistic implementation of the new curriculum requirements is unavoidable.

To sum up, there is a huge gap between the policy and school-based practice and the contradiction between the new curriculum reform and the NCEE selection mechanism will be resolved in the short term.

CHAPTER 6

CONCLUSION

Research on implementation around the world indicates that many educational reforms designed to improve the quality of schooling have been more rhetorical than substantive in their impact on the organization of schools and classrooms (Fullan 1991, Snyder et al. 1992, Weiler 1988 cited in Morris & Scott 2003:71). Schools and classrooms do change, but the extent and direction of change is not always consistent with the intentions of policy initiatives.

According to Morris & Scott, many "policies" remain impossible dreams that are incapable of implementation because of an absence of financial resources or qualified personnel or because they are insufficiently specific or because they are ambiguous (2003:72). Policy failure or an implementation gap can occur when policy is imposed from the centre with no thought given to how it might be perceived or received at local level. The same applies to China's Quality Education reforms, which is the gap between the intentions of policy and the school-based implementation.

Furthermore, the implementation gap could be caused from many factors, these are: the policy itself, the policy maker, the environment in which the policy has been made and the implementation circumstance. Thus, the reasons that brought about an unsuccessful implementation of the new curriculum reform are complicated when such elements as the tremendous population, fierce competition, the pursuit of the NCEE promotion rate, lightening students' academic burden, all round development and so on have been mixed together.

This thesis probed the impact of the new curriculum on senior secondary school principals, teachers and Grade 11 students through a focus on the implementation of the new curriculum in practice and how schools deal with the twin problems of an

excessive “school burden” on students and a school managerial focus on the so-called “promotion rate” under the pressure of the NCEE.

In both schools the principals and teachers had a clear understanding of the rationale and aims of Quality Education and of the new requirements of the curriculum such as “Selective Courses”, the “Mobile Class System”, the “Course Credits System” and the “Growth Portfolio”, and these had been implemented in both schools. However, the managerial focus of two school principals was still on the pursuit of the NCEE promotion rate. This was shown in the following examples.

Firstly, though so-called “fast-slow” system was banned by local Commission of Education, both schools still streamed students in order to maintain the NCEE promotion rate. Additionally, teachers in both schools got year-end bonuses if the students they taught had a high NCEE promotion rate in the examinations.

Secondly, as the new curriculum required, although both schools provided many extracurricular activities and selective courses for the “all-round development” of learners, the Selective Course I options in both schools were taught as compulsory courses and the Selective Course II options had to make concessions to NCEE preparation. Consequently, this formalistic implementation of the new curriculum was not able to improve the all-round development of learners. In short, the, current implementation of the new curriculum does not solve the problem of the “one-sided pursuit of the promotion rate”, because this remains the focus of the principals.

This NCEE orientation also impacted on the pedagogic strategies of the teachers. Despite the emphasis in the new curriculum on “learner-centred teaching”, all eight teachers in both schools still applied an examination-oriented pedagogy particularly for the compulsory courses. The reasons given for this were the pressures of the NCEE, the constraints of the unified syllabus, standardised textbooks and examinations, and large classes. As a result, the teachers seldom employed any interactive activities for the compulsory subjects teaching, and the class atmosphere in both schools was lifeless.

By contrast, though all eight teachers said they would like a learner-centred teaching focus for the selective courses and spent many hours preparing for these courses they were defeated by the deep-rooted examination-oriented tradition and again large classes. More importantly, teachers were not able to transfer and practice learner-centred teaching in the context of the examination-oriented system.

However, compared with the HPS, the LPS had a more lively class atmosphere in the selective courses. This variation is related directly to an Examination-oriented Education which the HPS promoted versus a learner-centred approach which the LPS was able to try in the context of a slightly less pressured set of expectations about learner performance prospects. This is should be said only occurred with the selective courses.

In this context, teachers then face two sets of pressures. Firstly, as all teachers said when the NCEE season comes around they are under pressure because of the NCEE promotion rate. Now, secondly, in addition, the new curriculum has brought pressure to bear on them to improve their teaching methods and professionalism. The reform has therefore have aggravated the pressures of teachers, and the situation for them is even worse than before.

With respect to the learners, as indicated, the reforms were aimed at providing a learner-centred focus away from an examination-oriented education and a reduction in the “school-burden”.

As the data showed however, a majority of learners in both schools indicated that the homework assignment for the compulsory courses was still closely related to NCEE preparation. Additionally, the new curriculum subjects which aimed to support “all-round development” simply added to the school-burden because the learners not only had to focus on the “3+X”subjects in order to prepare for the NCEE, but also spent learning hours on the other minor subjects needed for high school graduation.

As a result, in order to remain competitive in the NCEE, learners also spent extra learning hours on their study. The HPS learners spend about 5.7 hours and the LPS learners about 4.4 hours on their homework and extra learning per day. Furthermore, a majority of learners took remedial classes even though teachers had a negative attitude towards it. As the consequence, most of the learners in both schools only had sports and other recreational activates at school, and they sleep 6-7 hours per day.

Thus, as with the teachers, although the new curriculum reform intended to lighten the learners' school burden, it has, combined with the continuing NCEE pressures, aggravated the academic burden of learners.

In short, a huge gap exists between the policy aims and the actual implementation. The new curriculum will be not able to achieve a Learner-Centred Pedagogy, a lightening of the academic burden of learners or promote the all round development of learners under the NCEE pressure. Thus, the collision between the pursuit of the NCEE promotion rate and the goals of Quality Education still need to be resolved.

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Appendix 1: Reform agendas of Chinese Quality Education

Traditional Examination-oriented Education and the pressures from the examinations caused many negative impacts on China's educational system, these were: cramming teaching and rote learning, examination-oriented pedagogy, overloaded school burden and one-sided pursuit of promotion rate to higher-level schooling. In order to solve these chronic problems, Chinese government and the educational authorities therefore launched a serial of reforms to develop a quality-oriented education.

In this section, the development of China's Quality Education was introduced briefly. Also, there was a focus on the reform of the National College/University Entrance Examination. The detailed information was given below.

In the 1950s, Chairman Mao Zedong warned that schools should place student health as a top priority, while school performance should be of secondary importance (Yi & Li, 2004:5). In the early1960s Mao Zedong restated that students were overloaded with too many courses and were given too much homework. Mao Zedong suggested that the educational system, curricula, subjects, instructional pedagogy, educational assessment method, and testing policy needed to be reformed.

In 1978, Deng Xiaoping argued that the overload school burden was a serious issue and that some effective measures were needed to resolve the chronic problem at a national educational conference. Deng Xiaoping visited Beijing Jinshan Middle School on National Day in 1983. In his speech to the teachers and staff, and in his autography for Jinshan Middle School, Deng Xiaoping stated that education in China should be "oriented to modernisations (Four modernisations: Industry Modernisation, Agriculture Modernisation, National Defence Modernisation and Science and Technology Modernisation), oriented to the world, and oriented to the future"*(Jiaoyu Yao Mianxiang Xiandaihua, Mianxiang shijie, Mianxiang Weilai)*(He, 2004).

For almost twenty years since the national education conference in 1978, the problem of overload school burden has continuously occupied Chinese policy and educational criticism.

In order to meet the new demands and challenges of the country, on February 13, 1993, the State Education Commission issued "*Guiding Principles of Chinese Education Reform and Development (Zhongguo Jiaoyu Gaige He Fazhan Gangyao).*" clearly stated that:

> Education reform and development was the first priority of the Chinese government we must strive to improve all-round quality of the Chinese people in order to ensure the modernisations of China through Quality Education. The current education system and practice cannot meet the demands and challenges of the ongoing economic and political reforms. This education reform must be implemented in the light of Deng Xiaoping's "Three orientations," and educational reform and development must be geared to the demands and challenges of socialist construction and modernisation, and globalization (State Council, February 26, 1993).

(http://www.moe.edu.cn/edoas/website18/level3.jsp?tablename=208&infoid=3334)

This was the first time that the government officially announced the ultimate goal of reform and how it might impact on China's economic and political development.

The government believed that all reforms were critical to promoting Quality Education, including reforms to the following: graduation examinations, National College/University Entrance Examination and admission, curricula, teaching contents, instructional pedagogy, and the overall concept and philosophy of education. The government also hoped that these reforms would be helpful in resolving the chronic problems in Chinese education: the one-sided pursuit of promotion rate for higher-level schooling and the overloaded school burden on students. With the announcement of the "*Guiding Principles of Chinese Education Reform and Development*," many circulars, proposals, and directives were geared toward reforming the whole educational system and promoting Quality Education through assessment reform.

From 1993 to 1998, the State Education Commission repeatedly addressed these chronic problems in the course of issuing more than 8 circulars or proposals about Quality Education, including: "*Directive on Lightening Students' Overloaded School Burden in the Compulsory Education Period and Promote the Quality of Education (Guojia Jiaoyu Weiyuanhui Guanyu Jianqin Yiwujiaoyu Jieduan Xuesheng Guozhong Keye Fudan, Quanmian Tigao Jiaoyu Zhiliang De Zhishi)* 24/03/1993"; "*Proposals on Steadily Carrying Out the Graduation Examination System in General High Schools(Guanyu Wenbu Tuijing Putong Gaozhong Biye Huikao Gongzuo De Yijian)* 10/08/1993"; "*The Proposals on Carrying Out 'the Guiding Principles of Chinese Education Reform and Development(Guanyu Zhongguo Jiaoyu Gaige He Fazhan Gangyao De Shishi Yijian)* 03/07/1994"; "*Proposals on Fully Complying and Implementing the State Educational Principles and Missions, and Lightening Students' Overloaded Burden of Learning in Both Elementary and Middle Schools(Guojia Jiaowei Guanyu Quanmian Guanche Jiaoyu Fangzhen, Jianqin Zhongxiaoxuesheng Guozhong Keye Fudan De Yijian)* 10/11/1994", "*Circular on Further Promoting and Achieving the Reform of Admission Policies for Junior Secondary Schools (Guanyu Jingyibu Tuidong He Wanshan Chuzhong Ruxue Banfa Gaige De Tongzhi)* 06/06/1995"; "*Circular of Proposals on Fully Promoting the Quality of General High Schools (Guanyu Dali Banhao Putong Gaojizhongxue De Ruogan Yijian)* 08/06/1995"; "*Proposals on Actively Carrying out Quality Education in Elementary and Middle Schools (Guanyu Dangqian Jiji Tuijing Zhongxiaoxue Shishi Suzhi Jiaoyu De Ruogan Yijian)* 10/29/1997"; and "*Proposals on Carrying out Quality Education, Adjusting Curricula, and Reinforcing Teaching Administration in Elementary and Middle Schools (Guanyu Tuijing Suzhi Jiaoyu Tiaozheng Zhongxiaoxuejiaoyu Jiaoxue Neirong)* 21/04/1998"
(http://www.edu.cn/fa_zhan_shi_490/)

In all of these documents, the majors themes such as "School Burden," "Promotion Rate," "Quality Education," "Socialist Construction and Modernisation," and "Globalization" were repeatedly presented. Quality Education, instead of the Examination-oriented Education, became the priority for the state. Through this rhetorical repetition, the government

expressed its determination to continue the reform of testing policy, to correct the tendency toward a one-sided pursuit of promotion rate at the higher-levels of schooling, to reduce students' overloaded school burden, and to promote Quality Education which would best serve China's socialist and modernisation construction.

The documents also indicated that the government had become aware of the interconnectedness of these goals. These documents stated clearly that senior secondary school admission policy needed to be reformed; such a reform would mean that elementary school graduates would enter secondary middle school without taking the selective entrance examination at all (Ngok & Kwong, 2003:165). Government also emphasised that it was urgent and imperative for all levels of government to take measures to reduce the pressure associated with test scores and promotion rate to a higher level of schooling.

The Chinese government regards the year of 1999 as a milestone for Chinese educational reform. That was the year the MOE promulgated "*The 21st Action Plan to Vitalize Chinese Education (Mianxiang 21 Shiji Jiaoyu Zhenxing Xingdong Jihua)*". In addition, this was the first time that the government was implementing a new testing system for National College/University Entrance Examination and had defined the contents, goals, and the strategies for achieving the goal of Quality Education.

As "*The 21st Action Plan to Vitalize Chinese Education*" (13/01/1999) indicated:

> The "Cross century Quality Education Project" for curriculum reform project entailed reform in the primary and secondary education curriculum, standards teaching methods, teaching materials and assessment systems, with experiments to be conducted for the following 10 years after which the new curriculum and teaching materials were to be adopted across the whole of China.

http://www.moe.edu.cn/edoas/website18/level3.jsp?tablename=217&infoid=3131

Thus, traditional rote learning and the Examination-oriented Education would be challenged.

In the "*Proposals for Deepening the Reform of the College Entrance Examination and Admission System (Jiaoyubu Guanyu Jingyibu Shenhua Putong Gaodengxuexiao Zhaoshengkaoshizhidu Gaige De Yijian)* 13/02/1999", the Ministry of Education stated that the "*Guiding principles for the NCEE reform"* were:

> To help promote the notion of a Quality Education for socialist construction and economic globalization, to provide more qualified students for higher education, and to increase the autonomy of colleges and universities in higher education. Through reforming the college entrance examination system, a national Quality Education was expected.

It was the first time the Ministry of Education specifically designed and introduced an agenda for reforming test subject areas for the NCEE.
(http://china.findlaw.cn/fagui/xz/28/203728.html)

Table 1: NCEE "3+X" testing model

National College Entrance Examination			
"3" portion	**"X" portion**		**Total**
1. Chinese language 2. Mathematics 3. Foreign language	Comprehensive Arts	Comprehensive Science	4 Subjects
	History, Politics and Geography	Chemistry, Physics and Biology	

The latest reform introduced the "3+X" system. According to Table1, this system requires all students to take the examinations in three common areas: Chinese language, Mathematics and a foreign language (in general the English language was the chosen foreign language) and an additional examination in either the Arts and Humanities track or the Science track, depending on which track a student chose. The Arts and Humanities track examinees would take an additional examination on the "Comprehensive Arts" which includes History, Politics and Geography.

The Science track examinees would take the additional examinations in the "Comprehensive Science" which includes Chemistry, Physics and Biology. Consequently

each student had to take examinations in a total of four areas (Chinese language, Mathematics, English and Comprehensive Arts or Comprehensive Science).

The goal of this reform was to encourage students to develop skills of solving problems rather than to reciting formulae. This type of change in subject content, grouping and choice was meant to reduce students' school burden, to release teachers and schools from school-promotion pressures, and to promote a well-rounded, humanistic and Quality Education. The ultimate goal was to create competitive human resources for China's socialist and modernisation construction in the global economy.

On 13 of June 1999, the Central Committee of the CCP and the State Council promulgated "*Decisions on Deepening and Reinforcing the Education Reform,* and *Fully Promoting Quality Education (Zhonggong Zhongyang Guowuyuan Guanyu Shenhua Jiaoyu Gaige Quanmian Tuijing Suzhi Jiaoyu De Jueding)*". In this "Decision" document, the contents, goals, and the strategies of Quality Education are defined.

According to this document:

> The world economy is increasingly globalised. The international competition in world economy is increasingly intensified. The key to win in the global economy relies on advanced technology and science, and internationally competitive talents. China has to reform the current Examination-oriented Education to promote a quality–oriented education.

Thus:

> Quality Education must be oriented to modernisations, to the world, and to the future. Quality Education must be oriented to all students at all levels. Quality Education must be oriented to improving students' logical thinking, creativity, and problem-solving abilities. Quality Education should not be oriented to testing and promotion rate. In order to achieve Quality Education, reforms must be directed by Deng Xiaoping's thoughts and theory on both economic and educational reforms. More flexibility should be given to local government, education bureaus and schools. More educational funding should be added. This funding responsibility is in local governments. Curriculum, instructional contents, and instructional

> pedagogy must be reformed. Educational assessment must be reformed. Teachers must receive more professional training.

(http://www.chce.gov.cn/News_info.asp?ID=1454&BoardID=71)

Unfortunately, a serial of reform agendas failed to solve the chronic problems. In the new century, additional policy initiatives have been adopted regarding educational assessment reform and Quality Education.

To implement "*Decisions on Deepening and Reinforcing the Education Reform*, and *Fully Promoting Quality Education*" and "*The 21st Action Plan to Vitalize Chinese Education*", compulsory education curriculum reform then formally commenced with the issuing of the *"Basic Education Curriculum Reform Outline (Trail) (Jichu Jiaoyu Kecheng Gaige Gangyao(Shixing))"*by the Ministry of Education in July 2001 (Dello-Lacovo, 2008:3).

According to *Basic Education Curriculum Reform Outline (Trial)*, there was six objectives:

1. Shifting from a narrow perspective of knowledge delivery in classroom instruction to a perspective concerned with learning how to learn and developing positive attitudes.
2. Shifting from isolation among subjects to a balanced, integrative, and selective curriculum structure.
3. Shifting from out of date and extremely abstruse curriculum content to essential knowledge and skills in relation to students' lifelong learning.
4. Shifting from students learning passively to students developing capacities to process information, obtain new knowledge, analyse and solve problems, and communicate as well as cooperate with others.
5. No longer viewing the exclusive functions of curriculum evaluation to be identification and selection, but adding the promotion of student growth, teacher development, and instructional improvement as additional functions of curriculum evaluation.
6. Shifting from centralisation in curriculum control to dividing curriculum into three levels of control: central government, local authorities, and schools (Feng, 2006:132).

Furthermore, the new curriculum reforms attempted to cultivate a positive attitude to learning as well as a value orientation, to develop students' sense of inquiry and their

investigative strategies, to encourage communication and co-operation between students and between students and teacher, to give students opportunities for practical participation and hands-on experience, and linking the curriculum to students' everyday lives. According to this reform:

> At primary school level the major concern is a comprehensive development of students. In the lower-grades of primary schooling, it should offer several subjects: Morality and life, Chinese language, Mathematics, Physical education, Arts and so on. In the higher grades of primary schooling, the following subjects are provided: Morality and society, Chinese Language, Mathematics, Science, a foreign language, Comprehensive practical activities, Physical education, Arts and so on. At junior secondary level, a set of selective courses combined with comprehensive courses is necessary. The dominant courses include Thought and morality, Chinese language, Mathematics, Science, a foreign language, Comprehensive practical activities, Physical education, History and society and Arts. At senior secondary level, with the aim of helping students attain the fundamental requirements, and to foster the personality development of students through offering compulsory courses, assorted selective courses and technical practices. From primary school to senior secondary school comprehensive practical activity would be offered as one of the compulsory subjects.

(http://www.moe.edu.cn/edoas/website18/32/info732.htm)

Several new measures of the new curriculum were highlighted in senior secondary level of schooling, theses were: the "Course Credits System", the "Mobile Class System", the "Growth Portfolio" the "Learner-Centred Pedagogy" and the "Selective Courses System".

Firstly, it established the division between the compulsory courses and the selective courses and utilized a new mechanism for course assessment, the "Course Credits System". Each course carries a different credit. Students are allowed to graduate only if they obtain the required number of credits. The graduation requirement for students is 116 credits in the compulsory section as well as 28 credits in the selective section. Secondly, the new curriculum broke the fixed class setting. Students were now able to organise a class in accordance with the courses of their choice. However, for the managerial purpose the original class setting still exists. Thirdly, the new curriculum changed the traditional assessment methods. Schools were required to establish a

comprehensive and dynamic growth portfolio for every student. The new curriculum outlined a new assessment method for evaluating students' outcomes via a combination of academic scores and a record of a student's growth and emphasised "development space of students". Finally, the new curriculum emphasised a learner-centred teaching method and stressed the importance of interaction between students and teacher. It also emphasised that a teacher could no longer dominate the classroom, and that teacher should be aware the development of individual students as well as encouraging an interest in learning and gauge and foster the academic potential of each learner. The new curriculum also advocated that schools enhance the acquisition and designing of resources and materials for curriculum development.

The reforms were first implemented in selected regions and began with the primary and junior secondary curriculum. Primary and junior secondary curriculum reform began in Beijing in the autumn of 2001(Dello-Lacovo, 2008:4). The new senior secondary school curriculum began to be implemented in Hainan province, Guangdong province, Shandong province and the Ningxia Hui Autonomous Region in 2004. From 2004 to 2008, Jingsu province, Fujian province, Hunan province, Shanxi province and most other Chinese provinces implemented the new senior secondary curriculum.

According to Table 2, the new curriculum for senior secondary level of schooling is comprised of eight different learning areas or domains: Language and Literature, Mathematics, Humanities and Social Science, Science, Technology, Arts, Physical Education and Health and Comprehensive Practical Activity. Each domain embraces several relevant subjects which have clear teaching outcomes. Every student has to obtain the requisite number of marks in all eight learning domains in every semester. Within three years of senior secondary schooling, the curriculum is divided into a compulsory section and a selective section. The graduation requirement for students is 116 credits in the compulsory section and 28 credits in the selective section. After completion of the study of the compulsory section students may choose the relevant selective parts in terms of their interest and the requirement of the NCEE.

Table 2: The credit system and structure of the senior secondary school curriculum

Learning Domains	Curriculum	Compulsory Course Credit	Selective Course Credit 1	Selective Course Credit 2
Language& Literature	Chinese	10	In accordance with the diversified needs of society for skilled personnel and the need to adapt and develop students with different potentials and abilities, on the basis of compulsory modules, each module should set up several selective modules based on different categories and levels for students.	Schools should offer several selective modules for students based on societal needs, and on the economic, scientific and cultural development of local society and interests of students.
	English	10		
Mathematics	Mathematics	10		
Humanities and Social Science	Politics	8		
	History	6		
	Geography	6		
Science				
	Physics	6		
	Chemistry	6		
	Biology	6		
Technology	General Technology &Information Technology	8		
Arts	Arts, Music& Fine Arts	6		
Physical Education and Health	Physical Education and Health	11		
Comprehensive Practical Activity	Research learning	15		
	Community Service	2		
	Social Practice	6		

The sources are adapted from Xinhua Net

(http://www.sx.xinhuanet.com/ztjn/2008-08/20/content_14176109.htm)

Appendix 2: The interview questions for school principals

The interview questions for school principals
The survey of the school
1. Basic information on the school. 2. The principles on which student intake and allocation are based. 3. The principles on which teacher employment and allocation are based.
Perspectives on the impact of NCEE
1. Past achievement of NCEE. 2. The impact of NCEE on this school. a) The NCEE promotion rate b) The academic burden of students c) Students performance
Understanding of the Quality Education and the new curriculum
1. The rationale of Quality Education. 2. The understanding of the new curriculum.
The school-based implementation of the new curriculum
1. The organization of courses. 2. The implementation of the new curriculum. 3. The assessment of compulsory and selective courses.

The survey of the school

1. Basic information on the school

1) How many senior secondary students and teachers are there in this school?
2) How many classes are there in each grade?
3) How many teachers are there in each grade? (Ask secretary)

2. The principles on which student intake and allocation are based

1) What is the benchmark for the intake of students?
2) Does the NCEE promotion rate influence parents' and students' choice of school?
3) What is the lowest student intake?
4) What is the principle is used to allocate students to classes?
5) Do you use so-called "fast class" and "slow class" as criteria to allocate students?
6) Does this school have documents on the configuration of classes? May I see these?

3. The principle of teacher employment and allocation

1) What standard or criteria do you use when you employ a teacher?
2) Are you empowered to employ teachers based on the school's real needs?
3) Who are responsible for paying your teachers' salaries?
4) Do teachers receive a bonus and what criteria are used in the process of distributing bonuses?
5) How do you allocate teachers to classes in the same grade?
6) What decides the criteria for teacher allocation?
7) What are the criteria for allocating teachers to teach compulsory and selective courses?
8) Does this school have documents outlining the principles and process of teacher allocation? May I see them?

Perspectives on the impact of NCEE

1. Past achievements of NCEE

1) What is the annual NCEE promotion rate of this school?
2) Do you know what the NCEE promotion rates are of the other schools? If so, how have you come by this information?

2. The impact of NCEE on this school

a) The NCEE promotion rate

1) Do you receive any kind of rewards from educational departments if the annual NCEE promotion rate of this school is higher than other schools?
2) What is your idea of a good teacher?
3) What criteria are used to assess a teacher's performance and capability in your school?
4) Do you use the reward-punishment mechanism to motivate the teachers if the students' academic result in his/her class is higher or lower than the others?
5) How does this school get funds, is the annual NCEE promotion rate related to school funds?
6) Are you under pressure when the NCEE seasons come? What strategies do you use to retain and improve the annual NCEE promotion rate?

b) The academic burden of students

7) Does this school have evening classes for senior secondary students? For how many hours?
8) Does the local educational committee distribute circulars or guidelines for evening classes? If so, may I see them?
9) Does this school organize any form of remedial classes for senior secondary students?
10) Does local educational committee have some circulars or guidelines which prohibit school–owned remedial classes?
11) Have you tried to alleviate the workload of students' homework? Do students have time for recreational and sport activities?

12) Would you agree that the NCEE is a major cause of the overload "school burden "

c) Students performance

1) If your students get good/bad examination results, why do you think this is so? (E.g. learners work hard, good teachers, good school facilities etc.)
2) Does this school provide all-round development for students? If so, in what particular ways does it do this?

Understanding of the Quality Education and the new curriculum

1. The rationale of Quality Education

1) Do you have policies and documentations on Quality Education available? If so where did you obtain these? May I see them?
2) According to your understanding what is the rationale of Quality Education?

2. The understanding of the new curriculum

1) What in your opinion is the rationale of the new curriculum?
2) What are the main focuses of the new curriculum for senior secondary school?
3) The new curriculum contains many changes. What has been your experience of its implementation in your school?

The school-based implementation of the new curriculum

1. The organization of courses

1) What are the criteria for the organisation of selective courses? Where these criteria come from?
2) What criteria do you or your teachers use for the selection of textbooks for selective courses?
3) Can your school choose the various textbooks and teaching materials for selective courses?
4) Do you have enough resources and teachers for the demands of the new curriculum? How do you manage the delivery of the new curriculum?
5) Does this school organize comprehensive practical activities and community service activities for students?
6) May I see the timetable for the "Comprehensive practical activity" course?

7) Does this school have the documents on the organisation of all selective courses? May I see it?

2. The implementation of the new curriculum

1) What are your opinions of learner-centred teaching methodology?
2) What is your perspective on the "Credits System"? Why?
3) How do you manage to establish "Growth Portfolio" for students?
4) Does this school have the "Mobile Class System"? What is your opinion of this system?

3. The assessment of compulsory and selective courses

1) What assessment means is used by the new curriculum for the compulsory and selective courses? ("3+X"or school based assessment)
2) Does the new curriculum help to reduce students' homework workload?
3) Does the new curriculum provide an all-rounded development for students?
4) What are the assessment criteria for selective courses and how are the students' outcomes of selective courses assessed?
5) How are the results of assessment of selective course used?
6) Can the principal and teachers master the assessment of selective courses?

Appendix 3: Interview questions for teachers

Interview Questions for Teachers
Personal history
1. Working experiences 2. Workload allocation
Understanding of the Quality Education and the new curriculum
1. The rationale of Quality Education. 2. The understanding of the new curriculum. 3. Student performance
Teaching strategies for compulsory and selective courses
1. The teaching methods and aims of compulsory and selective courses. a) Teaching aims and methods b) The academic workload of students c) Extra work 2. The pressures of teaching compulsory and selective courses. 3. The assessment of compulsory and selective courses.

Personal information

1. Working experiences

1) How many years have you been teaching at this school?
2) What qualifications do you have?

2. Workloads allocation

1) How many grade 11 classes do you teach per week and do you also teach other grades?
2) Do other teachers have the same workload as you do?
3) What principles are used in the allocations of workloads and what is the rationale for this?
4) Do you teach selective courses and what is the principle used to allocate teachers to selective courses?
5) Do you teach the remedial classes in this school in other institutions?

Understanding of the Quality Education and the new curriculum

1. The rationale of Quality Education

1) Do you have the policies and documentations on Quality Education available? Where did you get these from? May I look at them?
2) What is your understanding of the rationale of Quality Education?
3) What have been your experiences of and what is your opinion of the "school burden", "all-round development" and "one-sided pursuit the NCEE promotion rate"?

2. The understanding of the new curriculum

1) What are the main focuses of new curriculum at senior secondary level?

2) The new curriculum contains many changes, what have been your experiences of its implementation?
3) What are the assessment methods are required by the new curriculum? What is your view of these?

3. Student performance

1) If your students get good/bad examination results, why do you think this is so? (E.g. learners work hard, good teachers, good school facilities etc.)
2) Does this school allocate students by "fast-slow class" system, and what is your opinion of this allocation system?
3) Does this school provide all-round development for students? If so how, in your opinion, does this happen?

Teaching strategies for compulsory and selective courses

1. The teaching methods and aims for compulsory and selective courses

a) Teaching aims and methods

1) On average, how many hours do you usually spend on teaching preparation for the compulsory and selective courses?
2) What are your primary teaching aims for the compulsory and selective course respectively? E.g. Examination preparation and students development
3) Do you offer examination-related instruction ("Exercise-stuffed Tactic" and cramming methods) to learners in both courses? If so, what would be your reasons for doing so?
4) Do you focus on the students' need for knowledge, the ability to apply knowledge application and autonomous learning in both courses? If so, what would be your reasons for doing so?
5) Do you use the interaction activities for the teaching of compulsory and selective courses? If so, what kinds of activities do you use in the class?

6) What are your views of the learner-centred teaching method?

b) The academic burden of students

7) Do you assign homework for compulsory and selective courses respectively?
8) What are your aims in assigning homework, and what types of assignments do you assign?
9) Have you tried to alleviate the workload of students' homework? Do students have time for recreational and sport activities?
10) Do you agree that the NCEE is a major cause of the "school burden " overload

c) Extra work

11) Do you usually recommend extra exercises to your students for both courses? If so how often do you recommend these?
12) Have you ever occupied any evening class for extra teaching? If so, how often?
13) Do you encourage your students to take remedial classes or not? What are your reasons for doing so?
14) Does this school have any form of remedial class?
15) Does local educational committee have some circulars or proposals to prohibit school–owned remedial class?

2. The pressures for teaching compulsory and selective courses

1) What has been the impact of the new curriculum on your teaching? (E.g. teaching methods and professionalism).
2) Do you feel under pressure during the NCEE seasons or at the end of term? If so, what are the reasons for this?
3) What criteria are used to assess a teacher's performance in your school?
4) Do you have a year-end bonus and what criteria are used in the process of distributing bonuses?

3. The assessment of compulsory and selective courses

1) What in your opinion defines a good teacher?
2) How do you evaluate your teaching of both courses? What criteria do you use?
3) What are the assessment criteria for the compulsory and selective courses?
4) What assessment tools or methods do you usually use for selective courses?
5) How the assessment results of selective course to be used?
6) Can you master the assessment of selective courses?
7) Does the new curriculum help to reduce students' homework workload?
8) Does the new curriculum provide for the all-rounded development of students?

Appendix 4: Students questionnaire

1. School: _____ ☐
2. Class: _____ ☐
3. Questionnaire Number (e.g.001 to 100) ☐☐☐

4. Date: _____

INSTRUCTIONS:

1. CIRCLE OR PUT A CROSS IN THE APPROPRIATE BOXES AND WRITE IN THE APPROPRIATE SPACES.
2. PLEASE ANSWER THE QUESTIONS BELOW CAREFULLY.
3. PLEASE WRITE YOUR GENUINE PERSPECTIVES WHEN YOU SEE “EXPLAIN ” OR “GIVE SOME EXAMPLES”.

STUDENTS QUESTIONNAIRE

DO NOT FILL IN

PLEASE DO NOT FILL THE RIGHT HAND COLUMN

1. What is your age? _____

2. Gender **Male 1** **Female 2**

_____

SECTION 1: EDUCATIONAL AND PERSONAL HISTORY

1.1 At what age did you start senior secondary school? _____

1.2 What was your Senior Secondary School Entrance Examination mark?

_____

1.3 **a)** Have you ever repeated a grade?

YES 1 NO 2

b) Which one/s? _____

c) Why did you have to repeat? ……
……..

d) How many times? _____

1.4 **a)** Father's highest education _____

b) Mother's highest education _____

SECTION 2: ATTITUDES TOWARD THIS SCHOOL

2.1 Do you like this school?

YES 1 NO 2 NOT SURE 3

2.2 What are the **BEST** things about your school? Circle **3** only

Good NCEE promotion rate	01
Good teachers	02
Good school facilities	03
Good discipline	04
Good sports	05
Good quality of students	06
Fees are reasonable	07
Good choice of selective courses	08
Good learning atmosphere	09
Other	10

2.3 What are the **WORST** things about your school? Circle **3** only

Bad NCEE promotion rate	01
Poor teachers	02
Bad school facilities	03
Bad discipline	04
Little sports	05
Poor quality of students	06
Fees too high	07
Not enough choice of selective courses	08
Bad learning atmosphere	09
Other:	10

2.4 If this school gets good examination results. Why do you think this is so?

Tick **3** boxes only

Learners work hard	1
Good teachers	2
Good school facilities	3
Good learning atmosphere	4
Lots of homework	5
School provides remedial classes	6
Don't know	7

2.5 What are **YOUR** results like?

GOOD 1 AVERAGE 2 POOR 3

2.6 If **YOU DO WELL** at the end of term why will this be? Tick **3** boxes only

The work is easy	01	The facilities are good	07
I am clever	02	Parents/classmates help me	08
I work hard	03	Good learning atmosphere	09
I am lucky	04	Don't know	10
I have good teachers	05	Other	11
Taking remedial classes	06	Not applicable	99

2.7 If **YOU DO BADLY,** why will this be? Tick **3** boxes only

Bad teaching	01	Examinations were unfair	07
Personal problems	02	No money at home	08
The work is too hard	03	Bad learning atmosphere	09
Bad facilities	04	No remedial classes	10
I did not work hard	05	Other	11
Bad luck in examinations	06	Not applicable	99

2.8 a) Does this school allocate students by "fast-slow class" system?

YES 1 NO 2 NOT SURE 3

b) Do you like it?

YES 1 NO 2

c) EXPLAIN ……..
……...
……

2.9 a) Does school provide all-round development for students?

YES 1 NO 2 NOT SURE 3

b) GIVE SOME EXAMPLES……
…….....
……

2.10 a) Do you have a favourite teacher?

YES 1 NO 2

b) EXPLAIN …….
……...
……

2.11 What is a **GOOD TEACHER**? What do they do?

EXPLAIN ……
……....
……
……

2.12 Are there any **BAD TEACHERS** at this school? What do they do ?

YES 1 NO 2

EXPLAIN ……...
……....
…….
……

2.13 What are the teaching methods your teachers use for **compulsory** and **selective** courses?

Indicate the **2 MOST COMMON METHODS** your teachers use.

Compulsory Courses		Selective Courses	
1	Textbook revision	1	Textbook revision
2	Exercise-stuffed Tactic	2	Exercise-stuffed Tactic
3	Examination-oriented instruction	3	Examination-oriented instruction
4	Cramming method of teaching	4	Cramming method of teaching
5	Autonomous learning	5	Autonomous learning
6	Emphasise class interaction activities	6	Emphasise class interaction activities
7	Self and peer assessment	7	Self and peer assessment
8	Focus on the needs of students	8	Focus on the needs of students

2.14 How would you generally rate the capabilities of your teachers at this school?

a) Compulsory courses

Not very competent	1
Somewhat competent	2
Competent	3
Good	4
Excellent	5

b) Selective courses

Not very competent	1
Somewhat competent	2
Competent	3
Good	4
Excellent	5

2.15 a) Is the **MAJOR** focus of your teachers' teaching the NCEE?

NOT AT ALL 1 SOMETIMES 2 OFTEN 3 ALL THE TIMES 4

b) EXPLAIN ……..
……
……

SECTION 3: TIME USE AND WORKLOAD

3.1 On average, how many **HOURS** do you spend on your **HOMEWORK** per week?

For the followings, students please circle

HOMEWORK	**1 hour and less**	**2 hours**	**3 hours**	**4 hours**	**5 hours and more**
Chinese	1	2	3	4	5
English	1	2	3	4	5
Mathematics	1	2	3	4	5
Humanities and Social Science	1	2	3	4	5
Science	1	2	3	4	5
Technology	1	2	3	4	5
Arts	1	2	3	4	5
Physical Education and Health	1	2	3	4	5
Comprehensive Practical Activity	1	2	3	4	5

3.2 When your homework has been finished, on average how many **HOURS** of **EXTRA EXERCISE** do you do for each subject per week ?

For the followings, students please circle

EXTRA EXERCISE	**1 hour and less**	**2 hours**	**3 hours**	**4 hours**	**5 hours and more**	
Chinese	1	2	3	4	5	
English	1	2	3	4	5	
Mathematics	1	2	3	4	5	
Humanities and Social Science	1	2	3	4	5	
Science	1	2	3	4	5	
Technology	1	2	3	4	5	
Arts	1	2	3	4	5	
Physical Education and Health	1	2	3	4	5	
Comprehensive Practical Activity	1	2	3	4	5	

3.3 Who recommended the **EXTRA EXERCISE BOOKS** to you?

TEACHER 1 PARENTS 2 YOURSELF 3 CLASSMATE 4 MEDIA 5 OTHER 9

3.4 How about your "**SCHOOL BURDEN**"?

Place a cross in the appropriate column

Extremely Heavy 1	Heavy 2	Average 3	Light 4	Extremely light 5

3.5 a) Do you agree that the NCEE is a major cause of the **OVERLOAD** "school burden"

Place a cross in the appropriate column

Strongly disagree 1	Disagree 2	Neither agree nor disagree 3	Agree 4	Strongly agree 5

b) EXPLAIN ……..
……
……..

3.6 a) Have you ever taken any remedial classes?

YES 1 NO 2

b) EXPLAIN……
……..
.....

c) If yes , in what subject/subjects?_____

3.7 a) Has this school established the "Growth Portfolio" for you?

YES 1 NO 2 NOT SURE 3

b) How do you choose your selective courses?

My interest 1 My teachers 2 My parents 3 No choice 4 Other 5

3.8 a) Do you have time for sports and other recreational activities every day?

YES 1 NO 2 SOMETIMES 3

b) EXPLAIN ……..
……
……

3.9 How many hours do you sleep per day?

Place a cross in the appropriate column

Less than 5 hours	5 hours	6 hours	7 hours	8 hours and more
1	2	3	4	5

SECTION 4: CONTENTS OF HOMEWORK AND LEARNING METHODS

4.1 What are the purposes of homework assignment?

Place a cross over the numbers of the THREE most important reasons

The intention of homework assignment	Code
Review the knowledge you learnt in the class	1
Experience different types of questions for examination	2
Speed up the time of answering questions in the examination	3
Improve the skill of answering questions in the examination	4
Enrich your knowledge and information	5
Focus on flexible application of knowledge	6
Improve my skills of self-learning	7
Explore knowledge for myself	8
Other:	9

4.2 In general, what type of homework do you get from teachers?

Place a cross over the numbers of the TWO common types

Type of homework	Code
Textbook Revision	1
Teacher-designed examination papers	2
Examination-related exercise books	3
Choose the reading materials myself	4
Write a research report	5
Interactive activities with your classmates	6
Other :	7

4.3 If you could choose your **OWN** methods of study which would they be?

Place a cross over the numbers of the TWO common types

Learning Methods	Code
Rote learning	1
Exercises-stuffed Tactic	2
Examination-oriented analysis	3
Focus on the flexible application of knowledge	4
Extensive reading	5
Choose the learning content myself	6
Other:	7

4.4 Please give your options of the following statements

a) Examination-oriented Education is the best form of education.

Place a cross in the appropriate column

Strongly disagree 1	Disagree 2	Neither agree nor disagree 3	Agree 4	Strongly agree 5

b) EXPLAIN ……..
……
……

c) Quality Education is the best form of education.

Place a cross in the appropriate column

Strongly disagree 1	Disagree 2	Neither agree nor disagree 3	Agree 4	Strongly agree 5

d) EXPLAIN ……...
……
……

SECTION 5: ACADEMIC ASPIRATIONS

5.1 a) Do you plan to take the NCEE? **YES 1 NO 2 NOT SURE 3**

b) If you said **NO** or **NOT SURE**, why do you say this?

……..

……..

……..

5.2 What are your main reasons for enrolling in this senior secondary school?

Place a cross over the numbers of the THREE most important reasons

Purposes	Code
Access universities	1
All-round development	2
To improve my knowledge	3
Achieve my personal goals	4
Parents' will	5
For good occupational prospects	6
The mark of Senior Secondary School Entrance Examination determines	7
Other:	8

5.3 What are your plans when you leave school?

STUDY FURTHER 1 FIND WORK 2 DON'T KNOW 3

5.4 What kind of job would you **LIKE** to do?

……

5.5 What kind of job do you think you will be **ABLE** to get?

……

THANK YOU FOR YOUR TIME AND CO-OPERATION

Appendix 5: Classroom observation

THE KEY POINTS TO OBSERVE:

1. **TEACHER COMPETENCE (MASTERY OF SUBJECT MATTER)**
2. **PEDAGOGIC STYLE (PRESENTATION AND USE OF MATERIALS)**
3. **TEACHING METHODS USE (TEACHER-CENTERED OR LEARNER-CENTERED).**
4. **FOCUS OF TEACHING**
5. **ASSESSMENT**

PART A:GENERAL QUESTIONS

1. **School:** …….

SCHOOLS	CODE
High performing school	**1**
Low performing school	**2**

2. **Class Number:** .....
3. **Subject:** ……..
4. **Type of subject**

1	Compulsory	**2**	Selective

5. **Age of teacher** ……..
6. **General Information of Observation**
   - **a)** Date of observation: …….
   - **b)** Number of students present: ……..
   - **c)** Number of students absent: ……

   (Ask teacher afterwards)

PART B:OBSERVATION SCHEDULE

1. EDUCATIONAL RESOURCES

EXCELLENT 1…….2……3……4 VERY POOR

9= NOT APPLICABLE/NONE

EDUCATIONAL RESOURCES	CODE	QUALITY
Teaching aids e.g. poster, charts, maps	**1**	
Audio-visual teaching equipment e.g. projector, radio	**2**	
Display area	**3**	
Other…….. …… ……	**4**	

2. LEARNERS

a)

	CODE	YES	NO
Do the majority of learners wear school uniform?	**1**	**1**	**2**
Do more than 25%of the students arrive late (10 minutes after the lesson was scheduled to start)	**2**	**1**	**2**
Do the majority of learners participate in classroom activities	**3**	**1**	**2**
Do majority of learners behave well	**4**	**1**	**2**
Other…… ……	**5**	**1**	**2**

b) Comments on the physical appearance, behaviour and interaction of the learners

Physical appearance ……
…….

Behaviour ……
…….

Interaction ……
……..

c) The ability of the majority of learners to stay on the learning task

1 = Poorly 2 = Moderately 3 =Very well 9 = Not applicable

	CODE	RATING
The teacher involve the majority of learners in the learning task	**01**	
The majority of learners pay attention	**02**	
The majority of learners follow instructions	**03**	
The majority of learners participate in the learning task	**04**	
The majority of learners ask questions	**05**	
The majority of learner respond to questions	**06**	
The majority learners are familiar with the use of materials	**07**	
The majority of learners seem to understand the learning task	**08**	
The majority of learners seem to understand what is expected from them	**09**	
The lesson is disrupted by :	**10**	
External factors (e.g. noises)	**11**	
Teacher is called away	**12**	
Learners coming late	**13**	
Learners behaving badly	**14**	
Other…… ……	**15**	

3. TEACHER

3.1 TASK IDENTIFICATION AND CLARIFICATION

a) How does the teacher define the learning task objective?

……
……..
……..
……...
……...
……...

b) The assessment of teacher's capability

1 = Poorly/Poor 2 = Moderately well/Moderate 3 = Good 4 = Very well/Good

	CODE	RANK
Spelling out the instructions clearly	**1**	
Familiarity with the content of the subject	**2**	
Usage of techniques for teaching organization	**3**	
Usage of methods that encourage learners participation	**4**	
Usage of assessment techniques	**5**	
Answer learner's academic questions accurately	**6**	
Integration of daily life example into the lesson	**7**	
Relating the lesson to the life-experiences of the learners	**8**	
Other …….. …… ……	**9**	

c) Additional comments on capacity of the teacher in presenting the lesson.

Subject Contents……..
…….

Presentation…….
…….

3.2 LESSON PRESENTATION

a) Facilitation techniques of teaching

1 = Do not use at all
2 = Use very infrequently
3 = Frequency
4 = Most of time
5 = Use it all the time
9 = Not applicable

TECHNIQUE	CODE	RATING
Small group discussion (2-4students)	**01**	
Large group discussion (6-10students)	**02**	
Lecturing	**03**	
Different assignment for different level of students	**04**	
Cramming knowledge transmission	**05**	
Independent study	**06**	
Teacher participates in students' discussion	**07**	
Teaching with audio-visual aids	**08**	
Inviting external presenters	**09**	
Other…… …… …….	**10**	

b) Additional comments on the use of teaching methods and approaches

…….
……..
……..

c) Does the lesson include

	CODE	YES	NO
Direct instruction of content	**1**	**1**	**2**
Assessment of what has been learnt	**2**	**1**	**2**
A summary activity at the end of the lesson	**3**	**1**	**2**
Homework assignment	**4**	**1**	**2**
Examination-related instruction	**5**	**1**	**2**

d) What are the focuses of teaching?

1 = Not at all 2 = Sometimes 3 = Often 4 = All the times

TEACHING FOCUS ON	CODE	RANK
Students reflect the teaching contents independently	**01**	
Students apply the teaching contents flexibly	**02**	
Widen students' range of knowledge	**03**	
Improve the students' learning interest	**04**	
Applied knowledge	**05**	
Speed up the time of question answering of students	**06**	
Train the question answering skill of students	**07**	
Students experience the same type of examination questions in advance	**08**	
Cramming method of teaching and rote learning	**09**	
Other…… …… ……	**10**	

e) Form of assessment

	CODE	YES	NO
Group assessment	**1**	**1**	**2**
Question and answer techniques	**2**	**1**	**2**
Students complete tasks from the textbook or exercise books	**3**	**1**	**2**
Class test	**4**	**1**	**2**
Other …… …….. ……..	**5**	**1**	**2**

f) Additional comments on the use of assessment techniques by the teacher

……
……
……..

3.3 CONSOLIDATING STRATEGIES

a) Consolidating strategies

	CODE	YES	NO
Group exercise	**1**	**1**	**2**
Individual exercise	**2**	**1**	**2**
Demonstration of solution on the chalk-board	**3**	**1**	**2**
Teacher presents problem to the learners, the learners verbalize responses	**4**	**1**	**2**
Learners complete questions from the textbook or exercise book	**5**	**1**	**2**
Learner complete worksheets/ test paper designed by the teacher	**6**	**1**	**2**

b) Additional comments on consolidating strategies used by the teacher (especially feedback to learners)

……..
……..
……..
……..

c) Regarding homework assignment:

	CODE	YES	NO
Were any assignments given to children prior to the lesson?	**1**	**1**	**2**
Does teacher check if the assignments were done by the learners	**2**	**1**	**2**
Other…….. ……...	**3**	**1**	**2**

Comments on homework:

……
……
……

3.4 MANAGEMENT OF LEARNERS

a) Learners who have not done their homework assignments

……
……
……

b) Maintain discipline in the classroom

……
……
……

c) Praising and rewarding of learners

……
……
……

d) Chiding and punishing of learners

……
……
……

4 GENERAL COMMENTS

4.1 Rate the general teaching methodology and the class atmosphere

a)
Traditional teacher-centred cramming teaching **1 2 3 4 5** Learner-centred active learning

b)
Predominantly rote learning **1 2 3 4 5** Active participation by learners

c)
Disorganized classroom **1 2 3 4 5** Well organized classroom

d)
Active/lively class atmosphere **1 2 3 4 5** Stagnant/lifeless class atmosphere

4.2 Additional comments

……
……
……

Appendix 6: The Admission Score of Partial General Secondary Schools of Taiyuan City in 2008

Schools in Taiyuan City		2008 Admission Score
1	Taiyuan No.5 Secondary School	632
2	The Attached Secondary School of Shanxi University	632
3	Shanxi Experimental Secondary School	631
4	Taiyuan Cheng Cheng Secondary School	616
5	Taiyuan Foreign Languages Secondary School	610
6	Taiyuan No.12 Secondary School	610
7	Taiyuan No.18 Secondary School	610
8	Taiyuan No.3 Experimental Secondary School	602
9	The Attached Secondary School of Taiyuan Normal University	600
10	Taiyuan No.48 Secondary School	595
11	Taiyuan Experimental Secondary School	590
12	Taiyuan Yuying Secondary School	582
13	Taiyuan Jingshan Secondary School	580
14	Taiyuan No.15 Secondary School	580
15	Taiyuan No.4 Experimental Secondary School	575
16	Taiyuan No.30 Secondary School	560
17	Taiyuan No.55 Secondary School	555
18	Taiyuan No.5 Experimental Secondary School	545
19	Taiyuan No.27 Secondary School	545
20	Taiyuan No.20 Secondary School	540
21	Taiyuan No.29 Secondary School	535
22	Taiyuan No.62 Secondary School	530
23	Taiyuan No.19 Secondary School	530

24	Taiyuan No.58 Secondary School	515
25	Taiyuan No.21 Secondary School	510
26	Taiyuan No.65 Secondary School	504
27	Taiyuan No.16 Secondary School	500
28	Taiyuan No.52 Secondary School	500
29	Taiyuan No.60 Secondary School	490
30	Taiyuan No.22 Secondary School	485
31	Taiyuan No.49 Secondary School	485
32	Taiyuan No.59 Secondary School	485
33	Taiyuan No.2 Secondary School	477
34	Taiyuan No.24 Secondary School	475
35	Taiyuan No.61 Secondary School	475
36	Taiyuan No.63 Secondary School	475
37	Taiyuan No.64 Secondary School	470
38	Taiyuan No.66 Secondary School	470
39	Taiyuan No.11 Secondary School	465
40	Taiyuan No.53 Secondary School	465
41	Taiyuan No.56 Secondary School	455
42	Taiyuan Comprehensive Secondary School	430
43	The Attached Secondary School of Taiyuan University	414
44	Taiyuan No.57 Secondary School	414
45	Taiyuan No.67 Secondary School	414
46	Taiyuan No.13 Secondary School	414
47	Taiyuan No.54 Secondary School	414

Appendix 7: The teaching aims and strategies for the compulsory and selective courses

The teaching aims and strategies of two schools for the compulsory courses

Teaching technique (Compulsory)	Rating	HPS English	HPS Math	HPS History	HPS Biology	LPS Chinese	LPS Math	LPS Politics	LPS Biology	Total
Independent study	Infrequently	√		√	None	√	None	None		3
	Frequently		√						√	2
	Most of time									0
	All the time									0
Teacher participates in students' discussion	Infrequently	None	None	None	√	None	√	√	√	4
	Frequently									0
	Most of time									0
	All the time									0
Small group discussion (4 students)	Infrequently	None	None	None	√	None	√	√	√	3
	Frequently									0
	Most of time									0
	All the time									0
Different assignment for different level of students	Infrequently	None	None	None	None	None	None	None	None	0
	Frequently									0
	Most of time									0
	All the time									0
Lecturing	Infrequently									0
	Frequently	√								1
	Most of time		√	√	√	√	√	√	√	7
	All the time									0
Teaching with audio-visual aids	Infrequently		None	None	None	None	None	None	None	0
	Frequently									0
	Most of time									0
	All the time	√								1

Teaching focus(Compulsory)		Rating	HPS English	HPS Math	HPS History	HPS Biology	LPS Chinese	LPS Math	LPS Politics	LPS Biology	Total
Examination-oriented Education	Students experience the same type of examination questions in advance	Sometimes					None		√	√	2
		Often	√	√	√	√		√			5
		All the time									2
	Speed up the time of question answering of students	Sometimes			None	None		√	None	None	1
		Often	√	√			√				3
		All the time									0
	Train the question answering skill of students	Sometimes			√				√	√	3
		Often	√	√		√	√				4
		All the time						√			1
Quality Education	Applied knowledge independently	Sometimes	√	√	√	√	√	√		√	7
		Often							√		1
		All the time									0
	Widen students' range of knowledge	Sometimes	None	None	None	None	None	None	None	None	0
		Often									0
		All the time									0
	Improve the students' learning interest	Sometimes	None	None		None		None		None	0
		Often			√		√		√		3
		All the time									0

Forms of assessment (Compulsory)	HPS English	HPS Math	HPS History	HPS Biology	LPS Chinese	LPS Math	LPS Politics	LPS Biology	Total
Question and answer	√	√	√	√	√	√	√	√	8
Students complete tasks from the textbook or exercise books	√		√		√		√	√	5

Consolidating(Compulsory)	HPS English	HPS Math	HPS History	HPS Biology	LPS Chinese	LPS Math	LPS Politics	LPS Biology	Total
Individual exercise(worksheets/ test paper designed by the teacher)	√								1
Teacher presents problem to the learners, the learners verbalize responses	√	√	√	√	√	√	√	√	8
Learners complete questions from the textbook or exercise book	√		√	√	√	√	√	√	7
Demonstration of solution on the chalk-board	√	√	√	√	√	√	√	√	8

The teaching aims and strategies of two schools for the selective courses

Teaching technique (Selective)	Rating	HPS English	HPS Math	HPS History	HPS Biology	LPS Chinese	LPS Math	LPS Politics	LPS Biology	Total
Independent study	Infrequently		√	√		√		√	√	5
	Frequently									0
	Most of time	√								1
	All the time				√		√			2
Teacher participates in students' discussion	Infrequently	√			None					1
	Frequently					√		√		2
	Most of time		√	√					√	3
	All the time						√			1
Small group discussion (4 students)	Infrequently	√			None	√				2
	Frequently		√	√				√		3
	Most of time						√			1
	All the time									0
Different assignment for different level of students	Infrequently	None	None	None	None	None	None	None	None	0
	Frequently									0
	Most of time									0
	All the time									0
Lecturing	Infrequently	None			None		None			0
	Frequently		√	√		√		√	√	5
	Most of time									0
	All the time									0
Teaching with audio-visual aids	Infrequently	None		None		None	None	None	None	0
	Frequently									0
	Most of time		√							1
	All the time				√					1

Teaching focus(Selective)		Rating	HPS English	HPS Math	HPS History	HPS Biology	LPS Chinese	LPS Math	LPS Politics	LPS Biology	Total
Examination-oriented Education	Students experience the same type of examination questions in advance	Sometimes	None	None	None	None	None	None	None	None	0
		Often									0
		All the time									0
	Speed up the time of question answering of students	Sometimes	√	√	None	None	None	None	None	None	2
		Often									0
		All the time									0
	Train the question answering skill of students	Sometimes	√	√	None	None	None	None	None	None	2
		Often									0
		All the time									0
Quality Education	Applied knowledge independently	Sometimes									0
		Often		√	√		√		√		4
		All the time	√			√		√		√	4
	Widen students' range of knowledge	Sometimes									0
		Often	√							√	2
		All the time		√	√	√	√	√	√		6
	Improve the students' learning interest	Sometimes	None								0
		Often								√	1
		All the time		√	√	√	√	√	√		6

Forms of assessment (Selective)	HPS English	HPS Math	HPS History	HPS Biology	LPS Chinese	LPS Math	LPS Politics	LPS Biology	Total
Question and answer	√	√	√	√	√	√	√	√	8
Students complete tasks from the textbook or exercise books									0

Consolidating (Selective)	HPS English	HPS Math	HPS History	HPS Biology	LPS Chinese	LPS Math	LPS Politics	LPS Biology	Total
Individual exercise(worksheets/ test paper designed by the teacher)	√	√							2
Teacher presents problem to the learners, the learners verbalize responses	√	√	√	√	√	√	√	√	8
Learners complete questions from the textbook or exercise book									0
Demonstration of solution on the chalk-board	√	√	√	√	√	√	√	√	8